Attachment General-1b

Pre-Construction Notification for U.S. Army Corps of Engineers Nationwide Permit 12, Equitrans Expansion Pipeline Project, Wetzel County, West Virginia November 25, 2015

Mike Hatten, Chief of Energy Resources U.S. Army Corps of Engineers 502 Eighth Street Huntington, WV 25701-2070

> RE: Preconstruction Notification Nationwide Permit 12 for the Equitrans Expansion Pipeline Project, Wetzel County, West Virginia Project Number 212IC-PB-00176

Dear Mr. Hatten:

On behalf of Equitrans, L.P. (EQT), Tetra Tech Inc. is respectfully submitting a Preconstruction Notification for Nationwide Permit No. 12 for the proposed construction of a gas pipeline interconnect and associated workspaces and access roads.. The proposed project would incur temporary impacts to wetlands and other waters of the U.S. Included within this preconstruction notification package are:

- Project description
- Form 4345
- Wetland Delineation and Waters of the U.S. Report
- USFWS and WVDNR coordination
- Cultural resources notification
- National Wild and Scenic Rivers evaluation
- 401 Water Quality Certification
- Restoration Plan

Equitrans is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC or Commission) Docket No. CP16-13-000 pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed Project located in three counties in Pennsylvania (Washington, Allegheny, and Greene) and one county in West Virginia. Equitrans plans to construct approximately 7.87 miles of pipeline (at multiple separate locations), a new compressor station, an interconnect with the proposed Mountain Valley Pipeline, and ancillary facilities. In addition, Equitrans is seeking authorization to abandon an existing compressor station (which will be replaced by a new compressor station) pursuant to Section 7(b) of the Natural Gas Act.

Please find enclosed two (2) copies of the preconstruction notice application package and two (2) compact discs that contain digital copies of the application package. If you have any questions or need additional information, please contact me at (412) 921-8167, or Preston.Smith@tetratech.com.

Sincerely,

Preston R. Smith Manager, Wetlands and Ecological Services Tetra Tech Inc.

Attachments -Preconstruction Notification CC: Stephanie Frazier Heather Trexler File 212IC-PB-00176 Pre-Construction Notification for U.S.Army Corps of Engineers Nationwide Permit 12 Equitrans Expansion Pipeline Project Wetzel County, West Virginia

> Prepared By: Tetra Tech, Inc. For Equitrans, LP 625 Liberty Avenue Suite 1700 Pittsburgh, Pennsylvania



November 2015

TABLE OF CONTENTS

Section 1 – Pre-Construction Notification

- Section 2 Application for Department of the Army Permit (ENG Form 4345)
- Section 3 Wetland Delineation and Waters of the U.S. Survey
- Section 4 United States Fish and Wildlife Service (USFWS) and West Virginia Division of Natural Resources (WVDNR) Coordination
- Section 5 Cultural Resources Notification
- Section 6 National Wild and Scenic Rivers Evaluation
- Section 7 401 Water Quality Certification
- Section 8 Restoration Plan

Tables

Table 1 – Wetland Summary Table 2 – Waterbody Summary Table 3 – List of Affected Landowners

Figures

Figure 1 – Site Location Figure 2 – Soils Map Figures 3-1 to 3-2 – Wetland Delineation and Waters of the U.S. Summary Maps

Drawing

Drawing 1 – Temporary Stream Crossing Drawing 2 – Temporary Wetland Crossing

Appendices

- Appendix A Wetland Delineation and Waters of the U.S. Report
- Appendix B Federal Threatened and Endangered Species List for West Virginia

Appendix C – USFWS Coordination Letter

Appendix D – WVDNR Coordination Letter

Appendix E – WV Division of Culture and History Coordination Letter

PRE-CONSTRUCTION NOTIFICATION

PRE-CONSTRUCTION NOTIFICATION FOR THE PROPOSED EQUITRANS EXPANSION PIPELINE PROJECT WETZEL COUNTY, WEST VIRGINIA

This Pre-Construction Notification (PCN) was prepared on behalf of Equitrans, L.P. (EQT) for the proposed Equitrans Expansion Pipeline Project. Information required for the PCN under the Nationwide Permit 12 is included below:

Project Contact Information

Stephanie Frazier Equitrans, L.P. 625 Liberty Avenue, Suite 1700 Pittsburgh, Pennsylvania 15222

Project Location

The West Virginia portion of the Equitrans Expansion Pipeline Project is located on the Big Run quadrangle of the 7.5 USGS map series. The project is located in Grant District, Wetzel County West Virginia, near Mobley (Figure 1). The project will add the Webster Interconnect with Mountain Valley Pipeline LLC's (Mountain Valley) proposed pipeline and add the Mobley Tap on Equitrans' existing H-302 pipeline that also connects with Mountain Valley. It will also connect the existing Equitrans H-306 pipeline to the Webster Interconnect with Mountain Valley Pipeline.

Project Summary

The proposed portion of the project in WV is located on Big Run quadrangle of the 7.5 USGS map series. The project is located in Grant District, Wetzel County West Virginia, near Mobley. This portion of the project will add the Webster Interconnect with Mountain Valley Pipeline LLC's (Mountain Valley) proposed pipeline and add the Mobley Tap on Equitrans' existing H-302 pipeline that also connects with Mountain Valley. Also included with this portion of the project is the H-319 pipeline which is a new 16-inch pipeline, approximately 200 feet in length that will connect the existing Equitrans H-306 pipeline to the Webster Interconnect with Mountain Valley. Construction activities will consist of clearing and grubbing, installation of new access roads, construction of permanent pads, installation of pipeline, and site restoration activities.

The Webster Interconnect will consist of a permanent gravel pad approximately 255 feet in length by 130 feet in width. Two new access drives will be constructed to access the interconnect. No streams or wetlands will be crossed or impacted by this facility. A permanent road will be constructed as part of the Mountain Valley project which will include a permanent stream crossing.

A temporary workspace area is proposed south of the Webster interconnect. This workspace is approximately 610 feet in length by 110 feet in width. Stream S-A2A runs along the eastern limit of this workspace and BMPs will be utilized to protect the stream. Wetland Z2 is located at the south eastern portion of this workspace and BMPs will be utilized to protect the wetland. No stream or wetland impacts are proposed for this workspace.

The H-319 pipeline will utilize a 100-ft construction right-of-way and a 50-ft permanent right-of-way. Two wetlands and one stream will be crossed by the pipeline.

The Mobley Tap will consist of a permanent gravel pad approximately 170 feet in length by 90 feet in width. No streams or wetlands will be crossed or impacted by this facility.

A temporary workspace area is proposed east of the Mobley Tap. Stream S-J63 runs through this workspace. Timber mats will be used to temporarily cross this stream and BMPs will be used to protect the stream.

The Equitrans Expansion Pipeline Project will temporarily impact 2 streams and 2 wetlands. The footprint of the pipeline right-of-way will be minimized when crossing all waters of the U.S., and the proposed project would not incur any permanent impacts to wetlands or waters of the U.S. Erosion and sediment control BMPs will be used for the protection of water resources.

As required under NWP 12, the project included a Wetland Delineation and Waters of the U.S. Survey (Section 3), Threatened and Endangered Species Consultation (Section 4), and Cultural Resource Screening (Section 5).

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

ENG FORM 4345

U.S. ARMY CORPS OF ENGINEERS APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT 33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved -OMB No. 0710-0003 Expires: 30-SEPTEMBER-2015

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)						
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE			
	(ITEMS BELOW TO BE	FILLED BY APPLICANT)	••••••••••••••••••••••••••••••••••••••			
5. APPLICANT'S NAME		8. AUTHORIZED AGENT'S NAME	AND TITLE (agent is not required)			
First - Stephanie Middle -	Last - Frazier	First - Preston Middle -	Last - Smith			
Company - Equitrans, LP		Company - Tetra Tech, Inc.				
E-mail Address - SFrazier@eqt.com		E-mail Address - Preston.Smith@	tetratech.com			
6. APPLICANT'S ADDRESS:		9. AGENT'S ADDRESS:				
Address- 625 Liberty Avenue Suit	te 1700	Address- 661 Anderson Dr. Fos	ter Plaza 7			
City - Pittsburgh State - P.	A Zip - 15222 Country - US	City - Pittsburgh State -	PA Zip - 15220 Country - US			
7. APPLICANT'S PHONE NOs. w/AR	EA CODE	10. AGENTS PHONE NOs. w/ARE/	CODE			
a. Residence b. Business	s c. Fax	a. Residence b. Busine 412-921				
	STATEMENT OF	AUTHORIZATION				
	11. I hereby authorize, <u>Preston Smith</u> to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application Signature of APPLICANT					
NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY						
12. PROJECT NAME OR TITLE (see instructions)						
Equitrans Expansion Pipeline Project						
13. NAME OF WATERBODY, IF KNOWN (if applicable) 14. PROJECT STREET ADDRESS (if applicable)						
15. LOCATION OF PROJECT Latitude: ∘N 39.553262	Longitude. •W -80,544671	City -	State- Zip-			
16. OTHER LOCATION DESCRIPTIC	DNS, IF KNOWN (see instructions)					
State Tax Parcel ID	Municipality					
Section - To	wnship -	Range -				

17. DIRECTIONS TO THE SITE

From I-79 S take exit 136 toward Co Rd 31/2/Stoney Road. Turn left onto Fairmont Gateway Connector N. At traffic circle, take the 2nd exit and stay on Fairmont Gateway Connector N. Continue onto Jefferson St, go 0.1 miles and turn left onto Jackson St. Turn right onto US-250 N/Cleveland Ave, go 12.9 miles. Turn left onto High St, slight right to stay on High St. Continue straight onto Marshall St. Turn left onto Buffalo St, go 5.7 miles. Turn left onto Brink Rd, go 1.3 miles. Slight left to stay on Brink Rd, go 3.2 miles. Continue straight onto N Fork Rd, go 3.3 miles. Turn left onto Shuman Hill.

18. Nature of Activity (Description of project, include all features)

The project will add the Webster Interconnect with Mountain Valley Pipeline LLC's (Mountain Valley) proposed pipeline and add the Mobley Tap on Equitrans' existing H-302 pipeline that also connects with Mountain Valley. Also included with this portion of the project is the H-319 pipeline which is a new 16-inch pipeline, approximately 200 feet in length that will connect the existing Equitrans H-306 pipeline to the Webster Interconnect with Mountain Valley. Construction activities will consist of clearing and grubbing, installation of new access roads, construction of permanent pads, installation of pipeline, and site restoration activities.

The Webster Interconnect will consist of a permanent gravel pad approximately 255 feet in length by 130 feet in width. Two new access drives will be constructed to access the interconnect. A temporary workspace area is proposed south of the Webster interconnect. This workspace is approximately 610 feet in length by 110 feet in width. The H-319 pipeline will utilize a 100-ft construction right-of-way and a 50-ft permanent right-of-way. The Mobley Tap will consist of a permanent gravel pad approximately 170 feet in length by 90 feet in width. A temporary workspace area is proposed east of the Mobley Tap.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

To add the Webster Interconnect with Mountain Valley Pipeline LLC's (Mountain Valley) proposed pipeline and add the Mobley Tab on Equitrans' existing H-302 pipeline that also connects with Mountain Valley. Also to connect the existing Equitrans H-306 pipeline to the Webster Interconnect with Mountain Valley.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards: Type Type

Amount in Cubic Yards

Type Amount in Cubic Yards

Type Amount in Cubic Yards

NOT APPLICABLE

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres NOT APPLICABLE

or

Linear Feet NOT APPLICABLE

23. Description of Avoidance, Minimization, and Compensation (see instructions) FOOTPRINT OF THE PIPELINE WILL BE MINIMIZED WHEN CROSSING WATERS OF THE U.S. NO PERMANENT IMPACTS WILL OCCUR TO WATERS OF THE U.S.

24. Is Any Portion of the	e Work Already Complete? [Yes XNo IF YES,	DESCRIBE THE COMPLE	TED WORK	
25. Addresses of Adjoini	ng Property Owners, Lesse	es, Etc., Whose Property Ad	djoins the Waterbody (if mo	re than can be entered here, please	attach a supplemental list).
a. Address- See attache	ad Table 3				
a. Address- See attache					
City -		State -	Zip -		
b. Address-					
City -		State -	Zip -		
c. Address-					
0. Address					
City -		State -	Zip -		
d. Address-					
-		0			
City -		State -	Zip -		
e. Address-					
0.7401000					
City -		State -	Zip -		
26 List of Other Cortifica	too or Annrovala/Daniala ra	acived from other Federal (Ctota ar Lagal Agancias fr	vr Wark Deserihad in This A	nalization
	tes or Approvals/Denials red	IDENTIFICATION	-		
AGENCY	TYPE APPROVAL*	NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
* Would include but is not	t restricted to zoning, buildin	a and flood plain permits			
	made for permit or permits		ibed in this application 1	certify that this information i	n this application is
complete and accurate. I	further certify that I posses				
applicant.					
SIGNATURE	OF APPLICANT	DATE	SIGNAT	URE OF AGENT	DATE
	be signed by the person we statement in block 11 ha			applicant) or it may be s	igned by a duly
1811SC Section 100	1 provides that: Whoever	in any manner within th	ne jurisdiction of any da	nartment or agonou of th	a United States
	falsifies, conceals, or cov				
fraudulent statements	or representations or ma	kes or uses any false wr	iting or document know	ing same to contain any	
traudulent statements	or entry, shall be fined no	ot more than \$10,000 or	imprisoned not more th	an five years or both.	

WETLAND DELINEATION AND WATERS OF THE U.S. SURVEY

WETLAND DELINEATION AND WATERS OF THE U.S. SURVEY FOR THE PROPOSED EQUITRANS EXPANSION PIPELINE PROJECT WETZEL COUNTY, WEST VIRGINIA

A wetland delineation and waters of the U.S. survey was completed for the Equitrans Expansion Pipeline Project. The study area was limited to the proposed pipeline corridor and the limit of disturbance of proposed workspaces and access roads. The findings of the West Virginia portion of the wetland delineation are summarized below and the complete report, including both the West Virginia and Pennsylvania portions of the project is presented in Appendix A.

FINDINGS

The findings of the West Virginia portion of the wetland delineation and waters of the U.S. survey are summarized in Table 1 and Table 2 and presented on Figures 3-1 to 3-2. Four wetlands and 4 streams were identified within or immediately adjacent to the proposed project limit of disturbance.

Wetland and Stream Impacts

The Equitrans Expansion Pipeline Project will involve the temporary impact of 2 streams and 2 wetlands. The footprint of the pipeline right-of-way will be minimized when crossing all waters of the U.S., and the proposed project would not incur any permanent impacts to wetlands or waters of the U.S. Erosion and sediment control BMPs will be used for the protection of water resources.

UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) AND WEST VIRGINIA DIVISION OF NATURAL

RESOURCES (WVDNR) COORDINATION

UNITED STATES FISH & WILDLIFE SERVICE AND WEST VIRGINIA DIVISION OF NATURAL RESOURCES COORDINATION FOR THE PROPOSED EQUITRANS EXPANSION PIPELINE PROJECT WETZEL COUNTY, WEST VIRGINIA

Tetra Tech utilized the "Known and Potential Distribution of Federally Listed Endangered and Threatened Species and Proposed Species in West Virginia" list (Appendix B) and "Counties in Northern Long-eared Bat Range" list provided by the U.S. Fish and Wildlife Service's (FWS) web sites at:

http://www.fws.gov/westvirginiafieldoffice/PDF/KnownandPotentialDistributionofFederally_Mar42013.pdf.

http://www.fws.gov/midwest/endangered/mammals/nleb/documents/NLEBRangeCountyList043015.xls

Tetra Tech also utilized the list in Appendix A of the 2013 West Virginia Mussel Survey Protocol to determine if any streams within the Project area had State protected mussel species.

FINDINGS

Two federally listed endangered species (Indiana bat – *Myotis sodalis,* and northern long-eared bat - *Myotis septentrionalis*) were identified on the "Known and Potential Distribution of Federally Listed Endangered and Threatened Species and Proposed Species in West Virginia" list (Appendix B) or "Counties in Northern Long-eared Bat Range" list provided by the USFWS for Wetzel County. No streams within the Project area are listed by the WVDNR as containing protected mussel species.

CONSULTATION RESULTS

A coordination letter was submitted to the USFWS West Virginia Field Office on April 27, 2015 (Appendix C). A data request was also sent to the WVDNR Natural Heritage Program for information they may have regarding rare, threatened and endangered species (RTE) and unique habitats in the vicinity of the Project. In a response letter received May 12, 2015 (Appendix D), the WVDNR determined that there are no records of RTE in the vicinity of the Project. Consultation with the USFWS West Virginia Field Office is ongoing.

CULTURAL RESOURCES NOTIFICATION

CULTURAL RESOURCES NOTIFICATION FOR THE PROPOSED EQUITRANS EXPANSION PIPELINE PROJECT WETZEL COUNTY, WEST VIRGINIA

Tetra Tech initiated formal consultation with the WVDCH April 27, 2015. A copy of the consultation letter including a project description is provided in Appendix E. Comments from WVDCH were received June 2, 2015 stating that the WVDCH has no immediate concerns regarding historic properties that could be potentially affected by the proposed project. EQT agrees to complete the Section 106 consultation process by following the direction of the WVDCH.

NATIONAL WILD AND SCENIC RIVERS EVALUATION

NATIONAL WILD AND SCENIC RIVERS EVALUATION FOR THE PROPOSED EQUITRANS EXPANSION PIPELINE PROJECT WETZEL COUNTY, WEST VIRGINIA

No National Wild and Scenic Rivers occur within the project area, and therefore, no Wild and Scenic Rivers will be impacted by this project.

401 WATER QUALITY CERTIFICATION

401 WATER QUALITY CERTIFICATION FOR THE PROPOSED EQUITRANS EXPANSION PIPELINE PROJECT WETZEL COUNTY, WEST VIRGINIA

A wetland delineation and waters of the U.S. survey was completed for the proposed Equitrans Expansion Pipeline Project and within the limit of disturbance of proposed pipeline and workspaces (study area). The findings are summarized below and the complete report is presented in Appendix A. A total of 4 wetlands and 4 streams were identified within the Wetzel County portion of the Equitrans Expansion Pipeline Project study area. The Equitrans Expansion Pipeline Project will involve the temporary impact of 2 streams and 2 wetlands. The footprint of the pipeline right-of-way will be minimized when crossing all waters of the U.S., and the proposed project would not incur any permanent impacts to wetlands or waters of the U.S. Erosion and sediment control BMPs will be used for the protection of water resources.

EQT will follow an Erosion and Sediment Control Plan (E&SCP) that been prepared in accordance with the 2006, West Virginia Department of Environmental Protection (WVDEP) Best Management Protection (BMP) Manual and the 2012 WVDEP E&SC Field Oil and Gas Manual.

EQT will be applying for a WVDEP General Water Pollution Control Permit.

General notes

1. All trapped sediments will be disposed on an upland area where there is no chance of entering nearby streams. Silt and sediment removed from BMPs shall be disposed outside of wetlands, floodplains or drainage swales and immediately stabilized or placed in topsoil stockpiles.

2. All delineated wetlands subject to sediment laden runoff shall be protected by placing compost filter sock uphill and outside of the wetland boundary.

3. Wetland and stream crossings shall be done utilizing timber mats.

RESTORATION PLAN

RESTORATION PLAN FOR THE PROPOSED EQUITRANS EXPANSION PIPELINE PROJECT WETZEL COUNTY, WEST VIRGINIA

Following completion of pipeline installation and trench backfilling, the area shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. Temporary equipment travel areas must be scarified during site restoration. The right of way will be seeded per the site restoration schedule provided and mulched with straw. The right of way will be maintained in accordance with accepted industry standard practices. If the pipeline is constructed through lawns, gardens, and other improved property, a minimum of such areas shall be disturbed and all improved property and grounds shall be restored to a condition equivalent of that existing prior to construction including the replacement and/or restoration of lawns, shrubbery, bushes, trees, sidewalks, fences, ditches and drainage facilities, driveways, septic tanks, septic tank drainage fields, and any other structures or facilities encountered during construction. As a result of restoring all disturbed areas to the pre-construction conditions, there will be no increase in runoff rate or volume.

TABLES

Table 1 - Wetland Summary

Mottand ID	Wetland	Focs	-ocation	USACE	Crossing	(Sizo * (Scroc)	Area of Impact	Fill Material	Pipeline Length
	Classification	Latitude	Longitude	Water Type	Method		(acres)	(cubic yards)	(feet)
W-Z3A	PEM	39.552937	-80.544539	RPWWN	Open Cut	0.1226	0.055	3.906	11.719
W-Z3B	PEM	39.552937	-80.544539	RPWWN	Open Cut	0.0546	0.114	9.105	27.316
W-Z2A	PEM	39.550181	-80.544762	RPWWD	IN	0.0924	NI	N	IN
M-Z1	PEM	39.562971	-80.543704	RPWWD	IN	0.0040	IN	IN	IN
					Total	0.2737	0.169	13.012	39.036
					וטומו	acres	acres	cubic yards	feet

NI - No Impact All impacts are temporary.

Stream ID	Waterbody	Stream	USACE Water Type	Crossing	Crossing Location	Crossing Method	OHWM Width at	Linear Feet of Discharge Below	Crossing Area	Fill Material (cubic	Surface Area	Length of Impact
	2	Classification	5	Latitude	Longitude	,	Crossing (feet)	OHWM**	(square teet)	yards)	Filled (acres)	(teet)
S-Z1	Mobley Run	Perennial	RPW	39.562907	-80.543684	IN	N	N	N	IN	N	IN
S-J63	UNT to Mobley Run	Perennial	RPW	39.562554	-80.543564	Timber Mat	7.0	*0	*0	*0	*0	694
S-A3A	UNT to North Fork Fishing Creek	Ephemeral	NRPW	39.551893	-80.54509	Timber Mat	5.0	*0	*0	*0	*0	1262
S-A2A	UNT to North Fork Fishing Creek	Perennial	RPW	39.552673	-80.544944	Open Cut	15.0	5	75	14	0.0017	1511
							27		75	14	0.00172	3467
							Feet		Square Feet	Cubic Yards	Acres	Feet

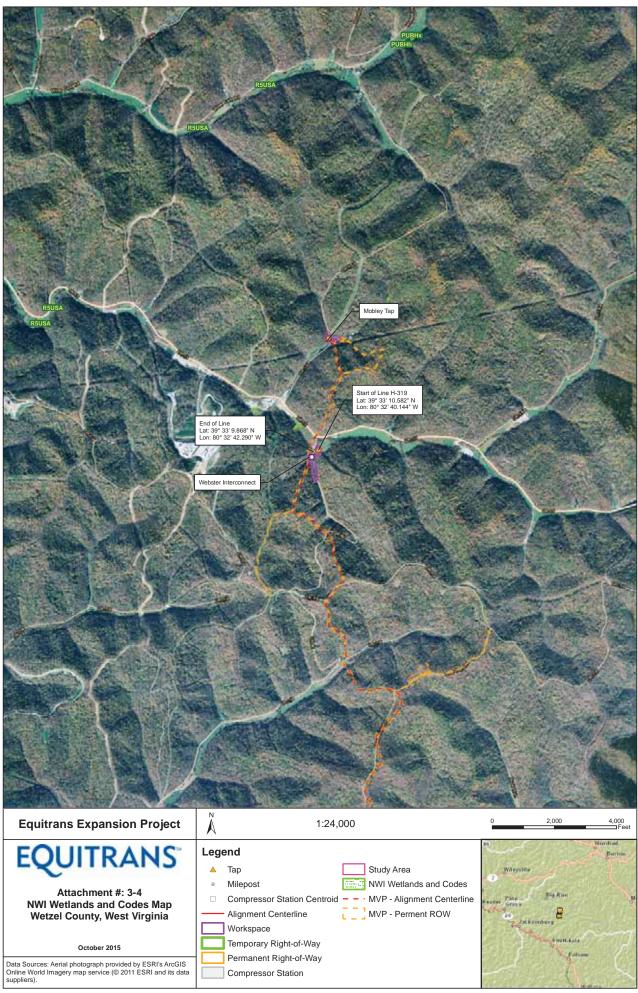
All impacts are temporary. *Stream will be crossed by temporary road using timber mat. No fill or discharge material will be placed in the stream. ** Linear feet of discharge below OHWM represents the proposed crossing s upstream extent below the OHWM which is equal to the width of the proposed crossing trench (5 ft.)

Landowner Name	Street Address	City	State	Zip
SHIRLEY TITUS	CO RT 80	SMITHFIELD	WV	26437
GREGORY PAUL WORTHY	CO RT 15-3	BIG RUN	WV	26561
EARL R & JUANITA L CLARK	CO RT 15-4	BIG RUN	WV	26561

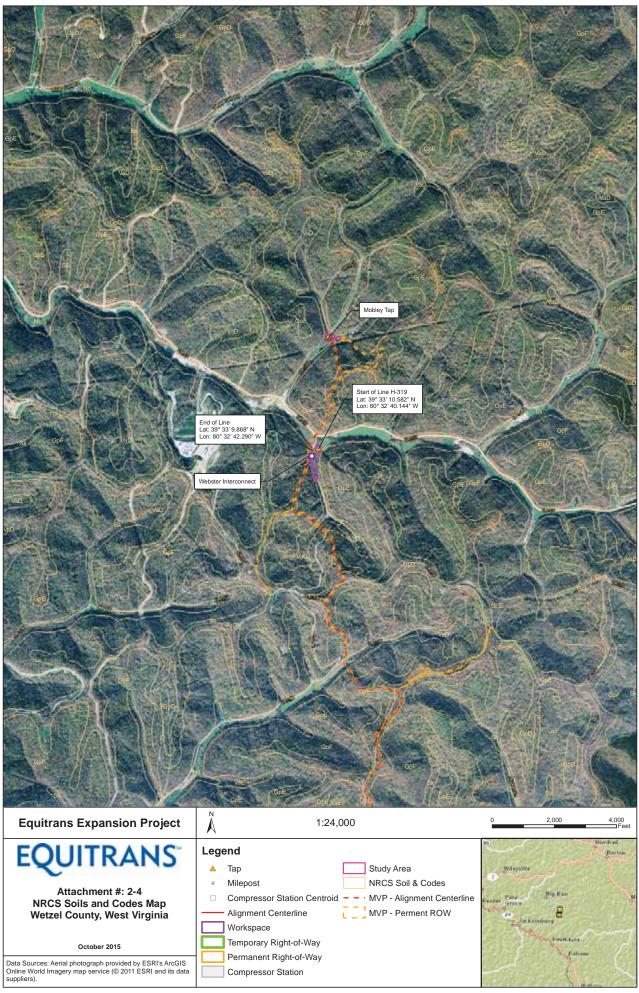
Table 3 – List of Affected Landowners

FIGURES

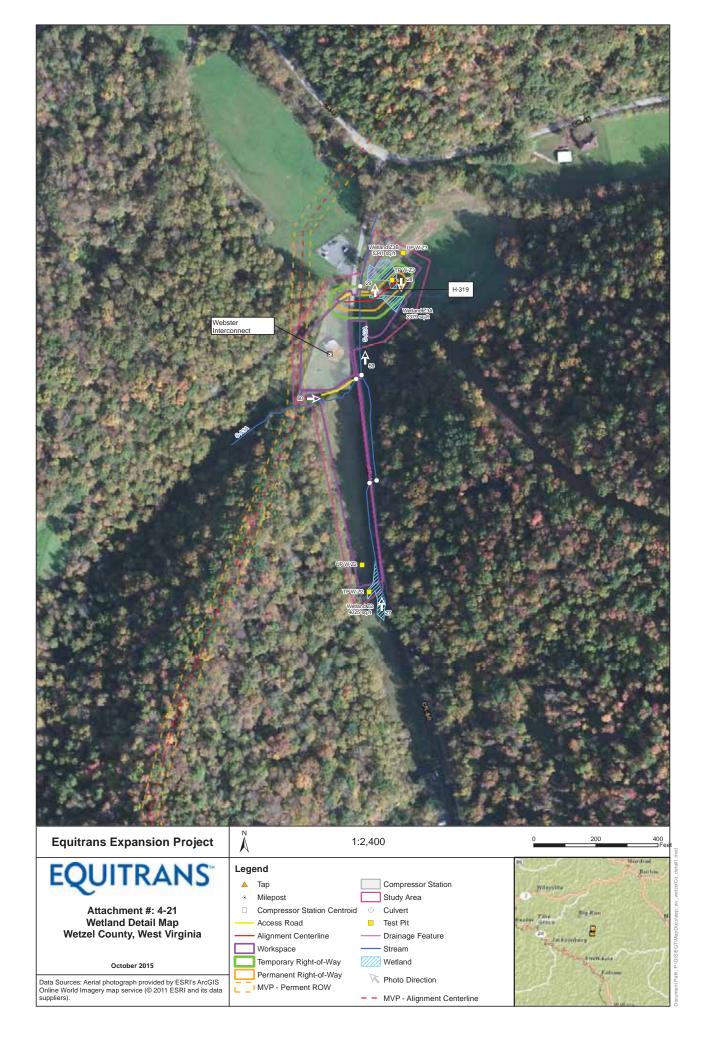


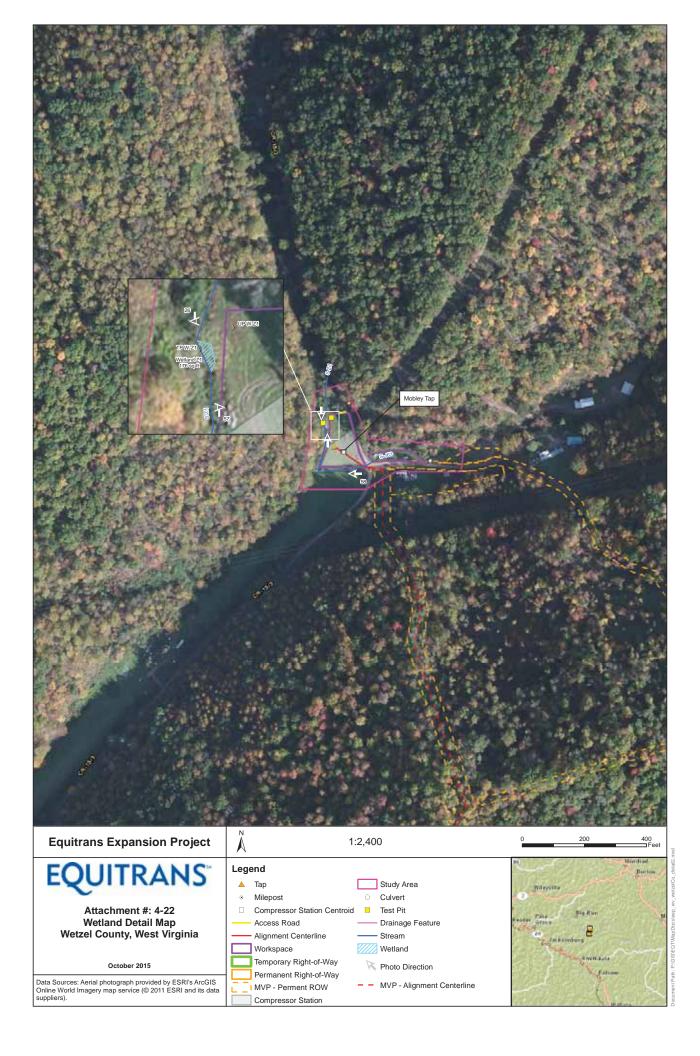


Path: P:\GIS\EQT\MapDocs\eep_wv_wetzelCo_nw

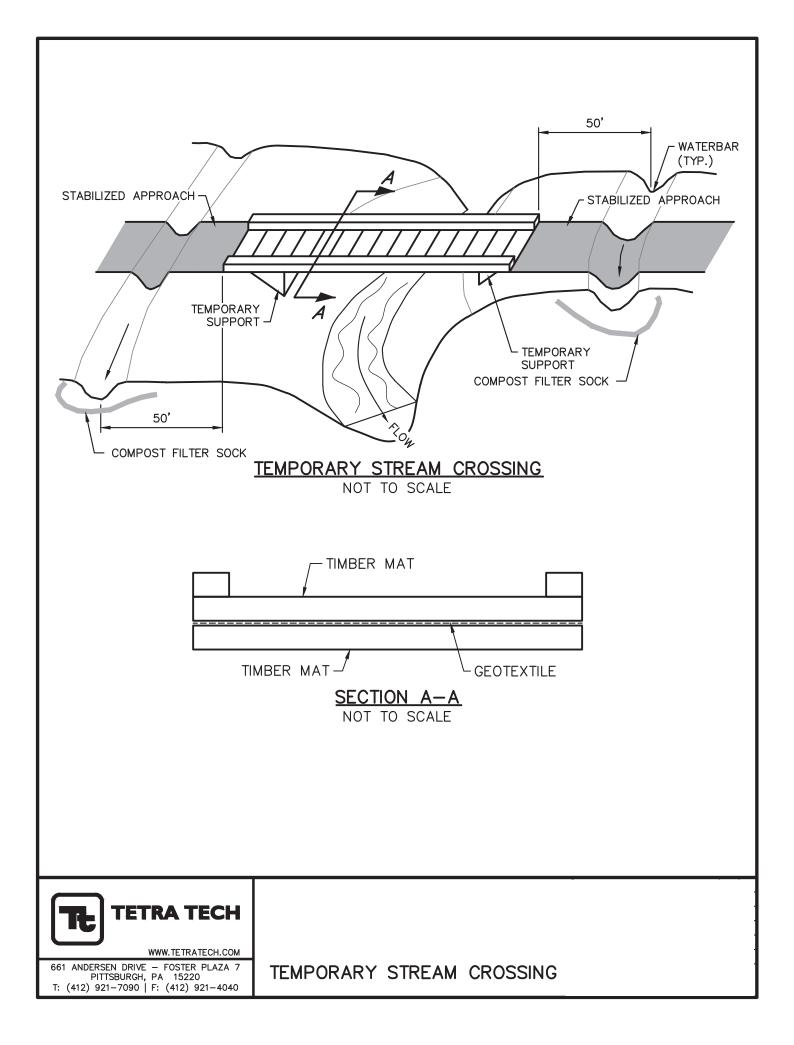


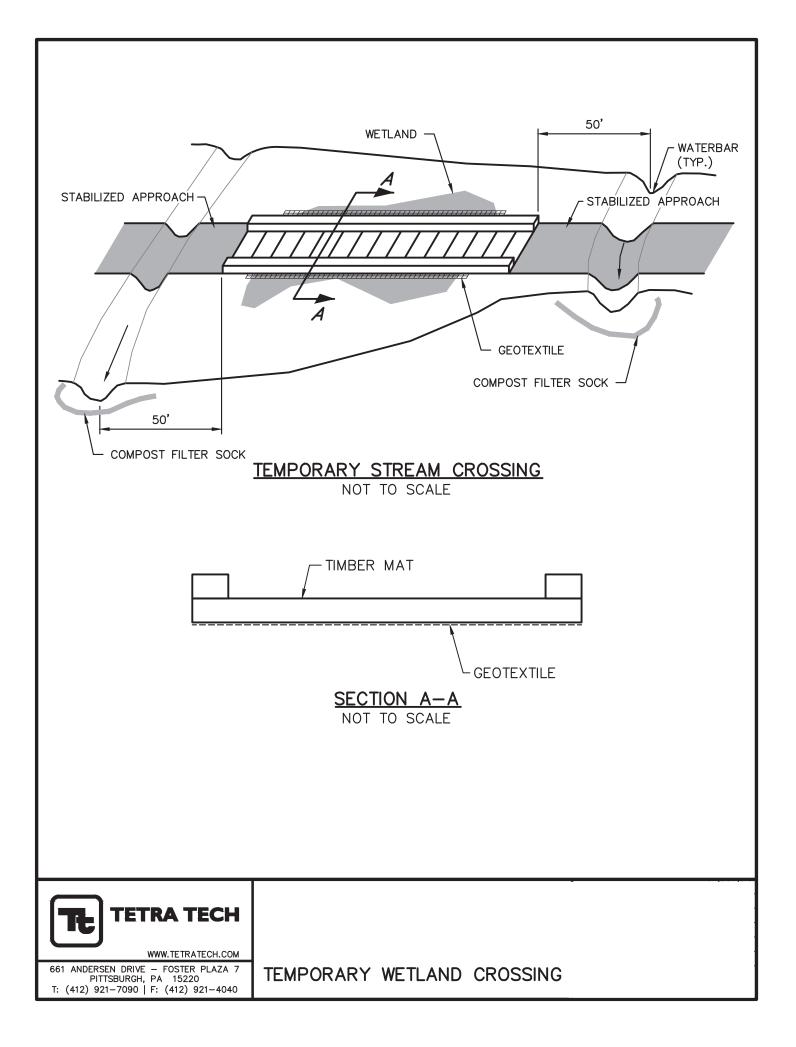
Path: P:\GIS\EQT\MapDocs\eep_wv_wetzelCo_soi





DRAWINGS





APPENDIX A

WETLAND DELINEATION AND WATERS OF THE U.S. SURVEY REPORT

Aquatic Resource Report for the Equitrans Expansion Pipeline Project Allegheny, Washington, and Greene Counties, Pennsylvania, and Wetzel County, West Virginia



Prepared By: Tetra Tech, Inc. For Equitrans, LP 625 Liberty Avenue Suite 1700, Pittsburgh, Pennsylvania



October 2015

TABLE OF CONTENTS

<u>SECTION</u> PAGE N					
ACRO	NYMS			iii	
1.0	INTRODUCTION1-1				
	1.1	Washington/Allegheny Counties, PA (H-318 pipeline)			
	1.2	Greene County, PA (H-316, M-80, H-158, H-305,			
	and the Redhook Compressor Station)				
	1.3	Wetzel	County, WV (Webster Interconnect, Mobley Tap, and H-319)	1-2	
2.0	METHO	IODOLOGY2-1			
3.0	RESULTS				
	3.1	WET 3.1.1	LAND IDENTIFICATION AND DELINEATION Washington/Allegheny Counties, PA (H-318 pipeline)	2.4	
		3.1.1		3-1	
		3.1.Z	Greene County, PA (H-316, M-80, H-158, H-305, and Redhook Compressor Station)	2 5	
		3.1.3	Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)		
		3.1.3	weizer County, wv (webster interconnect, mobiey rap, and H-319).		
	3.2	STR 3.2.1	EAM IDENTIFICATION AND EVALUATION Washington/Allegheny Counties (H-318 pipeline)	3-9	
		3.2.2	Greene County H-316, M-80, H-158, H-305,		
			and Redhook Compressor Station)	3-10	
		3.2.3	Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319).	3-16	
4.0	CONCLUSIONS			4-1	
REFERENCES					
FIGUR	<u>ES</u>				
	1 2 3 4		USGS PROJECT LOCATION MAP NRCS SOILS AND CODES MAP NWI WETLANDS AND CODES MAP WETLAND DETAIL MAP		
APPEN	IDICES				
	A B C D E		FIELD DATA SHEETS WETLAND PHOTOGRAPHS STREAM PHOTOGRAPHS HYDRIC SOILS LIST RESUMES		

ACRONYMS

1987 Manual	USACE of Engineers Wetland Delineation Manual
USACE Regional Supplement EQT Gathering	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region EQT Gathering, LLC
Equitrans	Equitrans, L.P.
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
GIS	Geographic Information Systems
GPS	Global Positioning System
MVP	Mountain Valley Pipeline
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate
PEM	Palustrine Emergent
PFO	Palustrine Forested
ROW	Right-of-way
SF	Square Feet
UNT	Unnamed Tributary
UPL	Upland
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WWF	Warm Water Fishes

1.0 INTRODUCTION

This Aquatic Resource Report for the proposed Equitrans Expansion Project was prepared by Tetra Tech, Inc. on behalf of Equitrans, L.P. (Equitrans). Areas were investigated for the presence of wetlands on site using methodologies enumerated in the *United States Army Corps of Engineers (USACE) Wetland Delineation Manual* (Environmental Laboratory, 1987) (1987 Manual), as amended by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region*, April 2012 (USACE Regional Supplement).

The subject of this report is a proposed project involving multiple proposed natural gas pipeline right-of-ways (ROW), associated access roads, above ground facilities and workspaces located in Allegheny, Greene and Washington Counties, Pennsylvania. The purpose of this proposed project is to add capacity to bring natural gas from the central Appalachian Basin into the interstate pipeline grid or existing Equitrans markets.

1.1 Washington/Allegheny Counties, PA (H-318 pipeline)

The portion of the project in Allegheny and Washington Counties (the H-318 pipeline) will include the installation of 1, 20" natural gas transmission pipeline, approximately 4.6 miles long, within a 100'-wide construction ROW and a 50'-wide permanent ROW. This portion of the project also involves the installation of permanent aboveground facilities including the Applegate and Hartson Launcher/Receiver Facilities. The H-318 pipeline will move gas from the EQT Gathering, LLC (EQT Gathering) Applegate Gathering System, in Forward Township, Allegheny County, to Equitrans' existing H-148 pipeline, in Union Township, Washington County, for delivery south.

The proposed project area in Allegheny and Washington County would require crossing the Monongahela River. The Monongahela River and its associated UNTs are listed as Warm Water Fishes (WWF), as designated in Chapter 93 of Title 25 of the PA Code. The proposed project would also require crossing Lobbs Run, Bunola Run, Kelly Run and several UNTs to each. These water features and the associated UNTs are listed as Warm Water Fishes (WWF), as designated in Chapter 93 of Title 25 of the PA Code.

1.2 Greene County, PA (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

The portion of the project in Greene County will include the installation four pipelines and new above ground facilities. The H-316 natural gas pipeline will be a 30" natural gas transmission pipeline, approximately 2.9 miles long, within a 125'-wide construction ROW and 50'-wide

permanent ROW. The H-316 pipeline will move gas from the proposed Redhook Compressor Station to Equitrans' existing H-302 pipeline for delivery to Texas Eastern infrastructure, or south on Equitrans' existing H-302 pipeline to the Mountain Valley Pipeline (MVP). The proposed project in Greene County also involves the installation of three shorter pipelines: the M-80, the H-158, and the H-305 pipelines. Each of these proposed pipelines will be located within a 100'-wide construction ROW and a 50'-wide permanent ROW. The M-80 pipeline is an existing 6" pipeline to the Pratt Compressor Station that will be extended to move gas to the Redhook Compressor Station once it is commissioned. The H-158 pipeline is an existing 12" pipeline to the Pratt Compressor Station once it is commissioned. The H-158 pipeline is a proposed 24" pipeline extension, approximately 540' in length, that will move gas from the Redhook Compressor Station to Equitrans' existing H-305 pipeline is a proposed 24" pipeline extension, approximately 540' in length, that will move gas from the Redhook Compressor Station to Equitrans' existing H-305 pipeline located at the existing Braden Run Interconnect with Texas Eastern. New above ground facilities for this portion of the project include the Redhook Compressor Station and the H-302 tie-in. The pipeline projects spans Jefferson and Morgan Townships, Greene County, PA.

The project area in Greene County would require crossing South Fork Tenmile Creek and several UNTs to it. The South Fork Tenmile Creek and its associated UNTs are listed as WWF, as designated in Chapter 93 of Title 25 of the PA Code. The proposed project would also require crossing Ruff Creek and several UNTs. These water features and the associated UNTs are listed as WWF, as designated in Chapter 93 of Title 25 of the PA Code.

1.3 Weztel County, WV (Webster Interconnect, Mobley Tap, and H-319)

In Wetzel County, West Virginia, the project involves the installation of the Webster Interconnect, Mobley Tap and the H-319 pipeline, a new 16-inch pipeline, approximately 200 feet in length that will connect the existing Equitrans H-306 pipeline to the proposed Webster Interconnect with MVP.

The project area in Wetzel County, West Virginia is located within the Mobley Run and North Fork Fishing Creek watersheds. UNT to North Fork Fishing Creek will be crossed by this project.

The content of this report presents the results of wetland delineation and stream identification activities completed for the pipeline ROW, associated access roads, above ground facilities and workspaces for the proposed project.

2.0 METHODOLOGY

USACE requires the use of the procedures enumerated in the *1987 Manual* (Environmental Laboratory, 1987) and the USACE Regional Supplement (Environmental Laboratory, 2012) for making jurisdictional determinations. According to the *1987 Manual*, an area is defined as a wetland if, under normal circumstances, it meets all three of the following criteria:

- 1. Predominance of hydrophytic vegetation (plants adapted for life in saturated soil conditions);
- 2. Hydric soils (soils formed under water, or in saturated conditions); and
- Wetland hydrology (presence of inundated or saturated soils at some time during the growing season).

Wetlands identified in the field were classified in accordance with the U.S. Fish and Wildlife Service's (USFWS) *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979), *A Hydrogeomorphic Classification for Wetlands* (Brinson 1993) and USACE Waters Type. Dominant vegetation was identified and classified according to The National Wetland Plant List: 2014 Update of Wetland Ratings (Lichvar, 2014). Plant classifications are as follows:

- Obligate (OBL) essentially always found in wetlands; estimated probability >99%
- Facultative Wetland (FACW) usually found in wetlands; estimated probability 67%-99%
- Facultative (FAC) equally likely to occur in wetlands and non-wetlands; estimated probability 34%-66%
- Facultative Upland (FACU) usually occurs in non-wetlands; estimated probability 1%-33%
- Upland (UPL) essentially always found in non-wetlands; estimated probability >99%

The field investigations for the proposed Project were performed during numerous field visits: June 9th 2015, July 8th - 12th 2015, and October 8th 2015. The study area was focused on the proposed pipeline corridor, proposed access roads, and specific areas identified for proposed workspaces, ancillary sites, and compressor stations. Study areas were investigated for the presence of potential wetlands and streams. The final study area is illustrated on the project mapping (Figures).

Preliminary site reconnaissance of the study area was conducted through a review of available Geographic Information Systems (GIS) resources. Existing information reviewed included the following:

• U.S. Geological Survey (USGS) topographic mapping (Figure 1-1 to 1-4)

- Natural Resources Conservation Service (NRCS) National Cooperative Soil Survey (Figure 2-1 to 2-4)
- USFWS National Wetland Inventory (NWI) Mapping (Figure 3-1 to 3-4)

Wetland delineation in the field involved of establishment of the wetland/upland margin with flagging hung at intervals that accurately depicted the outline of the boundary. The individual flags were then located using a Global Positioning System (GPS) receiver with sub-meter accuracy and later added to the project area mapping. Wetland flagging was limited to the bounds of the investigated study area and wetlands are shown as closed or partially closed systems on the detail map (Figure 4).

All wetlands and streams identified were given unique identification names (i.e. Wetland ID, Stream ID). For streams, the National Hydrography Dataset (NHD) mapped stream names (USGS 2015) are also provided in the results. For identified streams without a NHD name, the identified stream was given the name, "Unidentified Tributary (UNT)", of the first named receiving waterbody.

Data concerning soils, hydrology, and vegetation were collected and recorded on USACE Wetland Determination Data Forms at wetlands and at upland point locations associated with each wetland. USACE Wetland Determination Forms and stream data sheets detailing stream characteristics are provided in Appendix A. Photographs depicting wetland topography and vegetation are included in Appendix B. Appendix C contains photographs of streams identified within the study area. Appendix D provides a list of hydric soils known to occur within the counties of the study area. Resumes of Project field personnel, summarizing professional experience, qualifications, and education, are included in Appendix E.

3.0 RESULTS

Thirty-three areas within the Equitrans Expansion Project study area met the wetland criteria outlined in the *1987 Manual*, as amended by the *USACE Regional Supplement*. Additionally, 37 streams were identified within the evaluated study area. A narrative summary of field data collected within the study area for this Project is presented below. The detail maps (Figure 4-1 to 4-22) illustrate the wetland and watercourse locations in relation to the proposed ROW.

3.1 Wetland Identification and Delineation

This section is a summary of the wetland delineation for the individual projects within the Equitrans Expansion Project. USACE wetland determination data forms detailing the existing vegetation, soil characteristics, and hydrology were prepared for each wetland and its associated upland point (Appendix A).

3.1.1 Washington/Allegheny Counties (H-318 pipeline)

Based on field evidence and best professional judgment, it was determined that 13 wetlands were present within the study area. These areas demonstrated the presence of all three wetland parameters required by the *1987 Manual* and the USACE Regional Supplement.

A review of the NRCS Soil Survey and hydric soil list indicated that seven soils mapped within the Allegheny and Washington county study area are classified as hydric or as containing hydric components (Figure 2-1 to 2-4): Cavode silt loam, 2 to 8 percent slopes (CaB), Cavode silt loam, 8 to 15 percent slopes (CaC), Fluvaquents, loamy (Fa), Glenford silt loam 3 to 8 percent slopes (GdB), Udorthents, smoothed gently sloping (UdB), Udorthents, smoothed, moderately steep (UdD), and Urban land-Rainsboro complex, gently sloping (URB).

No NWI wetlands are mapped within the study area (Figure 3-1 to 3-4).

Wetland BB1

Wetland BB1 (W-BB1) is a palustrine emergent (PEM) wetland 867-square foot (SF) in size located in the northwestern portion of the study area (Figure 4-1). Indicators of wetland hydrology include surface water, algal mat or crust, and crayfish burrows. Dominant vegetation consisted of curly dock (*Rumex crispus*), Pennsylvania smartweed (*Polygonum pensylvanicum*), and Kentucky blue grass (*Poa pratensis*). The soil between 0-14 inches exhibited a low-chroma matrix color (2.5Y 3/2) with a clay loam texture. The soil between 14-18 inches exhibited a low-chroma matrix color (10YR 4/2) with a clay loam texture.

Wetland BB3

Wetland BB3 (W-BB3) is a PEM wetland 2,993-SF in size located in the northwestern portion of the study area (Figure 4-2). Indicators of wetland hydrology include surface water, saturation, hydrogen sulfide odor, crayfish burrows, geomorphic position, and FAC neutral test. Dominant vegetation consisted of common fox sedge (*Carex vulpinoidea*), dark-green bulrush (*Scirpus atrovirens*), short-awn meadow-foxtail grass (*Alopecurus aequalis*), and spreading bent grass (*Agrostis stolonifera*). The soil between 0-12 inches exhibited a low-chroma matrix color (7.5Y 3/2) with a clay loam texture. The soil between 12-18 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture.

Wetland BB2

Wetland BB2 (W-BB2) is a PEM wetland 5,961-SF in size located in the northwestern portion of the study area (Figure 4-2). Indicators of wetland hydrology include surface water, a high water table, saturation, hydrogen sulfide odor, drainage patterns, geomorphic position, and FAC neutral test. Dominant vegetation consisted of curly dock, common fox sedge, and dark-green bulrush. The soil between 0-1 inches exhibited a low-chroma matrix color (2.5Y 3/1) with a muck texture. The soil between 1-5 inches exhibited a low-chroma matrix color (2.5Y 3/1) with a clay loam texture.

Wetland BB13

Wetland BB13 (W-BB13) is a palustrine forested (PFO) wetland 11,621-SF in size located in the central portion of the study area (Figure 4-4). Indicators of wetland hydrology include surface water, saturation, water stained leaves, aquatic fauna, crayfish burrows, and geomorphic position. Dominant vegetation consisted of ashleaf maple (*Acer negundo*), red maple (*Acer rubrum*), Chinese privet (*Ligustrum sinense*), Canadian clearweed (*Pilea pumila*), may-apple (*Podophyllum peltatum*), stinging nettle (*Urtica dioica*), Japanese stilt grass (*Microstegium vimineum*), pale touch-me-not (*Impatiens pallida*), and poision ivy (*Toxicodenron radicans*). The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture.

Wetland BB11

Wetland BB11 (W-BB11) is a PFO wetland 2,493-SF in size located in the central portion of the study area (Figure 4-4). Indicators of wetland hydrology include water marks and water stained leaves. Dominant vegetation consisted of red maple, American beech (*Fagus grandifolia*), an unidentified honeysuckle species (*Lonicera* sp.), and Canadian clearweed. The soil between 0-1 inches exhibited a low-chroma matrix color (10YR 3/1) with a clay loam muck texture. The soil between 1-18 inches exhibited a 10YR 4/3 matrix color with a clay loam texture.

Wetland BB10

Wetland BB10 (W-BB10) is a PFO wetland 1,016-SF in size located in the central portion of the study area (Figure 4-4). Indicators of wetland hydrology include surface water, water marks, water stained leaves, and crayfish burrows. Dominant vegetation consisted of red maple, American beech, an unidentified honeysuckle species, Japanese stilt grass, Canadian clearweed, deertongue rosette grass (*Dichanthelium clandestinum*), and Pennsylvania blackberry (*Rubus pensilvanicus*). The soil between 0-6 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture that contained redoximorphic features (7.5YR 4/6). The soil between 6-18 inches exhibited a 10YR 5/4 matrix color with a clay loam texture.

Wetland BB9

Wetland BB9 (W-BB9) is a PFO wetland 709-SF in size located in the central portion of the study area (Figure 4-5). Indicators of wetland hydrology include surface water, water marks, water stained leaves, aquatic fauna, crayfish burrows, and microtopographic relief. Dominant vegetation consisted of red maple, American beech, an unidentified honeysuckle species, may-apple (*Podophyllum peltatum*), sensitive fern (*Onoclea sensibilis*), and Japanese stilt grass. The soil between 0-9 inches exhibited a low-chroma matrix color (10YR 4/1) with a clay loam texture that contained redoximorphic features (7.5YR 4/6). The soil between 8-18 inches exhibited a 10YR 5/6 matrix color with a loamy clay texture.

Wetland BB8

Wetland BB8 (W-BB8) is a PFO wetland 1,619-SF in size located in the central portion of the study area (Figure 4-5). Indicators of wetland hydrology include water stained leaves, hydrogen sulfide odor, and FAC neutral test. Dominant vegetation consisted of red maple, an unidentified honeysuckle species, Canadian clearweed, and Pennsylvania blackberry. The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/2) with a clay loam texture. The soil between 8-16 inches exhibited a 10YR 5/6 matrix color with a clay loam texture.

Wetland BB7

Wetland BB7 (W-BB7) is a PEM wetland 94,073-SF in size located in the central portion of the study area (Figure 4-5). Indicators of wetland hydrology include surface water, saturation, hydrogen sulfide odor, crayfish burrows, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of spreading bent (*Agrostis stolonifera*), stalk-grain sedge (*Carex stipata*), lesser poverty rush (*Juncus tenuis*), poision ivy, and Pennsylvania blackberry. The soil between 0-6 inches exhibited a 10YR 4/3 matrix color with a clay loam texture. The soil between 6-18 inches exhibited a 10YR 5/4 matrix color with a loamy clay texture that contained redoximorphic features (2.5YR 4/6).

Wetland BB6

Wetland BB6 (W-BB6) is a PEM wetland 4,031-SF in size located in the central portion of the study area (Figure 4-6). Indicators of wetland hydrology include surface water, saturation, algal mat or crust, hydrogen sulfide odor, crayfish burrows, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of spreading bent and poision ivy. The soil between 0-5 inches exhibited a 10YR 4/3 matrix color with a clay loam texture. The soil between 5-20 inches exhibited a low-chroma matrix color (10YR 4/2) with a loamy clay texture that contained redoximorphic features (2.5YR 4/6).

Wetland BB12

Wetland BB12 (W-BB12) is a PEM wetland 250-SF in size located in the central portion of the study area (Figure 4-7). Indicators of wetland hydrology include surface water, algal mat or crust, and sparsely vegetated concave surface, and crayfish burrows. Dominant vegetation consisted of dark-green bulrush. The soil between 0-6 inches exhibited a low-chroma matrix color (2.5Y 4/2) with a clay loam texture that contained redoximorphic features (7.5YR 5/4). The soil between 6-12 inches exhibited a low-chroma matrix color (2.5Y 4/1) with a loamy clay texture that contained redoximorphic features (7.5YR 5/4). The soil between 12-18 inches exhibited a low-chroma matrix color (2.5Y 4/2) with a loamy clay texture.

Wetland BB5

Wetland BB5 (W-BB5) is a PEM wetland 24,440-SF in size located in the northern portion of the study area (Figure 4-11). Indicators of wetland hydrology include surface water, water stained leaves, crayfish burrows, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of dark-green bulrush, lesser poverty rush, and deer-tongue rosette grass. The soil between 0-6 inches exhibited low-chroma (2.5Y 4/2) and gleyed (Gley 4/10Y) matrix colors with a clay loam texture. The soil between 6-12 inches exhibited a 2.5Y 5/4 matrix color with a clay loam texture.

Wetland BB4

Wetland BB4 (W-BB4) is a PEM wetland 1,725-SF in size located in the northern portion of the study area (Figure 4-11). Indicators of wetland hydrology include surface water, aquatic fauna, crayfish burrows, and FAC neutral test. Dominant vegetation consisted of stalk-grain sedge and lesser poverty rush. The soil between 0-5 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture that contained redoximorphic features (7.5YR 4/6). The soil between 5-18 inches exhibited a 10YR 4/3 matrix color with a clay loam texture.

3.1.2 Greene County (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

Based on field evidence and best professional judgment, it was determined that 17 wetlands were present within the study area. These areas demonstrated the presence of all three wetland parameters required by the *1987 Manual* and the *USACE Regional Supplement*. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained wetland hydrology indicators.

A review of the NRCS Soil Survey and hydric soil list indicated that six soils mapped within the Green County study area are classified as hydric or as containing hydric components these are Dumps, mines (Du), Fluvaquents, Ioamy (Fa), Glenford silt Ioam, 3 to 8 percent slopes (GdB), Newark silt Ioam (Nw), Udorthents, smoothed gently sloping (UdB), and Udorthents, smoothed, moderately steep (UdD) (Figure 2-1).

Three NWI wetlands are mapped within the study area (Figure 3).

Wetland N1

Wetland N1 (W-N1) is a PEM wetland 3,401-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology includes saturation and geomorphic position. Dominant vegetation consisted of lamp rush (*Juncus effusus*). The soil between 0-17 inches exhibited a low-chroma matrix color (10YR 5/2) with a sandy clay texture that contained redoximorphic features (10YR 6/8, 10YR 6/1).

Wetland AA1

Wetland AA1 (W-AA1) is a PEM wetland 5,275-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology include a high water table, saturation, geomorphic position, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of American sycamore (*Platanus occidentalis*), common fox sedge, and American hog peanut (*Amphicarpaea bracteata*). The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 4/2) with a silty clay loam texture. The soil between 3-10 inches exhibited low-chroma matrix colors (10YR 5/1, 10YR 4/2) with a silty clay loam texture that contained redoximorphic features (10YR 3/6). The soil between 10-20 inches exhibited a 10YR 5/6 matrix color with a silty clay loam texture.

Wetland AA5

Wetland AA5 (W-AA5) is a PEM wetland 855-SF in size located in the central portion of the study area (Figure 4-12). Indicators of wetland hydrology include a high water table and geomorphic position. Dominant vegetation consisted of an unidentified grass species (*Poa* sp.). The soil

between 0-17 inches exhibited low-chroma matrix colors (2.5YR 5/1, 7.5YR 3/1) with a silty clay texture that contained redoximorphic features (10YR 5/6).

Wetland AA6

Wetland AA6 (W-AA6) is a PEM wetland 3,083-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology include a high water table, saturation, oxidized rhizospheres on living roots, geomorphic position and FAC neutral test. Dominant vegetation consisted of reed canary grass (*Phalaris arundinacea*), and narrow-leaf cattail (*Typha angustifolia*). The soil between 0-19 inches exhibited a low-chroma matrix color (10YR 5/2) with a silty clay loam texture that contained redoximorphic features (10YR 3/6).

Wetland AA2

Wetland AA2 (W-AA2) is a PEM wetland 293-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology include surface water, a high water table, saturation, geomorphic position, and FAC neutral test. Dominant vegetation consisted of green ash (*Fraxinus pennsylvanica*) and shallow sedge (*Carex lurida*). The soil between 0-9 inches exhibited a low-chroma matrix color (10YR 4/1) with a silty clay texture. The soil between 9-19 inches exhibited a low-chroma matrix color (10YR 4/1) with a silty clay texture that contained redoximorphic features (10YR 5/6).

Wetland AA3

Wetland AA3 (W-AA3) is a PEM wetland 353-SF in size located in the western portion of the study area (Figure 4-13). Indicators of wetland hydrology include surface water and a high water table. Dominant vegetation consisted of rough-stalk blue grass (*Poa trivialis*) and narrow-leaf cat-tail. The soil between 0-16 inches exhibited a low-chroma matrix color (10YR 6/1) with a silty clay loam texture that contained redoximorphic features (10YR 5/3, 10YR 4/6).

Wetland AA4

Wetland AA4 (W-AA4) is a PEM wetland 9,655-SF in size located in the central portion of the study area (Figure 4-14). Indicators of wetland hydrology include surface water, high water table, hydrogen sulfide odor, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of shallow sedge and common fox sedge. The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 5/1) with a silty clay loam texture. The soil between 3-19 inches exhibited a low-chroma matrix color (10YR 5/1) with a silty clay loam texture that contained redoximorphic features (10YR 3/6).

Wetland AA7

Wetland AA7 (W-AA7) is a PEM wetland 12,464-SF in size located in the central portion of the study area (Figure 4-14). Indicators of wetland hydrology include surface water, a high water table, hydrogen sulfide odor, oxidized rhizospheres on living roots, and FAC neutral test. Dominant vegetation consisted of common fox sedge and fowl blue grass (*Poa palustris*). The soil between 0-19 inches exhibited a low-chroma matrix color (10YR 3/1, 10YR 5/1) with a silty clay texture that contained redoximorphic features (10YR 5/8).

Wetland AA8

Wetland AA8 (W-AA8) is a PEM wetland 1,186-SF in size located in the central portion of the study area (Figure 4-15). Indicators of wetland hydrology include a high water table, saturation, geomorphic position, and FAC neutral test. Dominant vegetation consisted of shallow sedge, lamp rush, and common fox sedge. The soil between 0-9 inches exhibited a low-chroma matrix color (10YR 5/2) with a silty clay loam texture that contained redoximorphic features (10YR 4/6).

Wetland M1

Wetland M1 (W-M1) is a PEM wetland 235-SF in size located in the central portion of the study area (Figure 4-16). Indicators of wetland hydrology included oxidized rhizospheres on living roots and FAC neutral test. Dominant vegetation consisted of reed canary grass. The soil between 0-2 inches exhibited a low-chroma matrix color (10YR 2/1) with a clay loam texture. The soil between 2-8 inches exhibited a low-chroma matrix color (2.5Y 5/2) with a gravely clay loam texture that contained redoximorphic features (7.5YR 5/6).

Wetland AA9

Wetland AA9 (W-AA9) is a PEM wetland 275-SF in size located in the central portion of the study area (Figure 4-16). Indicators of wetland hydrology include a high water table, saturation, geomorphic position, and FAC neutral test. Dominant vegetation consisted of rough-stalk blue grass and common fox sedge. The soil between 0-19 inches exhibited a low-chroma matrix color (10YR 5/1) with a silty clay loam texture that contained redoximorphic features (10YR 5/8).

Wetland AA10

Wetland AA10 (W-AA10) is a PEM wetland 1,344-SF in size located in the western portion of the study area (Figure 4-18). Indicators of wetland hydrology include a high water table, saturation, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black tupelo (*Nyssa sylvatica*), rice cut grass (*Leersia oryzoides*), and harvestlice (*Agrimonia parviflora*). The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 2/2) with a sandy loam texture. The soil between 3-19 inches exhibited low-chroma matrix

colors (10YR 2/2, 10YR 5/1) with a sandy loam texture that contained redoximorphic features (10YR 3/6).

Wetland M3

Wetland M3 (W-M3) is a PEM wetland 28,129-SF in size located in the western portion of the study area (Figure 4-18). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black walnut (*Juglans nigra*), black willow (*Salix nigra*), wingstem (*Verbesina alternifolia*), and narrow leaf cat-tail. The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture that contained redoximorphic features (7.5YR 4/4).

Wetland M4

Wetland M4 (W-M4) is a PEM wetland 17,194-SF in size located in the western portion of the study area (Figure 4-18). Indicators of wetland hydrology included surface water, a high water table, saturation, iron deposits, and FAC neutral test. Dominant vegetation consisted of reed canary grass and narrow leaf cat-tail. The soil between 0-12 inches exhibited a low-chroma matrix color (10YR 3/1) with a clay loam texture that contained redoximorphic features (10YR 4/4).

Wetland M2

Wetland M2 (W-M2) is a PEM wetland 27,784-SF in size located in the western portion of the study area (Figure 4-19). Indicators of wetland hydrology included surface water, saturation, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black willow, narrow leaf cat-tail, and reed canary grass. The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/1) with a clay loam texture that contained redoximorphic features (7.5YR 4/4).

Wetland M5

Wetland M5 (W-M5) is a PEM wetland 2,094-SF in size located in the western portion of the study area (Figure 4-19). Indicators of wetland hydrology included geomorphic position and FAC neutral test. Dominant vegetation consisted of black willow and narrow leaf cat-tail. The soil between 0-12 inches exhibited a low-chroma matrix color (10YR 5/2) with a clay loam texture that contained redoximorphic features (5YR 5/4).

Wetland M6

Wetland M6 (W-M6) is a PEM wetland 259-SF in size located in the western portion of the study area (Figure 4-19). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of narrow leaf cat-tail

(*Typha angustifolia*) and soft-stem bulrush (*Schoenoplectus tabernaemontani*). The soil between 0-12 inches exhibited a low-chroma matrix color (10YR 5/2) with a clay loam texture that contained redoximorphic features (5YR 4/4).

3.1.3 Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

Based on field evidence and best professional judgment, it was determined that 3 wetlands were present within the study area. These areas demonstrated the presence of all three wetland parameters required by the *1987 Manual* and the USACE Regional Supplement.

A review of the NRCS Soil Survey and hydric soil list indicated that five soils mapped within the Wetzel county study area are classified as hydric or as containing hydric components (Figure 2): Elk silt loam, 3 to 8 percent slopes (EkB), Glenford silt loam, 3 to 8 percent slopes (GsB), Huntington silt loam (Hn), Nolin loam (No), Skidmore gravelly loam (Sk).

No NWI wetlands are mapped within the study area (Figure 3).

Wetland Z1

Wetland Z1 (W-Z1) is a PEM wetland 176-SF in size located in the southern portion of the study area (Figure 4-22). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black walnut (*Juglans nigra*), ash-leaf maple (*Acer negundo*), deertongue rosette grass (*Dichanthelium clandestinum*), and reed canary grass (*Phalaris arundinacea*). The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture. The soil between 8-20 inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture that contained redoximorphic features (10YR 5/8).

Wetland Z3A and B

Wetland Z3 (W-Z3A and B) is a PEM wetland 7,720-SF in size located in the southern portion of the study area (Figure 4-21). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of shallow sedge (*Carex lurida*), common fox sedge (*Carex vulpinoidea*), and small carp grass (*Arthraxon hispidus*). The soil between 0-8 inches exhibited low-chroma matrix colors (10YR 4/2 and 2.5Y 6/8) with a silty clay loam texture that contained redoximorphic features (7.5YR 5/8).

Wetland Z2

Wetland Z2 (W-Z2) is a PEM wetland 4,025-SF in size located in the southern portion of the study area (Figure 4-21). Indicators of wetland hydrology included oxidized rhizospheres on living roots,

geomorphic position, and FAC neutral test. Dominant vegetation consisted of common fox sedge (*Carex vulpinoidea*). The soil between 0-10 inches exhibited a low-chroma matrix color (10YR 4/2) with a silty clay loam texture that contained redoximorphic features (7.5YR 5/8).

3.2 Stream Identification and Evaluation

Thirty-seven streams were identified within the evaluated study area. Data sheets that detail the bank and channel characteristics, substrate composition, aquatic habitat, and hydrology were prepared at each stream (Appendix A).

3.2.1 Washington/Allegheny Counties (H-318 pipeline)

Six steams were identified within the evaluated study area in Washington and Allegheny counties.

Stream BB1

Stream BB1 (S-BB1), which flows west, is the perennial stream Lobbs Run (Figure 4-1). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 2 feet in width and 1 foot in height. The channel contained a cobble, gravel, sand, and silt substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 5 inches.

Stream BB2

Stream BB2 (S-BB2), which flows north, is an ephemeral UNT to Lobbs Run (Figure 4-2). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 1 foot in width and 1 foot in height. The channel contained a silt and clay substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream BB5

Stream BB5 (S-BB5), which flows east, is a perennial known as the Monongehela River (Figure 4-3). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 860 feet in width and 70 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the river. The stream exhibited a heavy flow at the time of the field investigations. Water depth was unable to be documented as the investigators we unable to access the river to determine depth.

Stream BB4

Stream BB4 (S-BB4), which flows east, is the perennial stream Bunola Run Figure 4-4). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 20 feet in width and 3 foot in height. The channel contained a boulder, cobble, gravel, sand, silt, and clay substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 12 inches.

Stream BB6

Stream BB6 (S-BB6), which flows north, is a perennial UNT to Bunola Run (Figure 4-4). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 3 feet in width and 2 feet in height. The channel contained a cobble, gravel, and silt substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 7 inches

Stream BB3

Stream BB3 (S-BB3), which flows northeast, is the perennial stream Kelly Creek (Figure 4-6). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 30 feet in width and 3 foot in height. The channel contained a cobble, gravel, sand, and silt substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 18 inches.

3.2.2 Greene County (H-316, M-80, H-158, H-305, and the Redhook Compressor Station) Twenty seven streams were identified within the evaluated study area in Greene County.

Stream N1

Stream N1 (S-N1), which flows south, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 7 feet in width and 6 feet in height. The channel contained a cobble, gravel, and sand substrate. The stream exhibited a no flow at the time of the field investigations.

Stream N2

Stream N2 (S-N2), which flows southwest, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 2 feet in width and 1 foot in height. The

channel contained a cobble, gravel, sand, and silt substrate. The stream exhibited a no flow at the time of the field investigations.

Stream N3

Stream N3 (S-N3), which flows southwest, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 3 feet in width and 6 inches in height. The channel contained a boulder, cobble, sand, and silt substrate. The stream exhibited a no flow at the time of the field investigations.

Stream AA1

Stream AA1 (S-AA1), which flow south is a perennial UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 10 feet in width and 16 inches in height. The channel contained a bedrock, boulder, cobble, and gravel substrate. The stream exhibited heavy a flow at the time of the field investigations with a water depth of approximately 3 inches.

Stream AA2

Stream AA2 (S-AA2), which flows southeast, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-12). The stream bank is approximately 1.5 feet in width and 6 inches in height. The channel substrate is comprised of sand, silt, and clay. The stream exhibited standing water at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA5

Stream AA5 (S-AA5), which flows southwest, is the perennial stream South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 70 feet in width and 15 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the stream. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 4 feet.

Stream AA7

Stream AA7 (S-AA7), which flows west, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-12). The stream bank is approximately 8 feet in width and 2 feet in height. The channel substrate

is comprised of boulder cobble, and gravel substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 4 inches.

Stream AA3

Stream AA3 (S-AA3), which flows south, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-12). The stream bank is approximately 4 feet in width and 14 inches in height. The channel substrate is comprised of gravel and sand. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA4

Stream AA4 (S-AA4), which flows south, is a perennial UNT to South Fork Tenmile Creek (Figure 4-13). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 5 feet in width and 21 inches in height. The channel contained a cobble, gravel and sand substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream AA8

Stream AA8 (S-AA8), which flows southeast, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-14). The stream bank is approximately 3 feet in width and 1.5 feet in height. The channel substrate is comprised of silt and clay substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA9

Stream AA9 (S-AA9), which flows southwest, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-14). The stream bank is approximately 4 feet in width and 18 inches in height. The channel substrate is comprised of silt and clay substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA10

Stream AA10 (S-AA10), which flows south, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-14). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 5 feet in width and 2 feet in height. The channel contained a bedrock, boulder, gravel, and silt substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 3 inches.

Stream AA11

Stream AA11 (S-AA11), which flows southeast, is an ephemeral UNT to Ruff Creek (Figure 4-15). The stream bank is approximately 6.5 feet in width and 60 inches in height. The channel substrate is comprised of boulder, cobble, sand, silt, and clay substrate. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA12

Stream AA12 (S-AA12), which flows south, is the perennial stream Ruff Creek (Figure 4-15). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 75 feet in width and 12 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the stream. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 26 inches.

Stream AA13

Stream AA13 (S-AA13), which flows south, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-17). The stream bank is approximately 3 feet in width and 15 inches in height. The channel substrate is comprised of boulder, cobble, gravel, sand, silt, and clay substrate. The stream exhibited standing water at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA14

Stream AA14 (S-AA14), which flows southwest, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-17). The stream bank is approximately 3 feet in width and 18 inches in height. The channel substrate is comprised of sand and clay substrate. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA15

Stream AA15 (S-AA15), which flows southeast, is the perennial stream South Fork Tenmile Creek (Figure 4-17). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 100 feet in width and 17 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the stream. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 3 feet.

Stream AA24

Stream AA24 (S-AA24), which flows southeast, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 6 feet in width and 2 feet in height. The channel contained a bedrock, cobble, gravel, silt, and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA23

Stream AA23 (S-AA23), which flows east, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-18). The stream bank is approximately 9 feet in width and 3 feet in height. The channel substrate is comprised of boulder, gravel, and sand substrate. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA22

Stream AA22 (S-AA22), which flows east, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-18). The stream bank is approximately 7 feet in width and 3 feet in height. The channel substrate is comprised of gravel, sand, silt, and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately .5 inches.

Stream AA21

Stream AA21 (S-AA21), which flows east, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 4 feet in width and 4 feet in height. The channel contained a cobble, gravel, sand, silt, and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA20

Stream AA20 (S-AA20), which flows east, is a perennial UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 1 foot in width and 1 foot in height. The channel contained a sand, silt, and clay substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA17

Stream AA17 (S-AA17), which flows east, is a perennial UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands,

groundwater, and upstream tributaries. The stream channel is approximately 12 feet in width and 4 feet 9inches in height. The channel contained a bedrock boulder, cobble, gravel, sand, and silt substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 22 inches.

Stream AA18

Stream AA18 (S-AA18), which flows northeast, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 2 feet in width and 6 inches in height. The channel contained a gravel, sand silt and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA19

Stream AA19 (S-AA19), which flows northeast, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 2 feet in width and 3 feet in height. The channel contained a sand silt and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA16

Stream AA16 (S-AA16), which flows northwest, is a perennial UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 11 feet in width and 57 inches in height. The channel contained a boulder, cobble, and gravel substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 7 inches.

Stream M1

Stream M1 (S-M1), which flows north, is an ephemeral UNT to Muddy Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands. The stream channel is approximately 10 feet in width and 4 feet in height. The channel contained a clay, silt, gravel, and cobble, substrate. The stream exhibited a dry channel with no flow at the time of the field investigations.

3.2.3 Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

Four streams were identified within the evaluated study area in Wetzel County.

Stream A2A

Stream A2A (S-A2A), which flows north, is an ephemeral UNT to North Fork Fishing Creek (Figure 4-21). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 12 feet in width and 4 feet in height. The channel contained cobble, gravel, and silt substrate. The stream exhibited low flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream A3A

Stream A3A (S-A3A), which flows east, is an ephemeral UNT to North Fork Fishing Creek (Figure 4-21). This watercourse is supported by precipitation, surficial runoff from adjacent uplands. The stream channel is approximately 5 feet in width and 1.5 feet in height. The channel contained cobble, gravel, and sand substrate. The stream exhibited no flow at the time of the field investigations.

Stream J63

Stream J63 (S-J63), which flows west, is a perennial UNT to Mobley Run (Figure 4-22). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 7 feet in width and 3.5 feet in height. The channel contained cobble, gravel, and silt substrate. The stream exhibited low flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream Z1

Stream Z1 (S-Z1), which flows south, is a perennial known as Mobley Run (Figure 4-22). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 15 feet in width and 3.5 feet in height. The channel contained cobble, gravel, and silt substrate. The stream exhibited low flow at the time of the field investigations with a water depth of approximately 1 inch.

4.0 CONCLUSIONS

Thirty-three areas within the Equitrans Expansion Pipeline Project study area exhibited all three criteria listed below that are necessary to be classified as wetlands in accordance with the *1987 Manual* and the *USACE Regional Supplement*:

- 1. Predominance of hydrophytic vegetation (plants which are adapted for life in saturated soil conditions);
- 2. Hydric soils (soils which were formed under water, or in saturated conditions); and
- 3. Wetland hydrology (or the presence of inundated or saturated soils at some time during the growing season).

Additionally, 37 streams were identified in the Project study area during the investigation.

Washington/Allegheny Counties (H-318 pipeline)

Based on field evidence and best professional judgment, it was determined that 13 wetlands were present within the study area. Six steams were identified within the evaluated study area in Washington and Allegheny counties.

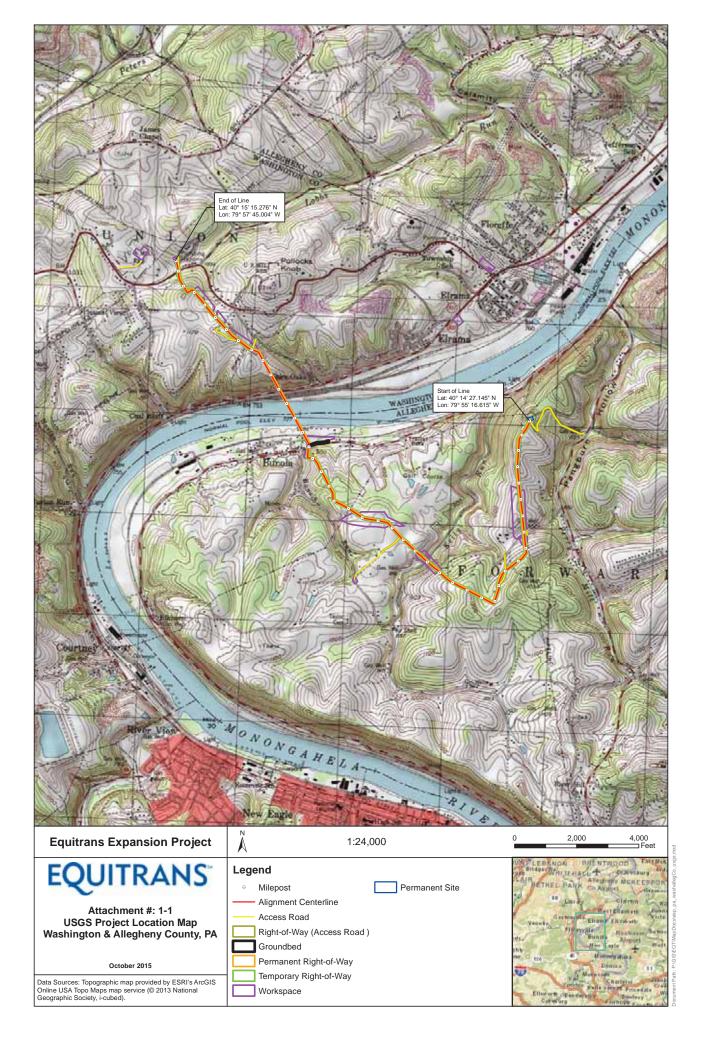
Greene County (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

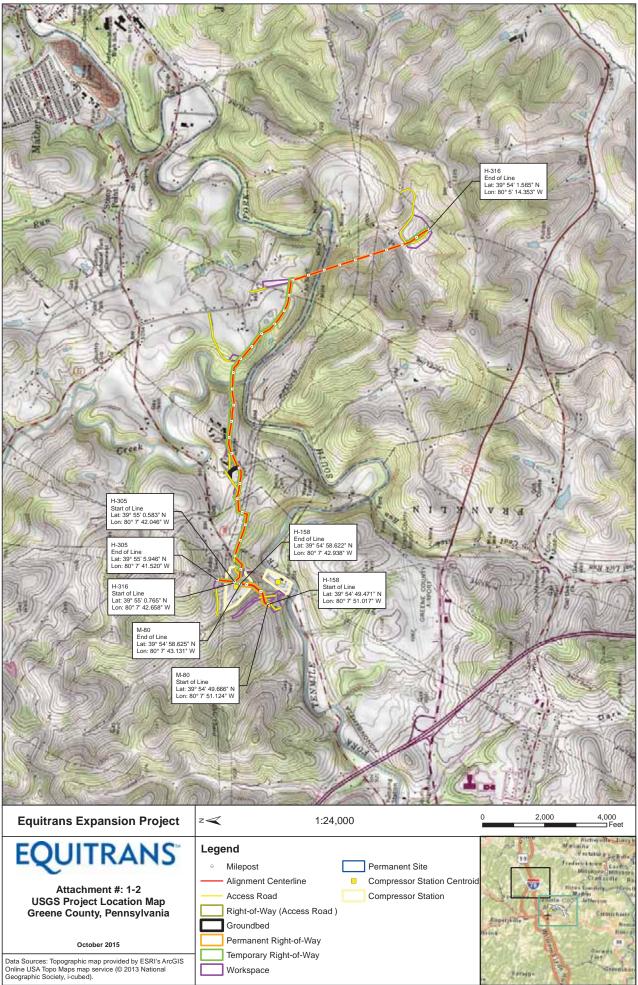
Based on field evidence and best professional judgment, it was determined that 17 wetlands were present within the study area. Twenty seven streams were identified within the evaluated study area in Greene County.

Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

Based on field evidence and best professional judgment, it was determined that 3 wetlands were present within the study area. Four streams were identified within the evaluated study area in Wetzel County.

FIGURES





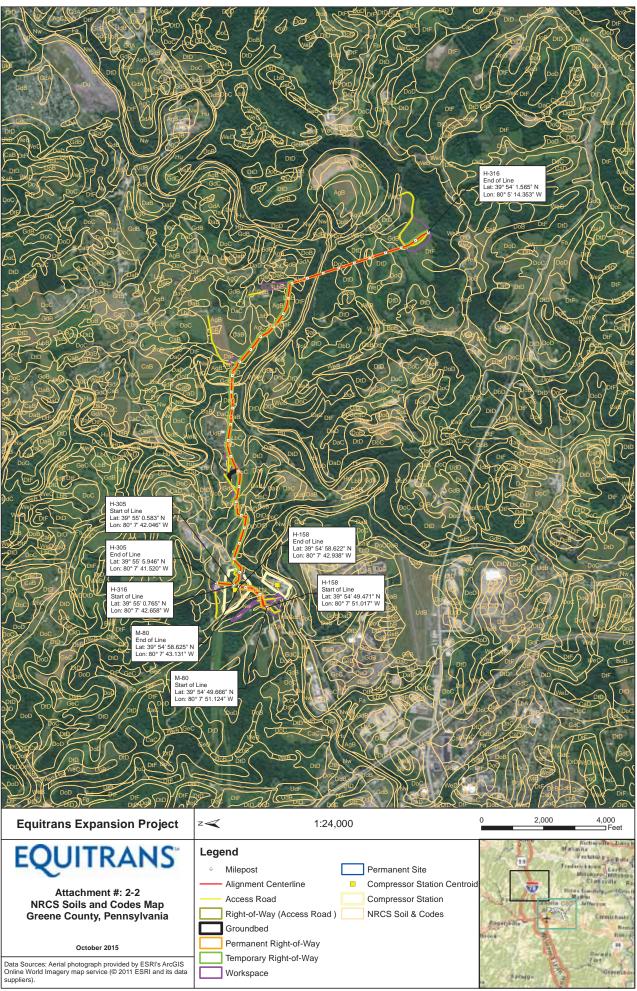
it Path: P:\GIS\EQT\MapDocs\eep_pa_greeneC



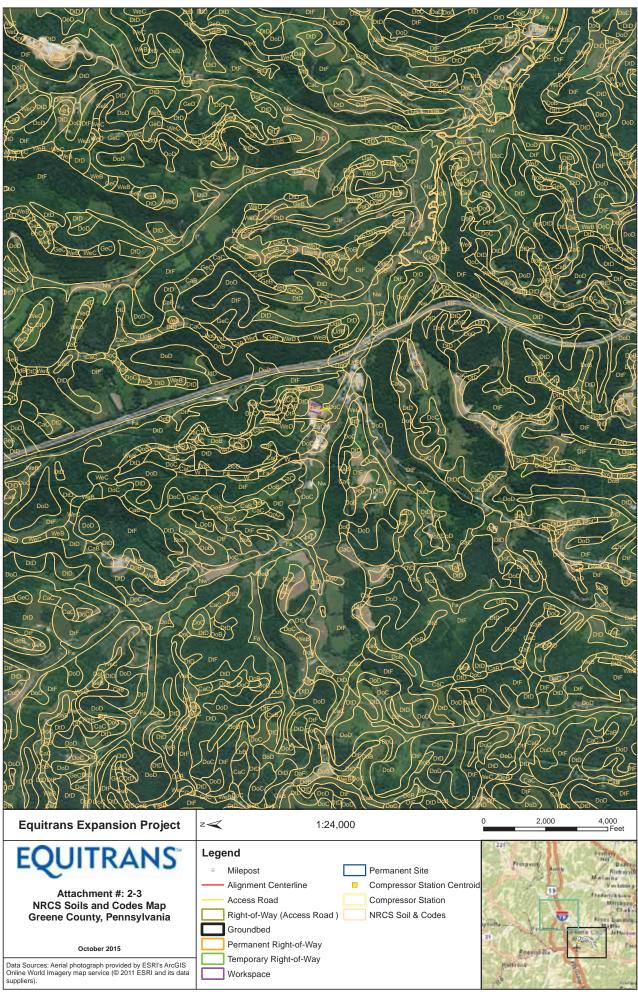


ath: P:\GIS\EQT\MapDocs\eep_wv_wetzelCo_us

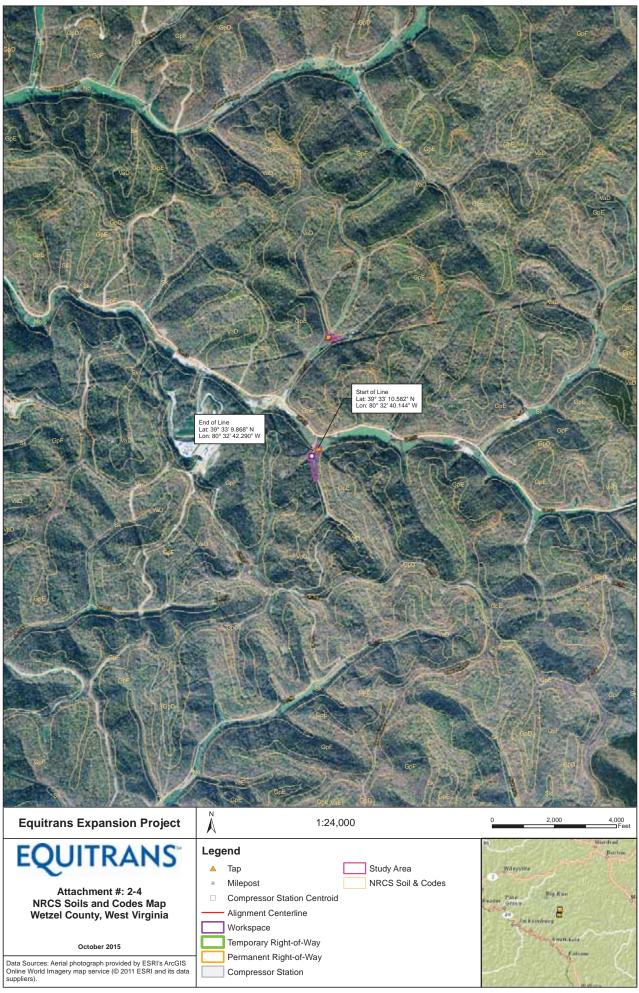




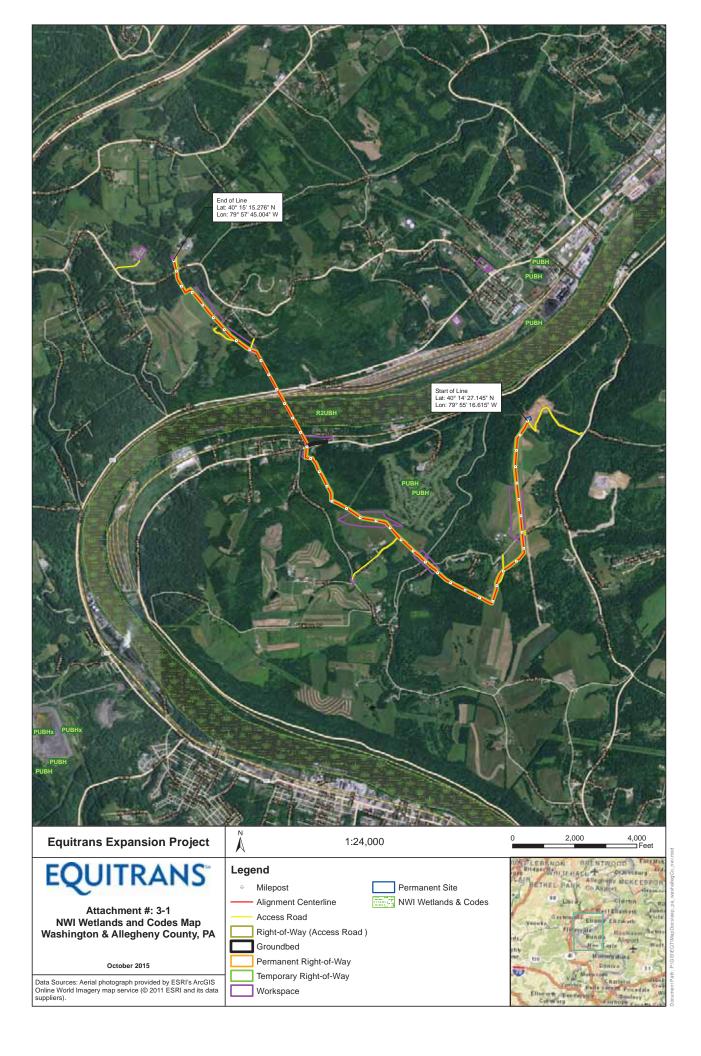
ent Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCc

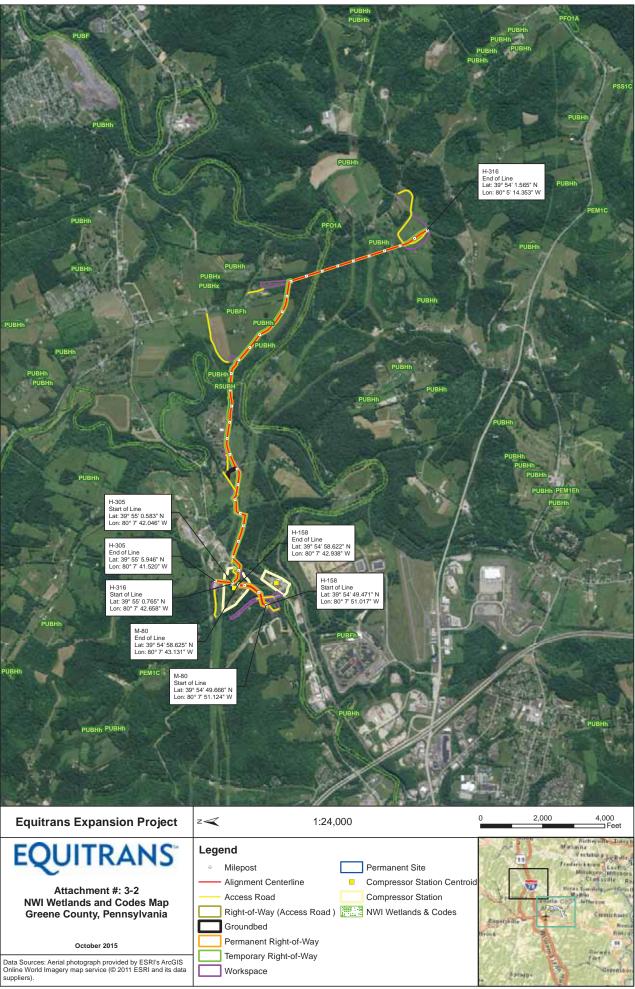


ment Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCo_soit

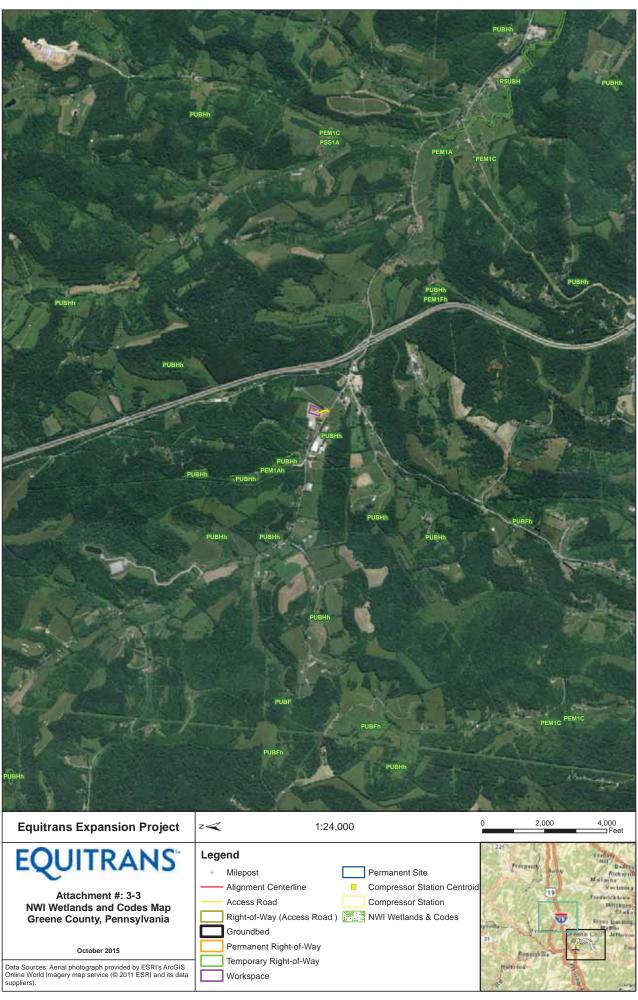


Path: P:\GIS\EQT\MapDocs\eep_wv_wetzelCo_so

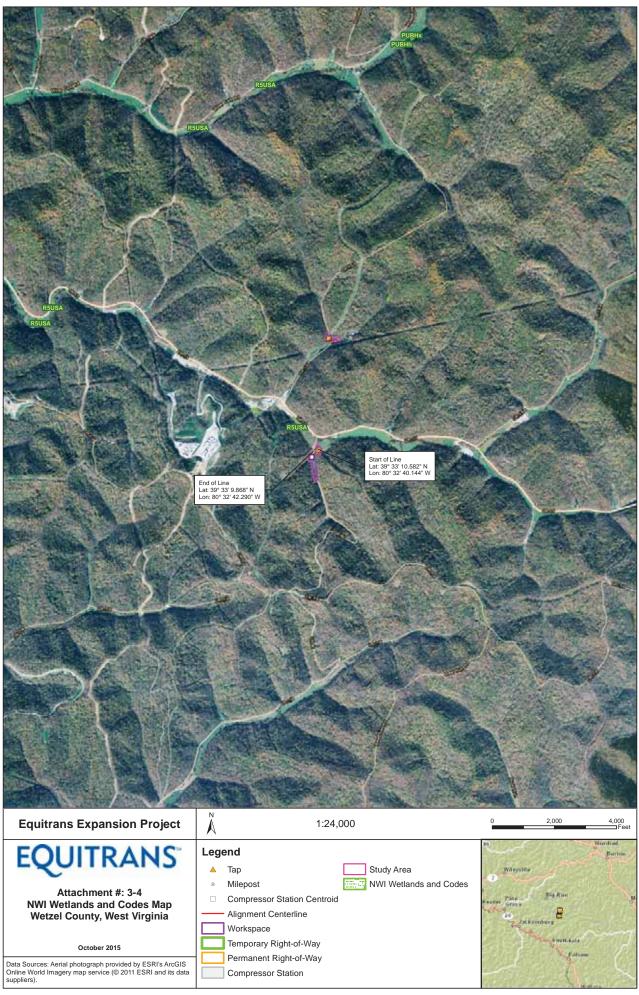




int Path: P:\GIS\EQT\MapDocs\eep_pa_green



ent Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCo



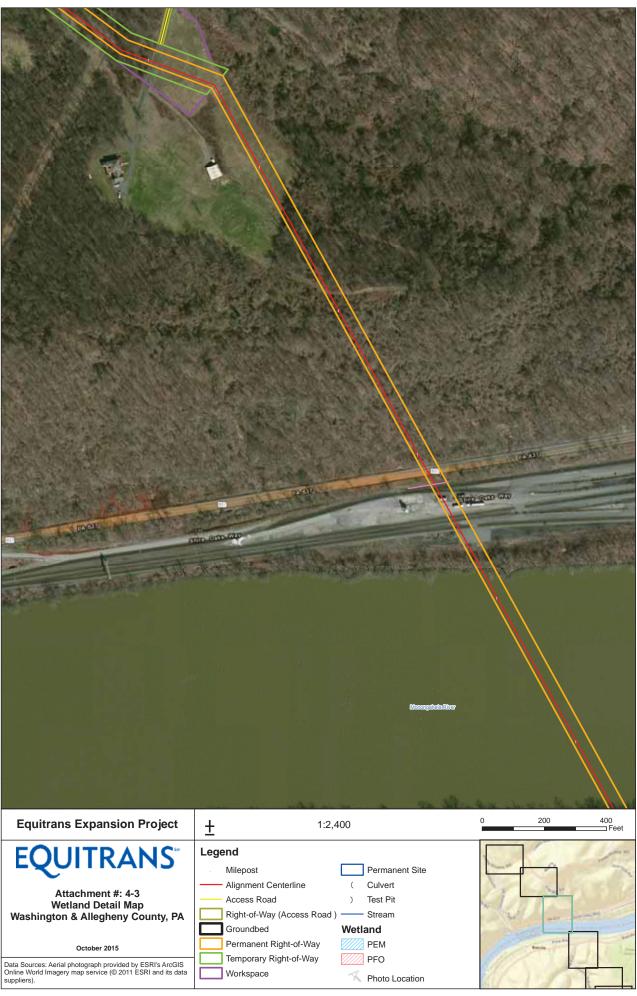
tt Path: P:\GIS\EQT\MapDocs\eep_wv_wetzelCo_nw



int Path: P:\GIS\EQT\MapDocs\eep_pa_washallegCo_de



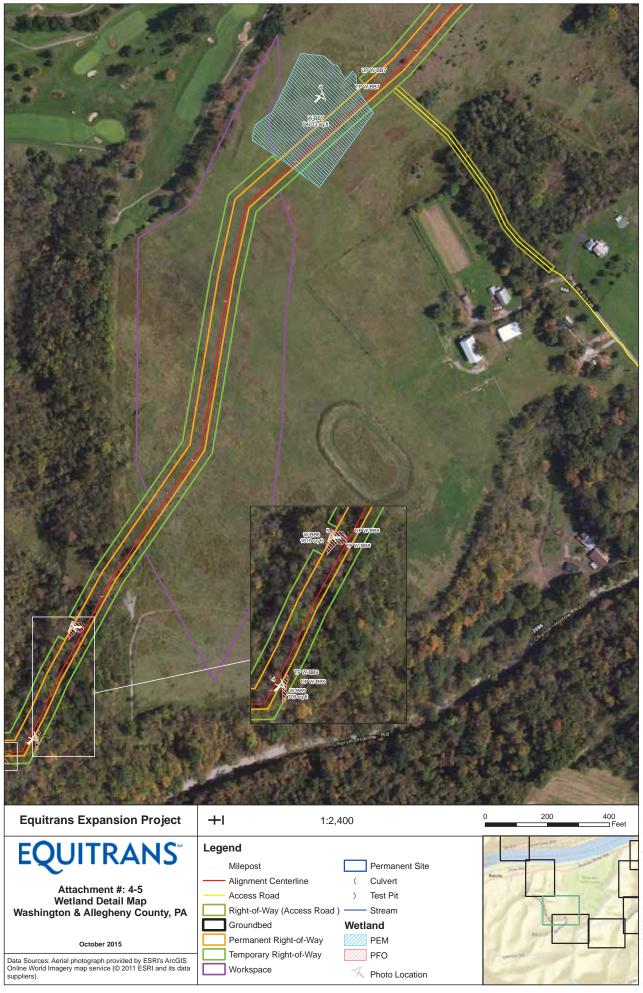
hent Path: P:\GIS\EQT\MapDocs\eep_pa_washallegCo_deta



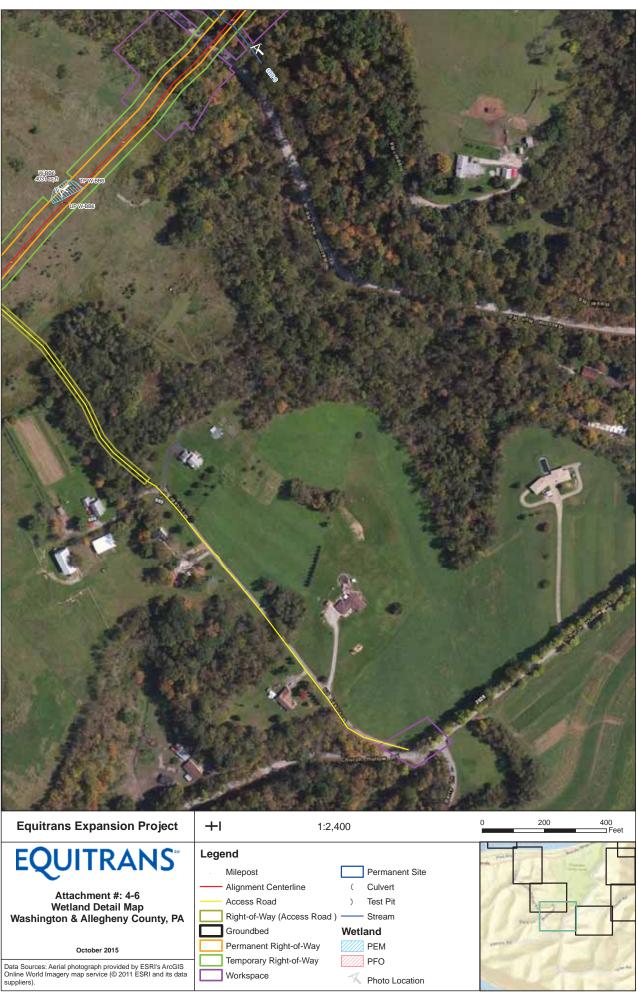
ent Path: P:\GIStEQT\MapDocs\eep_pa_washallegCo_deta



ment Path: P:\GIS\EQT\MapDocs\eep_pa_washallegCo_detail



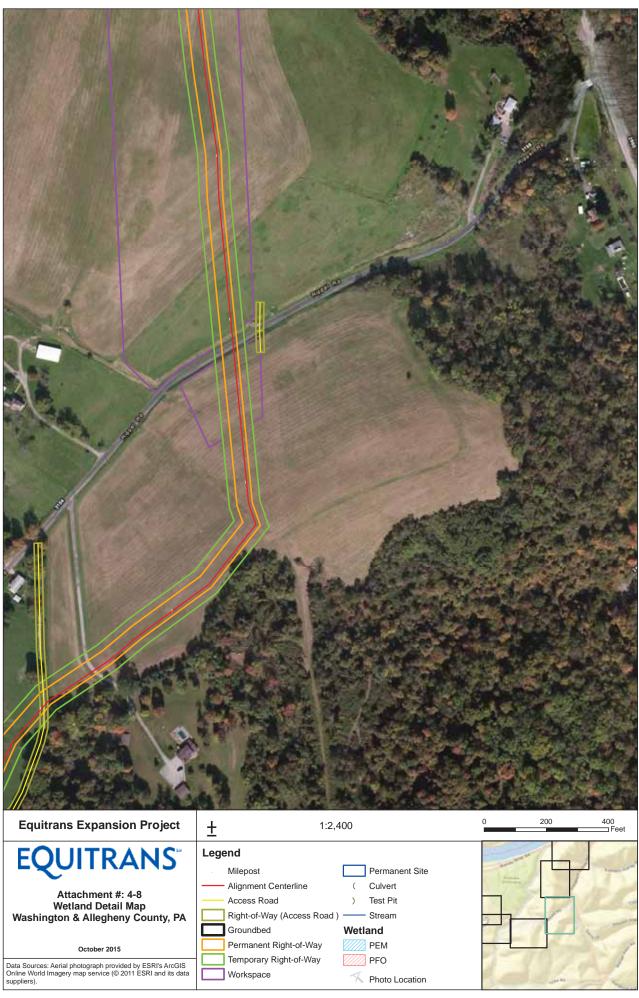
hent Path: P:\GIS\EQT\MapDocs\eep_pa_washallegC



ment Path: P:\GIS\EQT\MapDocs\eep_pa_washallegCo_d



nent Path: P:\GIS\EQT\MapDocs\eep_pa_washallegCo_de



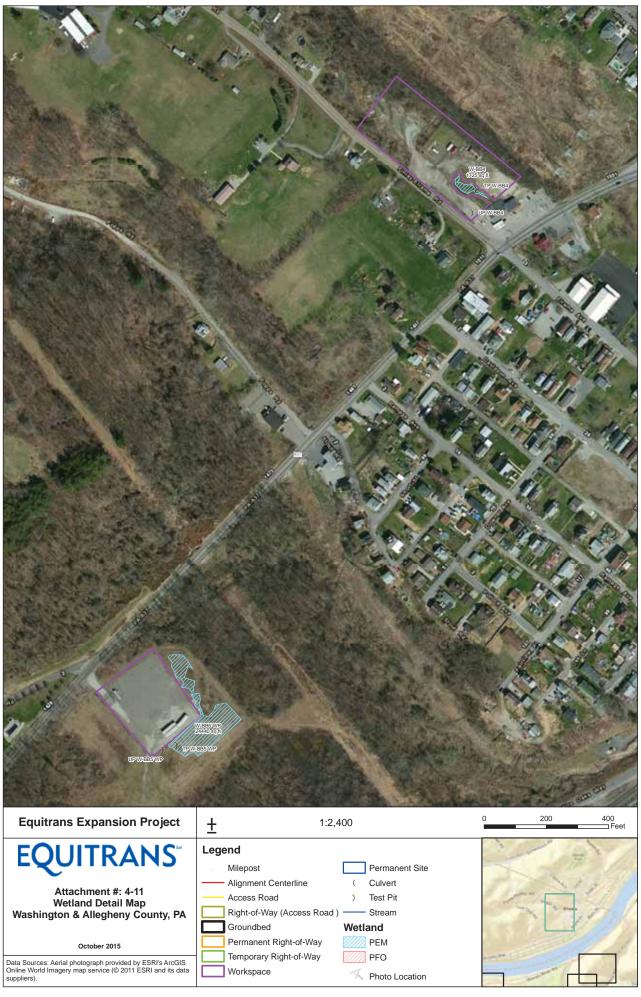
ment Path: P:\GIStEQT\MapDocs\eep_pa_washalleqCo_detail



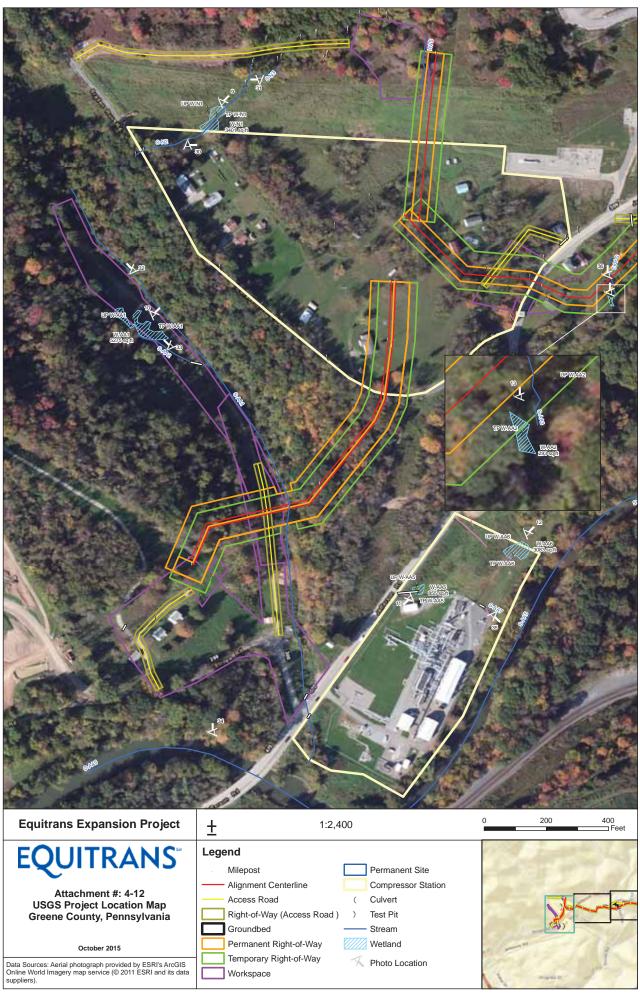
ment Path: P:\GIS\EQT\MapDocs\eep_pa_washallegCo_det



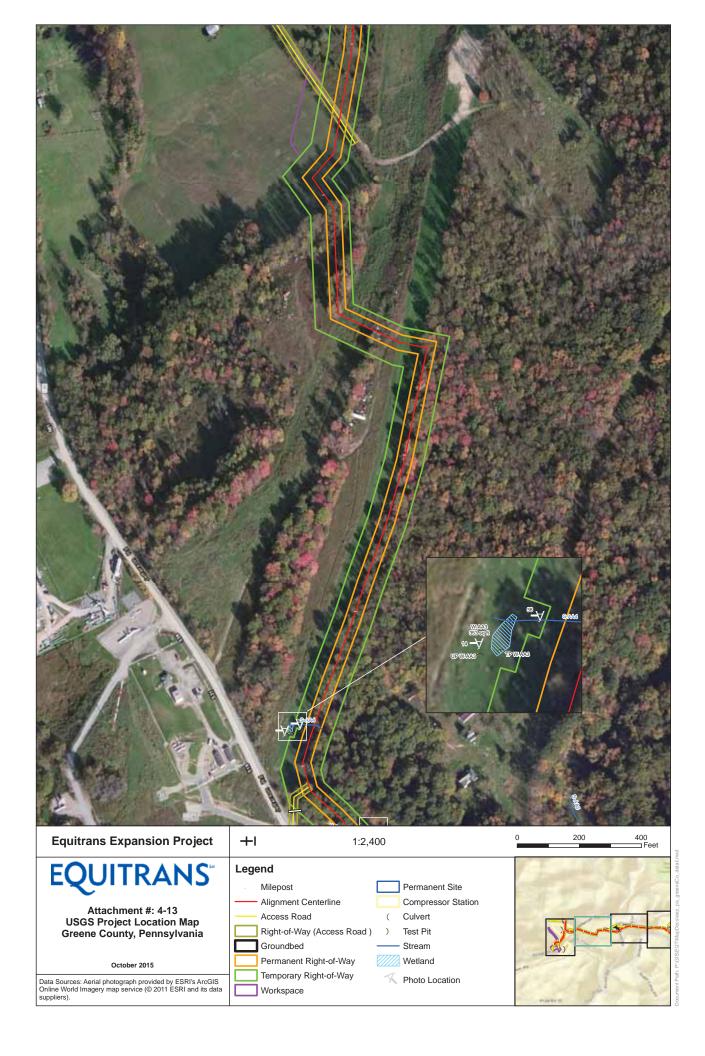
ment Path: P:\GIS\EQT\MapDocs\eep_pa_washallegCo_detai

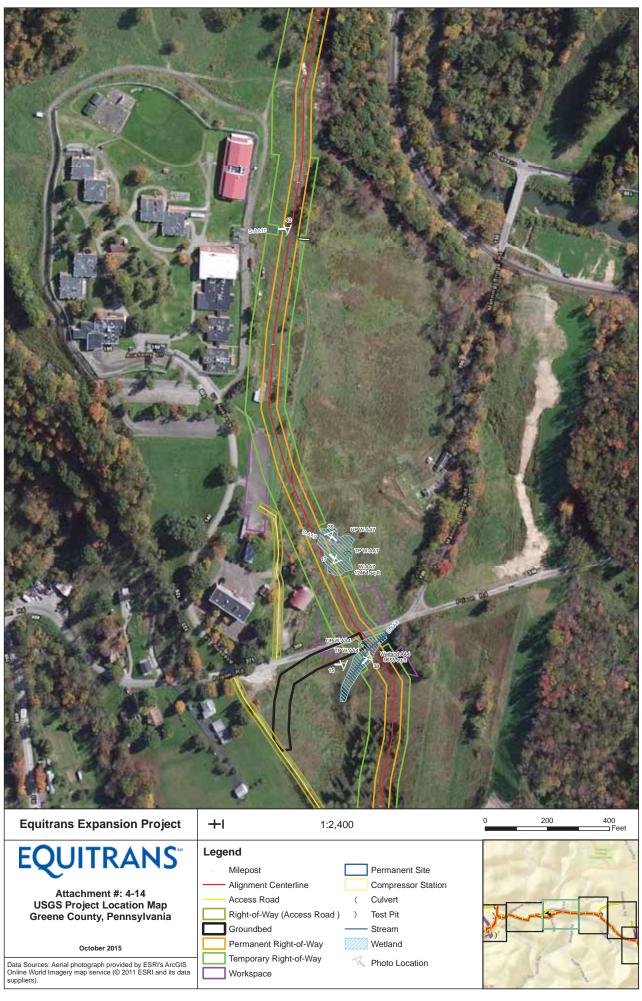


ent Path: P:\GIS\EQT\MapDocs\eep_pa_washallegCo_

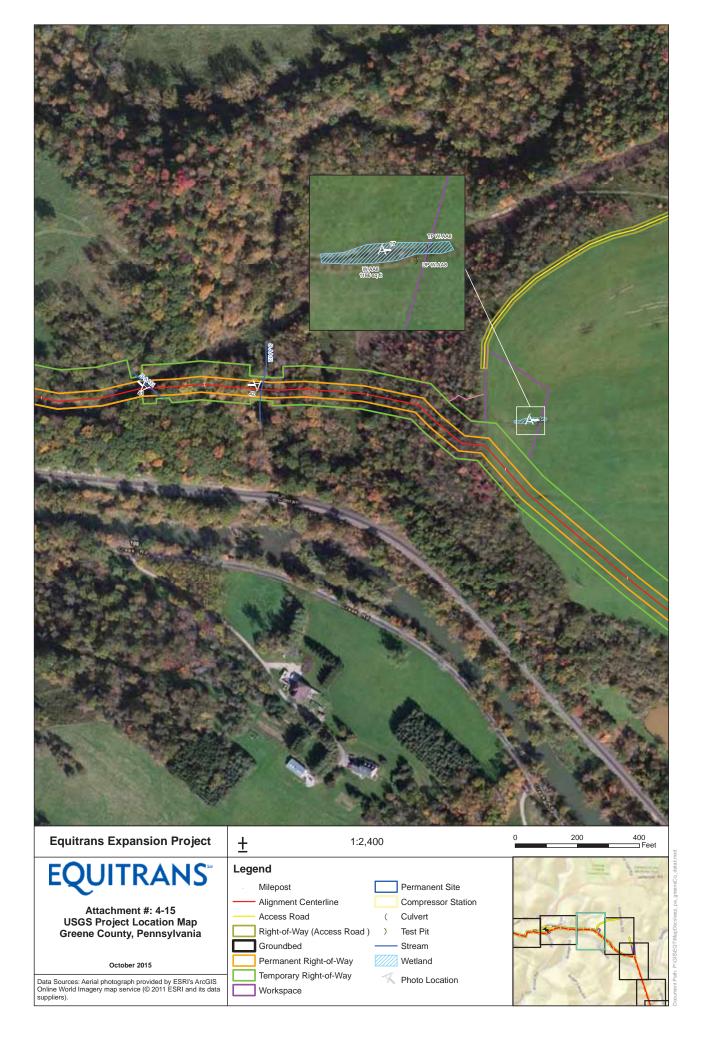


ument Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCo_detail.r



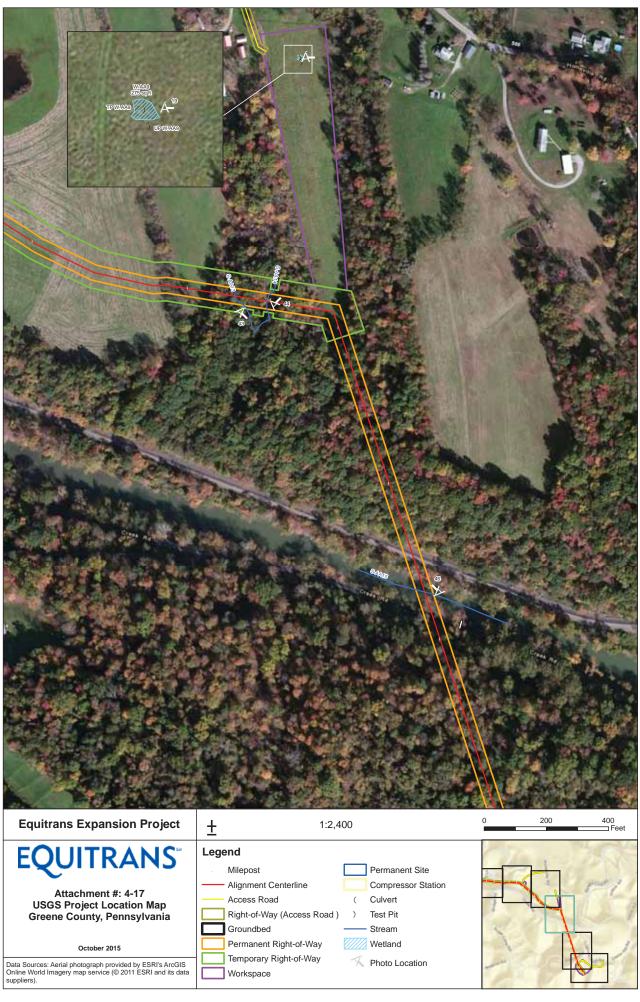


nent Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCo_detail.

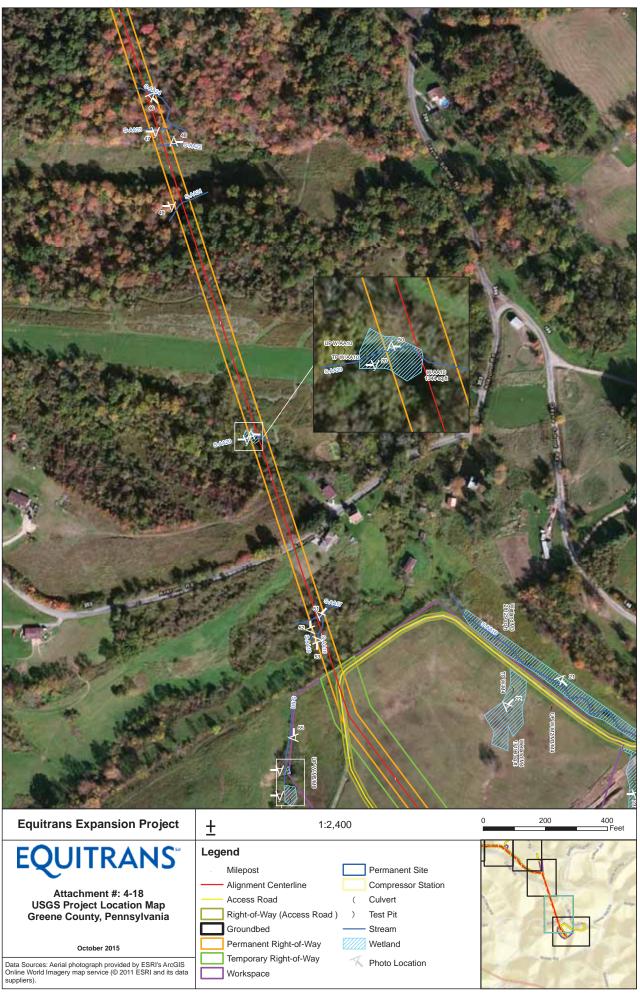




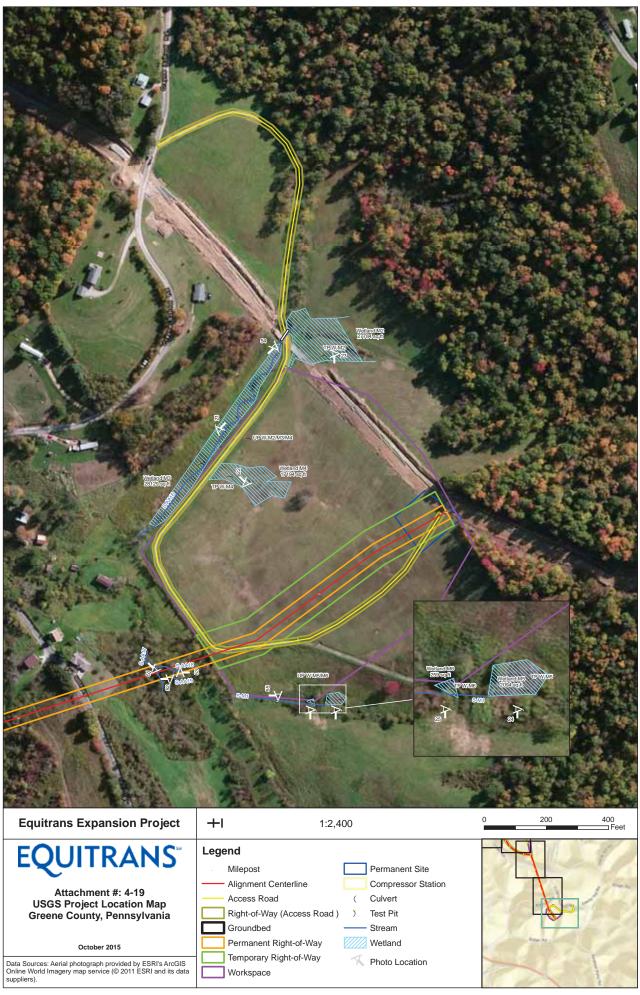
ment Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCo_detai



nt Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCo_d



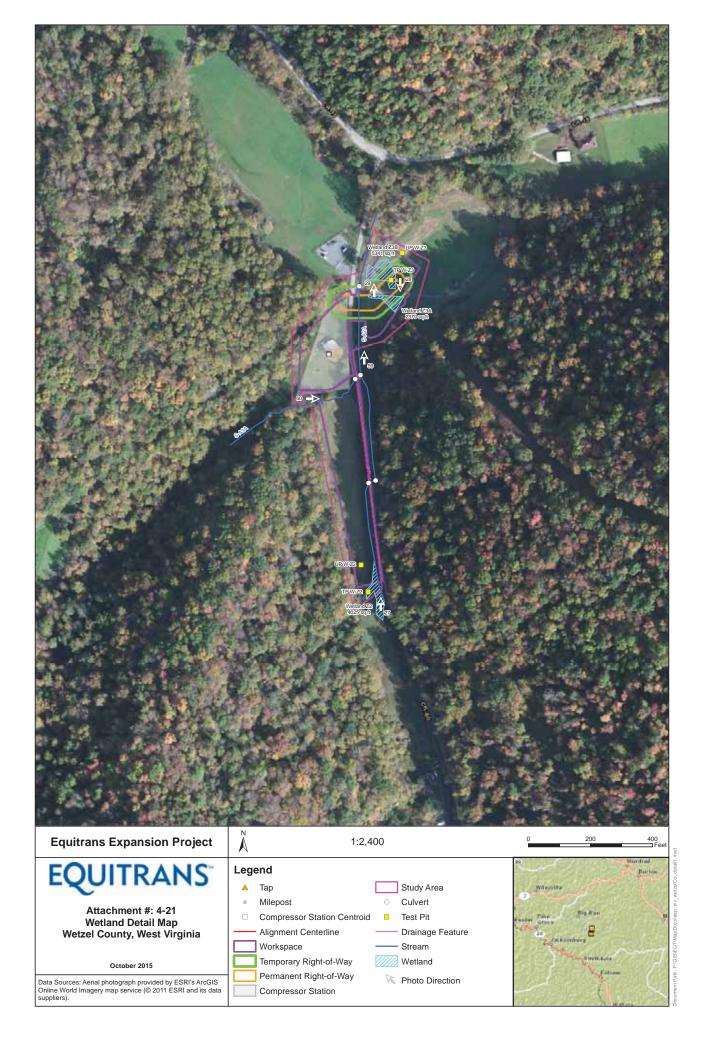
ment Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCo_det



ment Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCo_detail.m



hent Path: P:\GIS\EQT\MapDocs\eep_pa_greeneCo_detai





Path: P:\GIS\EQT\MapDocs\eep_wv_wetzelCo_c

APPENDIX A FIELD DATA SHEETS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP	City/County: Washington Cou	nty Sa	mpling Date: 07/08/2015
FOT			Sampling Point: W-BB1-WP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku			
Landform (hillslope, terrace, etc.): terrace		none	Slope (%): 2-5
Subregion (LRR or MLRA): LRRN Lat: 40.255274			
Are climatic / hydrologic conditions on the site typical for this time of ye			
Are Vegetation, Soil, or Hydrology significantly			
Are Vegetation, Soil, or Hydrology naturally pr		in any answers in	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations,	transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yes <u>Ves</u> No	Is the Sampled Area		
Hydric Soil Present? Yes No V	• within a Wetland?	Yes	No
Wetland Hydrology Present? Yes Ves No			
Remarks:			
Cowardin Code: PEM			
HGM: Depressional WT: NRPWW			
This location is a former missile location. Soil is mostly	fill material beavily disturbed	L with mounds	of dobric and fill
	ini matenai, neavily disturbed	, with mounds	
HYDROLOGY			
Wetland Hydrology Indicators:			(minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil Cra	
Surface Water (A1) True Aquatic F High Water Table (A2) Hydrogen Sulf		Sparsely Vegeta Drainage Pattern	ted Concave Surface (B8)
	ospheres on Living Roots (C3)	Moss Trim Lines	
Water Marks (B1) Presence of R		Dry-Season Wat	
		Crayfish Burrows	
Drift Deposits (B3)			e on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain	in Remarks)	Stunted or Stress	sed Plants (D1)
Iron Deposits (B5)	_	Geomorphic Pos	
Inundation Visible on Aerial Imagery (B7)	—	Shallow Aquitard	
Water-Stained Leaves (B9) Aquatic Fauna (B13)	—	Microtopographic FAC-Neutral Tes	
Field Observations:			51 (D5)
Surface Water Present? Yes <u>V</u> No Depth (inches	.).		
Water Table Present? Yes No Pepth (inclusion)	s)		
Saturation Present? Yes No Depth (inclusion)		ology Present?	Yes 🖌 No
(includes capillary fringe)		05	
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if availabl	е:	
Remarks:			
1			

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-BB1-WP

30'	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL_FACW. or FAC: 2 (A)
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: 3 (B)
3		Species Across All Strata:3 (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC:67% (A/B)
6		Prevalence Index worksheet:
7		Total % Cover of: Multiply by:
	0 = Total Cover	OBL species x 1 =
45	20% of total cover: 0	FACW species $20 \times 2 = 40$
		FAC species $25 \times 3 = 75$
1		FACU species X0 =
2		UPL species $15 \times 5 = 75$
3		
4		Column Totals: <u>100</u> (A) <u>250</u> (B)
5		Prevalence Index = B/A =2.5
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		✓ 2 - Dominance Test is >50%
9		\checkmark 3 - Prevalence Index is ≤3.0 ¹
	= Total Cover	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:0	20% of total cover:0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Rumex Crispus	<u>FAC</u>	
2. Polygonum pensylvanicum	20 F ACW	The discharge of the data and the data data because the second
3. Poa pratensis	<u>15</u> F ACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. trifolium repens	<u> 10 </u>	Definitions of Four Vegetation Strata:
5. Lolium perenne	10F <u>ACU</u>	
6. Solidago altissima		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7. seteria faberi	5 <u>UPL</u>	more in diameter at breast height (DBH), regardless of height.
8. Plantago major	5 FACU	
9		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.		m) tall.
11.		Herb – All herbaceous (non-woody) plants, regardless
	100 = Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>50</u>		
Woody Vine Stratum (Plot size: 15')		Woody vine – All woody vines greater than 3.28 ft in height.
1		linght
2		
3.		
4		
5		Hydrophytic Vegetation
···	= Total Cover	Present? Yes <u>V</u> No
50% of total cover:0	20% of total cover:0	
Remarks: (Include photo numbers here or on a separate sh		
	,	

Profile Desc	ription: (Describe t	o the depth	n needed to docur	nent the ind	dicator o	or confirm	n the absence	of indicators.)	
Depth	Matrix		Redo	x Features	1				
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks	
0-14	2.5Y3/2	100					clay loam	organics/fill material	
14-18	10YR4/2	100					clay loam	fill material	
				<u> </u>					
				<u> </u>				-	
¹ Type: $C=Co$	oncentration, D=Deple	etion, RM=F	Reduced Matrix, MS	S=Masked S	and Gra	ins.	² Location: Pl	L=Pore Lining, M=Matrix.	
Hydric Soil								tors for Problematic Hydric Soi	ls ³ :
Histosol	(A1)		Dark Surface	(S7)			2	cm Muck (A10) (MLRA 147)	
Histic Ep	ipedon (A2)		Polyvalue Be	low Surface	(S8) (M	LRA 147,	, 148) C	oast Prairie Redox (A16)	
Black Hi	stic (A3)		Thin Dark Su	rface (S9) (I	MLRA 1	47, 148)		(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		2)		P	iedmont Floodplain Soils (F19)	
	l Layers (A5)		Depleted Ma					(MLRA 136, 147)	
	ck (A10) (LRR N)		Redox Dark					ery Shallow Dark Surface (TF12)	
	Below Dark Surface	(A11)	Depleted Dar		-7)		<u> </u>	ther (Explain in Remarks)	
	rk Surface (A12)		Redox Depre						
	lucky Mineral (S1) (L	RR N,	Iron-Mangan		(F12) (L	_RR N,			
	147, 148)		MLRA 13			(100)	31d	inctors of budrenbutic uppotation of	ام میچ
	leyed Matrix (S4) edox (S5)		Umbric Surfa Piedmont Flo					icators of hydrophytic vegetation a tland hydrology must be present,	anu
	Matrix (S6)		Red Parent N		· · ·	•	,	less disturbed or problematic.	
	ayer (if observed):					1 127, 14		isso distanced or problematic.	
Type:									
Depth (ind							Hydric Soil	Present? Yes No	~

Remarks:

Problematic soils. soils contain fill material and thus soil is not hydric but is disregarded due to recent human impact to soil profile.

WETLAND DETERMINATION DATA FOR	M – Eastern Mountains and Piedmont Region				
Project/Site: EEP Cit	y/County: Washington County Sampling Date: 07/09/2015				
	State: PA Sampling Point: W-BB3-UP				
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. AklakuSe					
5 · · · ·	relief (concave, convex, none): <u>none</u> Slope (%): <u>3-8%</u>				
Subregion (LRR or MLRA): LRRN Lat. 40.250591740	D70 Long: -79.95944689370 Datum: NAD 83				
	NWI classification: None				
Are climatic / hydrologic conditions on the site typical for this time of year?					
	sturbed? Are "Normal Circumstances" present? Yes <u>·</u> No				
Are Vegetation, Soil, or Hydrology significantly us					
SUMMARY OF FINDINGS – Attach site map showing s	ampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes No	In the Completion				
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland? Yes No				
Wetland Hydrology Present? Yes No					
Remarks:					
Upland					
HYDROLOGY					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6) ts (B14) Sparsely Vegetated Concave Surface (B8)				
Surface Water (A1) True Aquatic Plan High Water Table (A2) Hydrogen Sulfide					
• • •	neres on Living Roots (C3) Moss Trim Lines (B16)				
Water Marks (B1) Presence of Redu	•				
	ction in Tilled Soils (C6) Crayfish Burrows (C8)				
Drift Deposits (B3)	-				
Algal Mat or Crust (B4) Other (Explain in F	Remarks) Stunted or Stressed Plants (D1)				
Iron Deposits (B5)	Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)				
Water-Stained Leaves (B9)	Microtopographic Relief (D4)				
Aquatic Fauna (B13)	FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No Depth (inches):					
Water Table Present? Yes No Depth (inches):					
Saturation Present? Yes <u>No</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No_				
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:				
Remarks:					

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-BB3-UP

20'	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	<u>% Cover Species?</u> Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata:1(B)
4		
5		Percent of Dominant Species That Are OBL, FACW, or FAC:0 (A/B)
6		
		Prevalence Index worksheet:
7	0 = Total Cover	Total % Cover of: Multiply by:
50% of total covor:	20% of total cover:0	OBL species x 1 =
15		FACW species x 2 =
		FAC species $5 \times 3 = 15$
1		FACU species 55 x 4 = 220
2		
3	· ·	
4	·	Column Totals: <u>70</u> (A) <u>285</u> (B)
5	· ·	Prevalence Index = B/A =4.07
6		Hydrophytic Vegetation Indicators:
7		
8		1 - Rapid Test for Hydrophytic Vegetation
9		2 - Dominance Test is >50%
	0 = Total Cover	$3 - Prevalence Index is \leq 3.0^1$
50% of total cover: 0	20% of total cover: 0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')		data in Remarks or on a separate sheet)
1. Chamerion angustifolium	45 🖌 FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Leucanthum vulgare		
3. Trifolium hybridum		¹ Indicators of hydric soil and wetland hydrology must
		be present, unless disturbed or problematic.
4. Oxalis stricta		Definitions of Four Vegetation Strata:
5. convolvulus arvensis	<u> 5 </u>	. Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6	· · ·	more in diameter at breast height (DBH), regardless of
7	·	height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11.		Herb – All herbaceous (non-woody) plants, regardless
	70 = Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>35</u>		
Woody Vine Stratum (Plot size: 15')		Woody vine – All woody vines greater than 3.28 ft in height.
1		
2		
3		
4	·	Hydrophytic
5	0 = Total Cover	. Vegetation Present? Yes No ✔
500% (1.1.1		
50% of total cover: <u>0</u>		
Remarks: (Include photo numbers here or on a separate s	sheet.)	

Profile Desc	ription: (Describe t	o the depth	needed to docun	nent the ii	ndicator	or confirm	n the absence of	f indicators.)	
Depth	Matrix		Redox Features				T .		
(inches) 0-8	Color (moist) 7.5YR3/2	<u>%</u>	Color (moist)	%	Type'	_Loc ²	<u>Texture</u> _	Remarks	—
									—
8-20	10YR4/3	100					clay loam		
									—
									—
	oncentration, D=Depl	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.	
Hydric Soil								ors for Problematic Hydric Soils ³ :	
Histosol			Dark Surface					m Muck (A10) (MLRA 147)	
Histic Ep Black Hi	pipedon (A2)		Polyvalue Be Thin Dark Su					ast Prairie Redox (A16)	
	en Sulfide (A4)		Loamy Gleye			47, 148)		MLRA 147, 148) dmont Floodplain Soils (F19)	
	d Layers (A5)		Depleted Ma		<i>L</i>)			MLRA 136, 147)	
	ick (A10) (LRR N)		Redox Dark		6)			y Shallow Dark Surface (TF12)	
Depleted	d Below Dark Surface	e (A11)	Depleted Dar				Oth	er (Explain in Remarks)	
	ark Surface (A12)		Redox Depre						
	1ucky Mineral (S1) (L	RR N,	Iron-Mangan		es (F12) (I	LRR N,			
	A 147, 148) Gleyed Matrix (S4)		MLRA 13 Umbric Surfa		MI RA 13	6 122)	³ Indica	ators of hydrophytic vegetation and	
	Redox (S5)		Piedmont Flo					and hydrology must be present,	
	Matrix (S6)		Red Parent M					ss disturbed or problematic.	
Restrictive I	Layer (if observed):								
Туре:			_						
Depth (in	ches):		_				Hydric Soil P	resent? Yes No 🖌	_
Remarks:							4		

DATA FORM Eastern Mountains and Diadmont Pagic _

WEILAN	D DETERMINA	TION DATA FORM	– Eastern I	Mountains a	nd Piedmo	ont Region
Project/Site: EEP		City/0	County: Wash	nington Coun	ty	Sampling Date: 07/09/2015
Applicant/Owner: EQT		-	-	Sta	ite: PA	_ Sampling Point: W-BB3-WP
Investigator(s): A. Lands, S	. Cowell, T. Cad					
Landform (hillslope, terrace, et	_{c.):} hillslope	Local rel	lief (concave, c	convex, none): C	concave	Slope (%): >10
Subregion (LRR or MLRA):						
Soil Map Unit Name: Dormo				J		
Are climatic / hydrologic condit	ons on the site typic	al for this time of year?	res 🗾 N	o (If no,	explain in Re	emarks.)
Are Vegetation, Soil	, or Hydrology	significantly distu	rbed? A	re "Normal Circu	umstances" pr	resent? Yes 🖌 No
Are Vegetation, Soil				f needed, explai		
SUMMARY OF FINDIN	GS – Attach site	e map showing san	npling poin	t locations,	transects,	important features, etc.
Hydrophytic Vegetation Prese Hydric Soil Present? Wetland Hydrology Present? Remarks:	Yes	V No No No	Is the Samp within a We		Yes 🖌	No
Cowardin Code: PEM HGM: slope WT: isolate						
HYDROLOGY						
Wetland Hydrology Indicate						ors (minimum of two required)
Primary Indicators (minimum	of one is required; c				Surface Soil (
✓ Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1)					Sparsely Veg Drainage Patt	etated Concave Surface (B8)
Saturation (A3)		Oxidized Rhizospher			Moss Trim Lir	
Water Marks (B1)		Presence of Reduce	•			Vater Table (C2)
Sediment Deposits (B2)		Recent Iron Reduction			Crayfish Burro	
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery						
Algal Mat or Crust (B4)		Other (Explain in Rei	marks)	:	Stunted or Str	ressed Plants (D1)
Iron Deposits (B5)					Geomorphic F	
Inundation Visible on Ae	ial Imagery (B7)				Shallow Aquit	
Water-Stained Leaves (E	9)				Microtopogra	ohic Relief (D4)
Aquatic Fauna (B13)				<u> </u>	FAC-Neutral	Fest (D5)
Field Observations:			6			
Surface Water Present?		Depth (inches):	<u>6</u> 14			
Water Table Present?		Depth (inches): Depth (inches):				
Saturation Present? (includes capillary fringe)				-		? Yes <u>V</u> No
Describe Recorded Data (stre	am gauge, monitori	ng well, aerial photos, pre	evious inspecti	ons), if available	:	
Remarks:						

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-BB3-WP

201	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				
				Total Number of Dominant Species Across All Strata: 4 (B)
3				Species Across All Strata:4 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100% (A/B)
6				
7				Prevalence Index worksheet:
	0	= Total Co	ver	Total % Cover of: Multiply by:
50% of total cover:0				OBL species <u>62</u> x 1 = <u>62</u>
15	2070 01			FACW species 13 x 2 = 26
				FAC species $10 \times 3 = 30$
1				
2				
3				UPL species x 5 =
4				Column Totals: <u>100</u> (A) <u>178</u> (B)
5				Prevalence Index = B/A = 1.78
6				Hydrophytic Vegetation Indicators:
7				 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				
	0	= Total Co	uor	\checkmark 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0		total cover		4 - Morphological Adaptations ¹ (Provide supporting
	20% 01	total cover		data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)	~~			Problematic Hydrophytic Vegetation ¹ (Explain)
1. Carex vulpinoidea	30	<u> </u>	OBL	
2. Scirpus atrovirens	20	<u> </u>	OBL	1
3. Alopecurus aequalis	10	~	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Agrostis stolonifera	10	V	FACW	
5. Solidago altissima	5			Definitions of Four Vegetation Strata:
	5		FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. Rumex crispus			FACU	more in diameter at breast height (DBH), regardless of
7. Chamerion angustifolium	5		F <u>AC</u>	height.
8. Trifolium hybridum	5		F <u>ACU</u>	Contine (Charthe Westernlagte such disputies to a
9. Onoclea sensibilis	3		FACW	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10. Asclepias incarnata	2		OBL	m) tall.
11. Asclepias syriaca				
			F <u>AC</u>	Herb – All herbaceous (non-woody) plants, regardless
50	100	= Total Co	ver	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>50</u>	20% of	total cover	:20	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2.				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Co	ver	Present? Yes V No
50% of total cover: 0	20% of	total cover	: 0	
Remarks: (Include photo numbers here or on a separate sl	heet.)			
	,			

Profile Desc	ription: (Describe t	o the depth	n needed to docum	nent the	indicator	or confirn	n the absence	e of indicators.)
Depth Matrix Redox Features								
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	7.5Y3/2	95	7.5YR 4/6	5	С	Μ	clay loam	
12-18	10YR3/2	100					clay loam	fine gravel
								·
1 <u></u>	:	·				- <u>.</u>	21	
Hydric Soil	oncentration, D=Deple	etion, RM=I	Reduced Matrix, MS	s=Masked	d Sand Gr	ains.	Location: H	PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils ³ :
5				(07)				_
Histosol			Dark Surface		(00) (2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be				, 148) (Coast Prairie Redox (A16)
Black Hi	n Sulfide (A4)		Thin Dark Su Loamy Gleye			147, 148)	r	(MLRA 147, 148) Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Mat		(Г Z)		'	(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark \$	• •	-6)		``	Very Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dar					Other (Explain in Remarks)
	ark Surface (A12)	, (, (, , , , , , , , , , , , , , , , ,	Redox Depre					
	lucky Mineral (S1) (L	RR N,	Iron-Mangan			LRR N,		
	A 147, 148)		MLRA 13			. ,		
	ileyed Matrix (S4)		Umbric Surfa		(MLRA 1	36, 122)	³ Inc	dicators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	48) w	etland hydrology must be present,
Stripped	Matrix (S6)		Red Parent N	Aaterial (F	21) (ML F	A 127, 14	7) ur	nless disturbed or problematic.
Restrictive I	_ayer (if observed):							
Type: Wa	ater table							
•••	ches): 14						Hydric Soi	I Present? Yes 🖌 No
Remarks:	, <u> </u>							
Romanco.								

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP	City/County: Washington County Sampling Date: 07/08/2015
Applicant/Owner: EQT	State: PASampling Point: W-BB2-WP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku	
•	Local relief (concave, convex, none): concave Slope (%): >10
Subregion (LRR or MLRA): LRRN Lat: 40.2495	
Soil Map Unit Name: Dormont silt loam 8-15% slopes	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of	nf year? Ves 🖌 No. (If no. explain in Remarks.)
	antly disturbed? Are "Normal Circumstances" present? Yes <u>V</u> No
	y problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes Ves No	within a Wetland? Yes 🖌 No
Wetland Hydrology Present? Yes <u>Ves</u> No	
Remarks: Cowardin Code: PEM	
HGM: Slope	
WT: NRPWW	
source of surface water unknown. Could be result of	recent rains or spring located at top of hill
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	· · · · ·
	ic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1)
	hizospheres on Living Roots (C3) Moss Trim Lines (B16)
	of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron	n Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck	•••
	lain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Shallow Aquitard (D3) Microtopographic Relief (D4)
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes 🔽 No Depth (inc	hes):6
Water Table Present? Yes Vo Depth (inc	
Saturation Present? Yes 🖌 No Depth (inc	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos, previous inspections), if available:
Remarks:	

Sampling Point: W-BB2-WP

30'	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	<u>% Cover</u> Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata:3(B)
4		
		Percent of Dominant Species
5		That Are OBL, FACW, or FAC:67(A/B)
6		Prevalence Index worksheet:
7		
	0 = Total Cover	Total % Cover of: Multiply by:
50% of total cover: 0	20% of total cover:0	OBL species <u>40</u> x 1 = <u>40</u>
Sapling/Shrub Stratum (Plot size: 15')		FACW species x 2 =0
1		FAC species25 x 3 =75
		FACU species X 4 =140
2		UPL species x 5 =
3		Column Totals: 100 (A) 215 (B)
4		$\begin{array}{c} \text{Column rotals:} \\ \hline \end{array} \begin{array}{c} \text{Column rotals:} \\ \hline \end{array} \end{array} \begin{array}{c} \text{Column rotals:} \\ \hline \end{array} \begin{array}{c} \text{Column rotals:} \\ \hline \end{array} \end{array} \begin{array}{c} Column rotal rotat rotat rotal rotal rotal rotat rotat rotal rotat rotat $
5		Prevalence Index = B/A =2.15
6		Hydrophytic Vegetation Indicators:
7		
8		1 - Rapid Test for Hydrophytic Vegetation
		∠ 2 - Dominance Test is >50%
9	0 = Total Cover	✓ 3 - Prevalence Index is $\leq 3.0^1$
500% of total action	0 = Total Cover 20% of total cover:0	4 - Morphological Adaptations ¹ (Provide supporting
	20% of total cover:	data in Remarks or on a separate sheet)
	00	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Carex vulpinoidea	20 🖌 OBL	
2. Scirpus atrovirens	20 🖌 OBL	Indiastors of budgie soil and watland budgeland must
3. Rumex Crispus	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Solidago altissima	15 F <u>ACU</u>	
5. Asclepias syriaca	15 FAC	Definitions of Four Vegetation Strata:
6. Calystegia sepium	10	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
		more in diameter at breast height (DBH), regardless of
7		height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11		Herb – All herbaceous (non-woody) plants, regardless
	100 = Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>50</u>	20% of total cover: 20	
Woody Vine Stratum (Plot size: 15')		Woody vine – All woody vines greater than 3.28 ft in
		height.
1		
2		
3		
4		Hydrophytic
5		Vegetation
	= Total Cover	Present? Yes V No
50% of total cover: 0	20% of total cover: 0	
Remarks: (Include photo numbers here or on a separate sl	neet.)	

Profile Desc	ription: (Describe t	o the dept	h needed to docun	nent the indi	cator o	r confirm	the absence	of indicators.)		
Depth	Matrix		Redo	x Features	1	2	_			
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u> T	ype ¹	Loc ²	Texture	I	Remarks	
0-1	2.5Y3/1	100					muck			
1-5	2.5Y3/1	100					clay loam			
		ation DM					² Leastient D		A Motrin	
Hydric Soil	ncentration, D=Depl	elion, Rivi=	Reduced Matrix, Ma	s=iviasked sa	ind Gra	ins.		L=Pore Lining, N ators for Proble		Soils ³
Histosol			Dark Surface	(\$7)				cm Muck (A10)	5	00113
	vipedon (A2)		Polyvalue Be		(S8) (M I	LRA 147.		Coast Prairie Red		
Black Hi	•		Thin Dark Su					(MLRA 147, 14		
Hydroge	n Sulfide (A4)		Loamy Gleye	d Matrix (F2)			F	Piedmont Floodp	lain Soils (F19	9)
	l Layers (A5)		Depleted Mat					(MLRA 136, 14		
	ck (A10) (LRR N)	(Redox Dark S		_,			/ery Shallow Dar		12)
	Below Dark Surface	e (A11)	Depleted Dar		7)			Other (Explain in	Remarks)	
	nrk Surface (A12) lucky Mineral (S1) (L	DD N	Redox Depre		(F12) (I	RR N				
	147, 148)	ittit itt,	MLRA 13		(1 1 Z) (E					
	leyed Matrix (S4)		Umbric Surfa		.RA 136	6, 122)	³ Inc	licators of hydro	phytic vegetati	ion and
	edox (S5)		Piedmont Flo					etland hydrology		
	Matrix (S6)		Red Parent N	Aaterial (F21)	(MLRA	127, 147	7) un	less disturbed o	r problematic.	
	ayer (if observed):									
JI	ater table									
Depth (ind	ches): <u>5</u>						Hydric Soil	Present? Ye	es 🗾 🛛 N	o
Remarks:							•			

. : .. a a d. Di a du

WETLAND DETERMINAT	FION DATA FORM -	– Eastern Mounta	ins and Piedmo	ont Region
Project/Site: EEP	City/C	ounty: Washington	County	Sampling Date: 07/09/2015
Applicant/Owner: EQT			State: PA	Sampling Point: W-BB2-UP
Investigator(s): A. Lands, S. Cowell, T. Cado				
Landform (hillslope, terrace, etc.): sideslope	Local reli	ef (concave, convex, no	one): linear	Slope (%): 3-8%
Subregion (LRR or MLRA): LRRN L				
Soil Map Unit Name: Dormont silt loam, 8-15			NWI classifica	
Are climatic / hydrologic conditions on the site typica	al for this time of year? Y	es 🗾 No	(If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology _	significantly distur	bed? Are "Norma	al Circumstances" p	resent? Yes 🔽 No
Are Vegetation, Soil, or Hydrology _			explain any answer	
SUMMARY OF FINDINGS – Attach site				
Hydric Soil Present? Yes	No No No	Is the Sampled Area within a Wetland?		No
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; ch	eck all that apply)		Surface Soil	
	True Aquatic Plants (jetated Concave Surface (B8)
•	Hydrogen Sulfide Od		Drainage Pat	
	 Oxidized Rhizosphere Presence of Reduced 	•		Nater Table (C2)
	Recent Iron Reductio		Crayfish Burr	
· · ·	Thin Muck Surface (C			sible on Aerial Imagery (C9)
	Other (Explain in Ren			ressed Plants (D1)
Iron Deposits (B5)		/	Geomorphic	
Inundation Visible on Aerial Imagery (B7)			Shallow Aqui	
Water-Stained Leaves (B9)				phic Relief (D4)
Aquatic Fauna (B13)			FAC-Neutral	-
Field Observations:				

Yes _____ No _____ Depth (inches):____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Yes _____ No _____ Depth (inches):_____

Yes ____ No ____ Depth (inches):_____

Surface Water Present?

(includes capillary fringe)

Water Table Present?

Saturation Present?

Remarks:

No_

V

Wetland Hydrology Present? Yes ____

Sampling Point: W-BB2-UP

30'	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	<u>% Cover Species?</u> Status	Number of Dominant Species
1	·	That Are OBL, FACW, or FAC: (A)
2	· · ·	- Total Number of Dominant
3		Species Across All Strata: (B)
4		
5		Percent of Dominant Species That Are OBL, FACW, or FAC:100 (A/B)
6	·	Prevalence Index worksheet:
7		Total % Cover of: Multiply by:
	0 = Total Cover 20% of total cover:0	OBL species x 1 =
15	20% of total cover:0	FACW species x 2 =
		FAC species 45 x 3 = 135
1		FACU species $30 \times 4 = 120$
2	· · ·	
3	·	UPL species x 5 =
4	· · ·	Column Totals: <u>75</u> (A) <u>255</u> (B)
5		Prevalence Index = B/A =3.4
6		
7		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
8 9		✓ 2 - Dominance Test is >50%
- 9	0 = Total Cover	3 - Prevalence Index is ≤3.0 ¹
FOW of total covery	20% of total cover:0	4 - Morphological Adaptations ¹ (Provide supporting
		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5'))		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Chamerion angustifolium		-
2. Trifolium repens	F <u>ACU</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Rubus trivialis	10F <u>ACU</u>	 be present, unless disturbed or problematic.
4. Achillea millefolium	5F <u>ACU</u>	- Definitions of Four Vegetation Strata:
5	· · ·	
6	· ·	 Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7		height.
8		
9		 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.	·	m) tall.
11.	·	• ´
	75 = Total Cover	 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover 37	75 = Total Cover 5 20% of total cover:15	or size, and woody plants less than 3.26 it tall.
		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')		height.
1	·	-
2	· · ·	-
3	·	-
4		- Hydrophytic
5	· · ·	Vegetation
	= Total Cover	Present? Yes Ves No
50% of total cover: <u>0</u>	20% of total cover: 0	-
Remarks: (Include photo numbers here or on a separate s	sheet.)	

Profile Desc	ription: (Describe t	o the dept	h needed to docun	nent the in	dicator o	or confirm	n the absence	of indicators.)		
Depth	Matrix		Redo	x Features						
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture		Remarks	
0-12	10YR3/2	100					clay loam		organic	
12-18	10YR5/4	100					clay loam	red/g	gray mottle	es
				·						
				·						
				·						
				·						
				<u> </u>						
¹ Type: C=Co	oncentration, D=Depl	etion, RM=I	Reduced Matrix, MS	S=Masked S	Sand Gra	ains.	² Location: PL	_=Pore Lining, N	1=Matrix.	
Hydric Soil			·				Indica	tors for Proble	matic Hydri	c Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			2	cm Muck (A10)	(MLRA 147))
Histic Ep	pipedon (A2)		Polyvalue Be	low Surface	e (S8) (M	ILRA 147		oast Prairie Red		
Black Hi	stic (A3)		Thin Dark Su	ırface (S9) ((MLRA 1	47, 148)		(MLRA 147, 14	8)	
	n Sulfide (A4)		Loamy Gleye		2)		Pi	edmont Floodpl		9)
	l Layers (A5)		Depleted Ma					(MLRA 136, 14		
	ck (A10) (LRR N)	()	Redox Dark					ery Shallow Dar		F12)
· ·	Below Dark Surface	e (A11)	Depleted Dar				0	ther (Explain in	Remarks)	
	ark Surface (A12)		Redox Depre							
-	lucky Mineral (S1) (L \ 147, 148)	KK N,	Iron-Mangan MLRA 13		5 (F I Z) (I	LKK N,				
	leyed Matrix (S4)		Umbric Surfa			6 122)	³ Indi	cators of hydrop	hytic vegeta	ation and
	edox (S5)		Piedmont Flo					tland hydrology		
	Matrix (S6)		Red Parent N	•				ess disturbed or		
	_ayer (if observed):			``	/ (Í		1	
Type:										
Depth (ind	ches):						Hydric Soil	Present? Ye	s l	No 🖌
Remarks:							1.194.10 0011		· ·	
Remarks.										

reject/Site: EEP
westigator(s): A Lands, S Cowell, T Caddy, Section, Township, Range; NA andform (hillslope, terrace, etc.): toeslope/depression Local relief (concave, convex, none): Concave Slope (%): <5
andform (hillslope, terrace, etc.): toeslope/depression
ubregion (LRR or MLRA): LRRN Lat: 40.238567 Long: -79.944506 Datum: NAD 83 oil Map Unit Name: Urban land-Rainsboro complex, gently sloping NWI classification: None re climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) re Vegetation
oil Map Unit Name: Urban land-Rainsboro complex, gently sloping NWL classification: None re climatic / hydrologic conditions on the site typical for this time of year? Yes No
re climatic / hydrologic conditions on the site typical for this time of year? Yes <u>/</u> No (ff no, explain in Remarks.) re Vegetation Soil <u>/</u> or Hydrology <u>/</u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>No</u> <u>/</u> re Vegetation Soil <u>/</u> or Hydrology <u>naturally problematic?</u> (ff needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes <u>/</u> No <u>Is the Sampled Area</u> Wetland Hydrology Present? Yes <u>/</u> No <u>No</u> Is the Sampled Area within a Wetland? Yes <u>/</u> No <u>No</u> Remarks: PFO/PSS Depressional RPWWD arge depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal, IVDROLOGY Wetland Hydrology Indicators: <u>Secondary Indicators (minimum of two required)</u> Primary Indicators (minimum of one is required; check all that apply) <u>Surface Soil Cracks (B6)</u> <u>/'</u> Surface Water (A1) <u>True Aquatic Plants (B14)</u> <u>Sparsely Vegetated Concave Surface (B8)</u> High Water Table (A2) <u>Hydrogen Sulfide Odor (C1)</u> Drainage Patterns (B10) <u>''</u> Saturation (A3) <u>Oxidized Rhizospheres on Living Roots (C3)</u> Moss Trim Lines (B16) <u>''</u> Water Marks (B1) <u>Presence of Reduced Iron (C4)</u> <u>Dry-Season Water Table (C2)</u>
re Vegetation, Soil 🖌 , or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes No _✓ re Vegetation, Soil ✓ , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes ✓ No Is the Sampled Area within a Wetland? Yes ✓ No Ves ✓ No S
re Vegetation, Soll, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? YesNo Hydric Soil Present? YesNo Wetland Hydrology Present? YesNo Remarks: PFO/PSS Depressional RPWWD arge depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal, IVDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Yus Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Yus Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Moss Trim Lines (B16)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No
Hydrophytic Vegetation Present? Yes ✓ No Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present? Yes ✓ No Is the sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes ✓ No No No Remarks: PFO/PSS Depressional RepwWD arge depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal, IVDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)
Hydric Soil Present? Yes ✓ No Is the sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes ✓ No No No Remarks: PFO/PSS Depressional RepwWD arge depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal, IVDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)
Wetland Hydrology Present? Yes No Remarks: PFO/PSS Depressional RPWWD arge depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal, IVDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)
PFO/PSS Depressional RPWWD arge depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal, IVDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ✓ Surface Water (A1) Hydrogen Sulfide Odor (C1) High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Water Marks (B1)
Depressional RPWWD arge depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal, IVDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ✓ Surface Water (A1) ✓ Surface Water (A1) ✓ Surface Water Table (A2) ✓ High Water Table (A2) ✓ Oxidized Rhizospheres on Living Roots (C3) ✓ Water Marks (B1)
RPWWD arge depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal, HUDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) ✓ Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) ✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
arge depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal, IVDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) ✓ Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) ✓ High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) ✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) ✓ Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) ✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) ✓ Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) ✓ High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) ✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Primary Indicators (minimum of one is required; check all that apply)
✓ Surface Water (A1)
High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3)
✓ Water-Stained Leaves (B9) Microtopographic Relief (D4)
✓ Aquatic Fauna (B13) FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes Van Depth (inches):
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No
(includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:
some areas are saturated, however no H2S odor was detected.

Sampling Point: W-BB13

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Species?	Status	Number of Dominant Species
1. Acer negundo	10	~	FAC	That Are OBL, FACW, or FAC:6 (A)
2. Acer rubrum	10	v	FAC	
				Total Number of Dominant
3				Species Across All Strata: 9 (B)
4				
5				Percent of Dominant Species That Are OBL EACW or EAC: 66.7% (A/B)
				That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
6				Prevalence Index worksheet:
7				
	20	= Total Co	ver	Total % Cover of: Multiply by:
50% of total cover: <u>10</u>	20% of	total cover	: 4	OBL species x 1 = 4
Sapling/Shrub Stratum (Plot size: 15')				FACW species20 x 2 =40
	5	~	FACU	FAC species <u>36</u> x 3 = <u>108</u>
		-		
2				
3				UPL species x 5 =
4				Column Totals: <u>84</u> (A) <u>248</u> (B)
5				Prevalence Index = B/A = 2.95
6				Hydrophytic Vegetation Indicators:
7			_	
8				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9				\checkmark 3 - Prevalence Index is ≤3.0 ¹
		= Total Co		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>2.5</u>	20% of	total cover	<u>: 1</u>	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Pilea pumila	15	~	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
	10			
2. Podophyllum peltatum	-		FACU	¹ Indicators of hydric soil and wetland hydrology must
_{3.} Urtica dioica	5		FACU	be present, unless disturbed or problematic.
4. Microstegium vimineum	5	~	FAC	
5. Impatiens pallida	5	~	FACW	Definitions of Four Vegetation Strata:
	2			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. Athyrium felix-femina			F <u>AC</u>	more in diameter at breast height (DBH), regardless of
7. Potentilla simplex	2		F <u>ACU</u>	height.
_{8.} Gallium asprellum	2		OBL	
9. Onoclea sensibilis	2		OBL	Sapling/Shrub – Woody plants, excluding vines, less
10. Oxalis stricta	2			than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
			FACU	
11				Herb – All herbaceous (non-woody) plants, regardless
	50	= Total Co	ver	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 25	20% of	total cover	: 10	
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in
1 Toxicodendron radicans	5	~	F A0	height.
			FAC	
2				
3				
4				
r				Hydrophytic
5				Vegetation
		= Total Co		Present? Yes V No
50% of total cover: <u>2.5</u>	20% of	total cover	: <u>1</u>	
Remarks: (Include photo numbers here or on a separate s	heet.)			
	,			

Profile Desc	ription: (Describe to	o the depth	needed to docum	ent the i	ndicator o	or confirm	the absence	of indicators.)	
Depth	Matrix			Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	_Loc ²	Texture	Remarks	
0-3	10YR3/2	100					clay loam	fill gravel washed	from road
3-16	10YR3/1	100					clay loam		
	,				<u> </u>				
			,						
	oncentration, D=Deple	etion, RM=R	Reduced Matrix, MS	=Masked	Sand Gra	iins.		_=Pore Lining, M=Matrix.	
Hydric Soil I	ndicators:							tors for Problematic Hyd	
Histosol			Dark Surface					cm Muck (A10) (MLRA 14	7)
·	ipedon (A2)		Polyvalue Bel				148) <u> </u>	oast Prairie Redox (A16)	
Black His			Thin Dark Su			47, 148)	5	(MLRA 147, 148)	-10)
- • •	n Sulfide (A4)		Loamy Gleye		F2)		Pi	edmont Floodplain Soils (F	-19)
	Layers (A5)		Depleted Mat					(MLRA 136, 147)	(TE10)
	ck (A10) (LRR N) I Below Dark Surface	(11)	Redox Dark S					ery Shallow Dark Surface (ther (Explain in Remarks)	(1F12)
	rk Surface (A12)	(ATT)	Redox Depres				0		
	ucky Mineral (S1) (LI		Iron-Mangane						
	147, 148)	лл н ,	MLRA 136		55 (I IZ) (I	_NN N,			
	leyed Matrix (S4)		Umbric Surfac		MI RA 13	6, 122)	³ Indi	cators of hydrophytic vege	tation and
	edox (S5)		Piedmont Flor					tland hydrology must be pr	
	Matrix (S6)		Red Parent M	•				ess disturbed or problema	
	ayer (if observed):				<i>,</i> ,	•	1	1	
Type:									
Depth (inc	:hes):						Hydric Soil	Present? Yes 🖌	No

Remarks:

Wetland situated on soil derived from dark coal floodplain. NRCS soil map unit name is urban land-Rainsboro complex, gently sloping (URB). Soil listed as hydric.

Project/Site: _EEP	City/County: Allegheny County Sampling Date: 07/13/2015
Applicant/Owner: EQT	State: PA Sampling Point: W-BB13-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy	
-	ocal relief (concave, convex, none): <u>CONVEX</u> Slope (%): <u>3-5</u>
	'89560 Long: -79.94489288190 Datum: NAD 83
Soil Map Unit Name: Urban land-Rainsboro complex sloping	
•	
Are climatic / hydrologic conditions on the site typical for this time of y	
	y disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally pr	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	 Is the Sampled Area within a Wetland? Yes No
Remarks: Upland	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) True Aquatic F	
High Water Table (A2) Hydrogen Sulf	•
	cospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of R	•
Sediment Deposits (B2) Recent Iron R Drift Deposits (B3) Thin Muck Sur	teduction in Tilled Soils (C6) Crayfish Burrows (C8) rface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches	s):
Water Table Present? Yes No Depth (inches	s):
Saturation Present? Yes No Depth (inches	s): Wetland Hydrology Present? Yes No_
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos previous inspections) if available:
boonso noondod bala (stroam gaago, montoring won, dona prot	
Remarks:	

Sampling Point: W-BB13-UP

20'	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)		Species		Number of Dominant Species
1. Acer negundo	10		FAC	That Are OBL, FACW, or FAC:4 (A)
2. Acer rubrum	10	<u> </u>	_ FAC	Total Number of Dominant
3				Species Across All Strata:5(B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 80% (A/B)
6				Prevalence Index worksheet:
7				
	20	= Total Co	ver	Total % Cover of:Multiply by:
50% of total cover: <u>10</u>	20% of	f total cove	r: <u> </u>	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 = 30
1				FAC species <u>32</u> x 3 = <u>96</u>
				FACU species 35 x 4 = 140
2				UPL species x 5 =
3				
4				Column Totals: <u>82</u> (A) <u>266</u> (B)
5				Prevalence Index = B/A =3.24
6				Hydrophytic Vegetation Indicators:
7			_	
8				1 - Rapid Test for Hydrophytic Vegetation
				✓ 2 - Dominance Test is >50%
9	0			3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0		= Total Co		4 - Morphological Adaptations ¹ (Provide supporting
	20% 0	i total cove	r: <u> </u>	data in Remarks or on a separate sheet)
	45			Problematic Hydrophytic Vegetation ¹ (Explain)
1. Impatiens pallida	15	<u> </u>	FACW	
_{2.} Urtica dioica	15	<u> </u>	F <u>ACU</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Cardamine dyphalla	10		FACU	be present, unless disturbed or problematic.
4. Anemone virginiana	5		FACU	Definitions of Four Vegetation Strata:
5. Podophyllum peltatum	5		FACU	Deminions of Four Vegetation Strata.
6. Microstegium vimineum	5		FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7. Athyrium felix-femina	2			more in diameter at breast height (DBH), regardless of
				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10		<u> </u>		m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Co		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>28.</u>	5 20% of	f total cove	r: <u>11.4</u>	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: <u>15</u>)				height.
1. Toxicodendron radicans	5	~	FAC	holyna
2.				
3.		-		
4				Hydrophytic
5				Vegetation Present? Yes <u>Ves</u> No
		= Total Co		Present? res_ NO
50% of total cover: 2.5		f total cove	r: <u> </u>	
Remarks: (Include photo numbers here or on a separate s	sheet.)			

Profile Des	cription: (Describe t	o the depth	needed to docur	nent the ii	ndicator o	or confirm	n the absence	of indicators.)
Depth	Matrix			x Features		2		
(inches)	Color (moist)		Color (moist)		Type ¹	Loc ²	Texture	Remarks
0-4	10YR4/1	100					clay loam	
4-16	10YR6/3	100					sand	fill material (near railroad berm)
1 Type: C-C	oncentration, D=Depl	etion RM-R	educed Matrix M	S-Masked	Sand Gra	ains	² Location: Pl	L=Pore Lining, M=Matrix.
Hydric Soil				0-111031100				ators for Problematic Hydric Soils ³ :
Histoso	l (A1)		Dark Surface	e (S7)			2	cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ce (S8) (M	ILRA 147,		coast Prairie Redox (A16)
	listic (A3)		Thin Dark Su					(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye				P	iedmont Floodplain Soils (F19)
- • •	d Layers (A5)		Depleted Ma					(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark		6)		V	ery Shallow Dark Surface (TF12)
Deplete	d Below Dark Surface	(A11)	Depleted Da	rk Surface	(F7)			ther (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	Mucky Mineral (S1) (L	RR N,	Iron-Mangan			_RR N,		
-	A 147, 148)		MLRA 13		. , .			
	Gleyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)	³ Indi	icators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo					tland hydrology must be present,
	d Matrix (S6)		Red Parent I	•				less disturbed or problematic.
	Layer (if observed):					-		•
Туре:			_					
Depth (in	iches):		_				Hydric Soil	Present? Yes No 🔽

Remarks:

situated on soil derived from dark coal floodplain. NRCS soil map unit name is urban land-Rainsboro complex, gently sloping (URB).

WETLAND DETERMINATION DAT	FORM – Eastern Mountains	and Piedmont Region		
Project/Site: EEP	City/County: Washington Cou	unty Sampling Date: 07/11/2015		
		State: PA Sampling Point: W-BB11-WP		
Investigator(s): A Lands, S Cowell, T Caddy, J Akalako				
Landform (hillslope, terrace, etc.): toeslope		concave Slope (%): <10		
Subregion (LRR or MLRA): LRRN Lat: 40.236	3791 Long: -079.5	9457451 Datum: NAD 83		
· · · · · · · · · · · · · · · · · · ·				
Are climatic / hydrologic conditions on the site typical for this time				
Are Vegetation, Soil, or Hydrology signifi				
Are Vegetation, Soil, or Hydrology natura	ly problematic? (If needed, exp	lain any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map sho	ving sampling point locations	s, transects, important features, etc.		
Hydrophytic Vegetation Present? Yes No				
Hydric Soil Present? Yes <u>Ves</u> No	is the Samplet Area			
Wetland Hydrology Present? Yes <u>V</u> No_		Yes No		
Remarks:				
Cowardin Code: PFO				
HGM: slope				
WT: RPWWN				
HYDROLOGY				
Wetland Hydrology Indicators:	Se	econdary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that a		_ Surface Soil Cracks (B6)		
		Sparsely Vegetated Concave Surface (B8)		
		_ Drainage Patterns (B10)		
• • • •		Moss Trim Lines (B16)		
		Dry-Season Water Table (C2)		
Sediment Deposits (B2) Recent Ir		Crayfish Burrows (C8)		
Drift Deposits (B3) Thin Muc	Surface (C7)	_ Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Other (E:	olain in Remarks)	Stunted or Stressed Plants (D1)		
Iron Deposits (B5)	_	_ Geomorphic Position (D2)		
Inundation Visible on Aerial Imagery (B7)	_	_ Shallow Aquitard (D3)		
✓ Water-Stained Leaves (B9)	_	_ Microtopographic Relief (D4)		
Aquatic Fauna (B13)	_	FAC-Neutral Test (D5)		
Field Observations:				
Surface Water Present? Yes No Depth (i				
Water Table Present? Yes No Depth (i				
Saturation Present? Yes No Depth (i (includes capillary fringe)	ches): Wetland Hyd	Irology Present? Yes <u>V</u> No		
Describe Recorded Data (stream gauge, monitoring well, aeria	photos, previous inspections), if availab	ble:		
Remarks:				

Sampling Point: W-BB11-WP

	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species
1. Acer rubrum	30	<u> </u>	FAC	That Are OBL, FACW, or FAC: (A)
_{2.} Fagus grandifolia	10	<u> </u>	FACU	Total Number of Dominant
3				Species Across All Strata:4 (B)
4				
				Percent of Dominant Species 75
5		·	·	That Are OBL, FACW, or FAC:75 (A/B)
6				Prevalence Index worksheet:
7				
		= Total Cov		
50% of total cover: 20	20% of	total cover	8	OBL species $0 \times 1 = 0$
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>60</u> x 2 = <u>120</u>
1. Acer rubrum	40	~	FAC	FAC species x 3 =75
2. Lonicera sp.	10		FAC	FACU species x 4 =60
3 Fagus grandifolia	10			UPL species x 5 =
			FACU	Column Totals: 100 (A) 255 (B)
4		·	·	$\begin{array}{c} \text{Column rotals:} \\ \hline \end{array} \begin{array}{c} \text{rot} \\ \text{(A)} \\ \hline \end{array} \begin{array}{c} \text{200} \\ \text{(B)} \\ \hline \end{array} \end{array}$
5				Prevalence Index = B/A =2.55
6				
7				Hydrophytic Vegetation Indicators:
			·	1 - Rapid Test for Hydrophytic Vegetation
8			·	∠ 2 - Dominance Test is >50%
9	60	·	·	\checkmark 3 - Prevalence Index is ≤3.0 ¹
20		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>30</u>	20% of	total cover	<u> </u>	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')				Problematic Hydrophytic Vegetation ¹ (Explain)
_{1.} Pilea pumila	60	<u> </u>	FACW	
2. Athyrium felix-femina	5		FAC	
3. Anemone virginiana	5		FACU	¹ Indicators of hydric soil and wetland hydrology must
			1/100	be present, unless disturbed or problematic.
4			·	Definitions of Four Vegetation Strata:
5			·	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				
· · · · · · · · · · · · · · · · · · ·	70		·	Herb – All herbaceous (non-woody) plants, regardless
500(())) 25		= Total Cov	/er 1/	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>35</u>	20% of	total cover		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4				
				Hydrophytic
- J	0		·	Vegetation Present? Yes <u>V</u> No
50% (1.1.1.0)		= Total Cov		
50% of total cover: <u>0</u>		total cover	. 0	
Remarks: (Include photo numbers here or on a separate s	heet.)			

	ription: (Describe t	o the dept			dicator c	or confirm	the absence	of indicato	ors.)	
Depth (inches)	<u>Matrix</u> Color (moist)	%	Color (moist)	<u>Features</u>	Type ¹	Loc ²	Texture		Remarks	
0-1	10YR3/1	100					clay loam		muck/orga	nic
1-18	10YR4/3	100					clay loam		Ŭ	
							olay loann			
1		<u> </u>					2			
Type: C=Cc Hydric Soil I	ncentration, D=Depl	etion, RM=	Reduced Matrix, MS	=Masked S	Sand Gra	ins.			ng, M=Matrix. oblematic Hy	dric Soils ³
•			Dark Surfage	(67)						
Histosol Histic En	ipedon (A2)		Dark Surface		- (S8) (M	I RA 147			A10) (MLRA 1 e Redox (A16)	47)
Black His	•		Thin Dark Su				140)	(MLRA 14		
	n Sulfide (A4)		Loamy Gleye			,	P		podplain Soils	(F19)
	Layers (A5)		Depleted Mat	rix (F3)				(MLRA 13		
	ck (A10) (LRR N)		Redox Dark S						/ Dark Surface	
	Below Dark Surface	e (A11)	Depleted Dar				_ (ther (Expla)	in in Remarks))
	rk Surface (A12) ucky Mineral (S1) (L	RRN	Redox Depre			RR N				
	147, 148)	ittit iv,	MLRA 136		3 (I 12) (E					
	leyed Matrix (S4)		Umbric Surfa		ILRA 13	6, 122)	³ Ind	icators of h	ydrophytic veg	etation and
	edox (S5)		Piedmont Flo						logy must be p	
	Matrix (S6)		Red Parent N	laterial (F2	1) (MLR	A 127, 147	') un	less disturb	ed or problem	atic.
	ayer (if observed):									
Туре:										
Depth (inc	hes):						Hydric Soil	Present?	Yes 🔽	No
Remarks:	light									
H2S odor s	light									

WETLAN	ID DETE	RMINATI	on data form	– Eastern	Mountains	and Piedm	ont Region
Project/Site: EEP			City/	County: Alle	gheny Cour	nty	Sampling Date: 07/11/2015
Applicant/Owner: EQT							Sampling Point: W-BB11-WP
Investigator(s): A. Lands, S	. Cowell,	T. Caddy	, J. Aklaku _{Sect}	tion, Township	, _{Range:} NA		
Landform (hillslope, terrace, et						none	Slope (%); >5
Subregion (LRR or MLRA): <u>L</u>	RRN	Lat	40.2368512746	60	1 ong79.94	4571985080	Datum: NAD 83
Soil Map Unit Name: Strip m							
Are climatic / hydrologic condit							
							present? Yes No
Are Vegetation, Soil							rs in Remarks.)
-	-						
	GS - Atta	ach site n	nap snowing sa	mpling pol	nt location	s, transects	, important features, etc.
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?		Yes Yes Yes	No	ls the Sam within a W		Yes	No
Remarks:				1			
Upland							
HYDROLOGY							
Wetland Hydrology Indicate	ors:				S	econdary Indica	tors (minimum of two required)
Primary Indicators (minimum	of one is re	<u>quired; chec</u>	ck all that apply)			_ Surface Soil	
Surface Water (A1)			True Aquatic Plants				getated Concave Surface (B8)
High Water Table (A2)			Hydrogen Sulfide O			_ Drainage Pa	
Saturation (A3)			Oxidized Rhizosphe	•			
Water Marks (B1) Sediment Deposits (B2)			Presence of Reduce Recent Iron Reducti			_ Dry-Season _ Crayfish Bur	Water Table (C2)
Drift Deposits (B3)			Thin Muck Surface				isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)			Other (Explain in Re				tressed Plants (D1)
Iron Deposits (B5)				, marito)		_ Geomorphic	
Inundation Visible on Ae	rial Imagery	(B7)				Shallow Aqu	
Water-Stained Leaves (B							aphic Relief (D4)
Aquatic Fauna (B13)					_	FAC-Neutral	Test (D5)
Field Observations:							
Surface Water Present?	Yes	No	_ Depth (inches):				
Water Table Present?			_ Depth (inches):				
Saturation Present? (includes capillary fringe)	Yes	No	_ Depth (inches):		Wetland Hyd	drology Preser	nt? Yes No 🔽
Describe Recorded Data (str	eam gauge,	monitoring	well, aerial photos, pr	evious inspec	tions), if availa	ble:	
Demortro							
Remarks:							

Sampling Point: W-BB11-WP

30'	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	-	<u>Species</u>		Number of Dominant Species
1. Acer rubrum	20	<u> </u>	FAC	That Are OBL, FACW, or FAC: (A)
_{2.} Fagus grandifolia	15		FACU	Total Number of Dominant
3				Species Across All Strata:3 (B)
4				
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>67</u> (A/B)
6		·		Prevalence Index worksheet:
7				
	35	= Total Co	ver	Total % Cover of: Multiply by:
50% of total cover: <u>17</u> .				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>10</u> x 2 = <u>20</u>
				FAC species 30 x 3 = 90
1				FACU species 35 x 4 = 140
2	·			
3				UPL species x 5 =
4				Column Totals: <u>75</u> (A) <u>250</u> (B)
5				2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
				Prevalence Index = B/A =3.33
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^{1}$
	0	= Total Co	ver	
50% of total cover:0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
. Dodophyllum poltotum	15	~	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
		·		
2. Pilea pumila	10	·	_ F <u>ACW</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Anemone virginiana	5		_ F <u>ACU</u>	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Deminitions of Four Vegetation Strata.
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7	·			height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				
	30	= Total Co	vor	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>15</u>	20% of	f total cove	ren 6	
	20 /0 01	lulai cuve		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')	10			height.
1. Rubus pensylvanicus	10	<u> </u>	FAC	
2				
3				
4				
				Hydrophytic
5	10			Vegetation Present? Yes Ves No
For the F		= Total Co		
50% of total cover: <u>5</u>		f total cove	r: <u>2</u>	
Remarks: (Include photo numbers here or on a separate s	sheet.)			

Profile Desc	ription: (Describe t	to the dept	h needed to docun	nent the i	ndicator o	or confirm	n the absence of	indicators.)	
Depth	Matrix		Redo	x Features	6				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remark	S
0-4	7.5YR2.5/2	100					clay loam	orgar	nic
4-16	10YR4/3	100					clay loam		
	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matri	
Hydric Soil I								rs for Problematic	•
Histosol			Dark Surface	. ,				n Muck (A10) (MLRA	
· · ·	pipedon (A2)		Polyvalue Be					st Prairie Redox (A1	6)
Black His			Thin Dark Su			47, 148)	•	/ILRA 147, 148)	
	n Sulfide (A4) I Layers (A5)		Loamy Gleye		-2)			mont Floodplain Soi	IS (F 19)
	ck (A10) (LRR N)		Redox Dark \$		6)			/ILRA 136, 147) / Shallow Dark Surfa	co (TE12)
	Below Dark Surface	e (A11)	Depleted Dark					er (Explain in Remar	
	rk Surface (A12)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Redox Depre						(())
—	lucky Mineral (S1) (L	.RR N,	Iron-Mangan			_RR N,			
	147, 148)		MLRA 13						
	leyed Matrix (S4)		Umbric Surfa	ce (F13) (MLRA 13	6, 122)	³ Indica	tors of hydrophytic v	egetation and
Sandy R	edox (S5)		Piedmont Flo	odplain So	oils (F19)	(MLRA 14	48) wetlar	nd hydrology must b	e present,
	Matrix (S6)		Red Parent N	Aaterial (F	21) (MLR	A 127, 14	7) unles:	s disturbed or proble	matic.
Restrictive L	ayer (if observed):								
Type:									
Depth (inc	ches):						Hydric Soil Pr	esent? Yes	No
Remarks:									

Project/Site: EEP	City/County: Allegheny County Sampling Date: 07/11/2015
	State: PA Sampling Point: W-BB10-WP
Investigator(s): A Lands, S Cowell, T Caddy, J Akalaku	
	bcal relief (concave, convex, none): <u>Concave</u> Slope (%): <u><5</u>
Subregion (LRR or MLRA): LRRN Lat: 40.2335633	
Soil Map Unit Name: Strip mines, 8-25% slope	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of ye	
	y disturbed? Are "Normal Circumstances" present? Yes <u>V</u> No No
Are Vegetation, Soil, or Hydrology naturally provide the second seco	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes <u>V</u> No Hydric Soil Present? Yes <u>V</u> No Wetland Hydrology Present? Yes <u>V</u> No Remarks: Cowardin Code: PFO HGM: slope WT: NRPWW	within a Wetland? Yes V No
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
✓ Surface Water (A1) True Aquatic P	
High Water Table (A2) Hydrogen Sulfi	
•	pspheres on Living Roots (C3) Moss Trim Lines (B16)
	educed Iron (C4) Dry-Season Water Table (C2)
	eduction in Tilled Soils (C6)
Drift Deposits (B3) Thin Muck Sur	face (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain	in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
✓ Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes <u>Ves</u> No Depth (inches	<u>,): 8</u>
Water Table Present? Yes No Depth (inches	
Saturation Present? Yes No <u>/</u> Depth (inches No _/	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	
Skippers observed	

Sampling Point: W-BB10-WP

20'	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species
1. Acer rubrum	25	<u> </u>	FAC	That Are OBL, FACW, or FAC: 7 (A)
2. Fagus grandifolia	10	 	FACU	Total Number of Dominant
3				Species Across All Strata: 8 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>87%</u> (A/B)
6				
7				Prevalence Index worksheet:
	35	= Total Cov	<i>r</i> er	Total % Cover of: Multiply by:
50% of total cover: 17.5	5 20% of	total cover	7	OBL species <u>3</u> x 1 = <u>3</u>
Sapling/Shrub Stratum (Plot size:15')				FACW species <u>10</u> x 2 = <u>20</u>
1. Lonicera sp.	10	 ✓ 	FAC	FAC species K 3 = 180
2. Acer rubrum	10	~	FAC	FACU species <u>12</u> x 4 = <u>48</u>
3				UPL species x 5 =
4				Column Totals: <u>85</u> (A) <u>251</u> (B)
			·	
5			·	Prevalence Index = B/A =2.95
6				Hydrophytic Vegetation Indicators:
7			·	1 - Rapid Test for Hydrophytic Vegetation
8			·	✓ 2 - Dominance Test is >50%
9			·	✓ 3 - Prevalence Index is ≤3.0 ¹
		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 10	20% of	total cover	4	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')		_		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Microstegium vimenium	20	<u> </u>	FAC	
{2.} Pilea pumila	10	 ✓ 	FACW	Indianters of hydrin soil and wattend hydrology must
3. Dicanthelium clandestinum	10	 ✓ 	F <u>AC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Athyrium felix-femina	5		FAC	Definitions of Four Vegetation Strata:
5. Solidago altissima	5		FACU	Deminitions of Four Vegetation Strata.
6. Gallium asprellum	3		QBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7. Anemone virginiana	2		FACU	more in diameter at breast height (DBH), regardless of height.
8			1 <u>7100</u>	noight
			·	Sapling/Shrub – Woody plants, excluding vines, less
9			·	than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10			·	
11				Herb – All herbaceous (non-woody) plants, regardless
50% of total cover: 27.5		= Total Cov		of size, and woody plants less than 3.28 ft tall.
	<u> </u>	total cover		Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')	5	./		height.
1. Rubus pensylvanicum			FAC	
2				
3			. <u> </u>	
4				Hydrophytic
5				Vegetation
		= Total Cov	rer	Present? Yes V No
50% of total cover: <u>2.5</u>	20% of	total cover	1	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Desc	ription: (Describe	to the depth	needed to docum	nent the i	ndicator	or confirm	n the absence of i	ndicators.)	
Depth	Matrix			K Features					
(inches)	Color (moist)	%	Color (moist)	%	_Type ¹	Loc ²		Remarks	
0-6	10YR3/2	95	7.5YR 4/6	5	С	M	clay loam		
6-18	10YR5/4	100					clay loam		
						·			
						·	<u> </u>		
						·			
$\frac{1}{1}$ Type: C-C	ncentration, D=Depl	lotion DM-P	oducod Matrix MS	-Maskod	Sand Cr	oine	² Location: DL-D	ore Lining, M=Matrix	
Hydric Soil I				-ividSkeu	Sanu Gr	airis.		s for Problematic H	
Histosol			Dark Surface	(S7)				Muck (A10) (MLRA	
	ipedon (A2)		Polyvalue Be	. ,	ce (S8) (N	/ILRA 147		t Prairie Redox (A16)	
Black His	•		Thin Dark Su					LRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		F2)			nont Floodplain Soils	(F19)
	Layers (A5)		Depleted Mat					LRA 136, 147)	
	ck (A10) (LRR N)	(0.4.4)	Redox Dark S		,			Shallow Dark Surface	
	Below Dark Surface	e (ATT)	Depleted Dar				Other	(Explain in Remarks	5)
	rk Surface (A12) ucky Mineral (S1) (L	RR N	Redox Depre Iron-Mangane						
	147, 148)		MLRA 136		55 (1 12) (
	leyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)	³ Indicato	ors of hydrophytic ve	getation and
	edox (S5)		Piedmont Flo					d hydrology must be	
	Matrix (S6)		Red Parent M	laterial (F	21) (MLR	A 127, 14	7) unless	disturbed or problem	natic.
Restrictive L	ayer (if observed):								
Туре:			_						
Depth (inc	:hes):		_				Hydric Soil Pre	sent? Yes 🗹	No
Remarks:							1		

WETLAND DETERMINATI	ON DATA FORM – Eastern Mounta	ins and Piedm	ont Region
Project/Site: EEP	City/County: Allegheny C	ounty	Sampling Date: 07/11/2015
Applicant/Owner: EQT			
Investigator(s): A. Lands, S. Cowell, T. Caddy			oumphing i ound
Landform (hillslope, terrace, etc.): hilltop			Slope (%): 2-4
Subregion (LRR or MLRA): LRRN La			
Soil Map Unit Name: Strip mine 8-25% slopes			
Are climatic / hydrologic conditions on the site typical	-	•	
Are Vegetation, Soil, or Hydrology		al Circumstances"	present? Yes No
Are Vegetation, Soil, or Hydrology	naturally problematic? (If needed,	, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site r	nap showing sampling point locat	ions, transects	s, important features, etc.
Hydric Soil Present? Yes	No Is the Sampled Area within a Wetland?		No
High Water Table (A2)	True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1)	Surface Soil Sparsely Ve Drainage Pa	getated Concave Surface (B8) Itterns (B10)
 Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) 	Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks)	Dry-Season Crayfish Bur Saturation V	Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) itard (D3) aphic Relief (D4)
Water Table Present? Yes No		Hydrology Preser /ailable:	nt? Yes No

Sampling Point: W-BB10-UP

20'	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	<u>% Cover Species? Status</u>	Number of Dominant Species
1. Fagus grandifolia	20 🖌 FACU	That Are OBL, FACW, or FAC: (A)
2		
3		Total Number of Dominant Species Across All Strata: <u>3</u> (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: 66.7% (A/B)
6	· ·	Prevalence Index worksheet:
7		
	20 = Total Cover	Total % Cover of:Multiply by:
50% of total cover: <u>10</u>	20% of total cover: 4	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')		FACW species x 2 =
	15 🖌 FAC	FAC species X 3 = 105
	· · · ·	FACU species 40 x 4 = 160
2		
3		
4		Column Totals: <u>80</u> (A) <u>265</u> (B)
5		Prevalence Index = B/A =3.31
6		Hydrophytic Vegetation Indicators:
7		
8		1 - Rapid Test for Hydrophytic Vegetation
		✓ 2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0 ¹
7.5	15 = Total Cover	4 - Morphological Adaptations ¹ (Provide supporting
	5 20% of total cover: 3	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Microstegium vimenium	20 F AC	
2. Podophyllum peltatum	15F <u>ACU</u>	1
3. Anemone virginiana	5FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4		
5		Definitions of Four Vegetation Strata:
		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		more in diameter at breast height (DBH), regardless of
7		height.
8	· ·	Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11.		
	40 = Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 20		
Woody Vine Stratum (Plot size: 15')		Woody vine – All woody vines greater than 3.28 ft in
		height.
1		
2		
3		
4	·	Hydrophytic
5		Vegetation
	= Total Cover	Present? Yes V No
50% of total cover:0	20% of total cover: 0	
Remarks: (Include photo numbers here or on a separate s	sheet.)	
	,	

Profile Desc	cription: (Describe t	o the dept	th needed to docur	nent the i	ndicator o	or confirm	n the absence	of indicators.)	
Depth	Matrix		Redo	x Features	S	0			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rem	
0-1	10YR3/2	100					clay loam	org	ganic
1-16	10YR4/2	100					clay loam		
$\frac{1}{1}$ Type: C-C	oncentration, D=Depl	otion PM-	Poducod Matrix M	-Maskod	Sand Cra		² Location:	PL=Pore Lining, M=M	latrix
Hydric Soil			TREGUCED Matrix, IN	J=IVIdSKEU	Sanu Gra	1115.		ators for Problemat	tic Hydric Soils ³
Histosol			Dark Surface	(57)				2 cm Muck (A10) (ML	•
	pipedon (A2)		Polyvalue Be		(S8) (N			Coast Prairie Redox (
	istic (A3)		Thin Dark Su				, 140)	(MLRA 147, 148)	(410)
	en Sulfide (A4)		Loamy Gleye			47, 140)	E	Piedmont Floodplain	Soils (F19)
	d Layers (A5)		Depleted Ma		1 2)		'	(MLRA 136, 147)	5015 (115)
	uck (A10) (LRR N)		Redox Dark		6)		1	/ery Shallow Dark St	urface (TE12)
	d Below Dark Surface	Δ11)	Depleted Dark					Other (Explain in Ren	
	ark Surface (A12)		Redox Depre				_ (laiks)
	Aucky Mineral (S1) (L		Iron-Mangan						
	A 147, 148)		MLRA 13		55 (1 12) (1	_1111 111,			
	Gleyed Matrix (S4)		Umbric Surfa		ΜI RΔ 13	6 122)	³ Inc	licators of hydrophyti	ic venetation and
	Redox (S5)		Piedmont Flo					etland hydrology mus	
	Matrix (S6)		Red Parent N	•				less disturbed or pro	
	Layer (if observed):							·····	
	3								
51	ches):						Hydric Soi	Present? Yes	No 🖌
Remarks:							J		
Romarks.									

					0
Project/Site: EEP			•		Sampling Date: 07/11/2015
Applicant/Owner: EQT					_ Sampling Point: W-BB9-WP
Investigator(s): A Lands, S	Cowell, T Caddy, J	Akalaku Section	on, Township, Range: <u>N</u>	Α	
Landform (hillslope, terrace, et	c.): depression	Local rel	ief (concave, convex, no	ne): concave	Slope (%): 2-4
Subregion (LRR or MLRA):	RRN Lat	40.2332639	Long: <u>-07</u>	'9.9434972	Datum: NAD 83
Soil Map Unit Name: Strip m	ine, 8-25% slope			NWI classifica	ation: None
Are climatic / hydrologic condit	ions on the site typical f				
Are Vegetation, Soil	, or Hydrology	significantly distur	bed? Are "Norma	Il Circumstances" pr	resent? Yes 🖌 No
Are Vegetation, Soil				explain any answer	
SUMMARY OF FINDIN	GS – Attach site n	hap showing san	npling point locatio	ons, transects,	important features, etc.
Hydrophytic Vegetation Prese	ent? Yes 🔽	No	Is the Sampled Area		
Hydric Soil Present?	Yes	No	within a Wetland?	Yes 🔽	No
Wetland Hydrology Present?	Yes	No			
Remarks:					
Cowardin Code: PFO					
HGM: Depressional					
WT: NRPWW					
HYDROLOGY					
Wetland Hydrology Indicate	ors:			Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum	of one is required; chec	k all that apply)		Surface Soil C	Cracks (B6)
✓ Surface Water (A1)		True Aquatic Plants ((B14)	Sparsely Veg	etated Concave Surface (B8)
High Water Table (A2)	_	Hydrogen Sulfide Od	or (C1)	Drainage Patt	terns (B10)
Saturation (A3)	_	Oxidized Rhizospher	es on Living Roots (C3)	Moss Trim Lir	nes (B16)
🖌 Water Marks (B1)	_	Presence of Reduced	d Iron (C4)	Dry-Season V	Vater Table (C2)
Sediment Deposits (B2)	_	Recent Iron Reduction	on in Tilled Soils (C6)	Crayfish Burro	ows (C8)
Drift Deposits (B3)	_	Thin Muck Surface (0	27)	Saturation Vis	sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	_	Other (Explain in Rer	marks)	Stunted or Str	ressed Plants (D1)
Iron Deposits (B5)				Geomorphic F	Position (D2)
Inundation Visible on Ae	rial Imagery (B7)			Shallow Aquit	
Water-Stained Leaves (E	39)			Kicrotopogra	
🖌 Aquatic Fauna (B13)				FAC-Neutral	Test (D5)
Field Observations:					
Surface Water Present?		Depth (inches):			
Water Table Present?		Depth (inches):			,
Saturation Present? (includes capillary fringe)	Yes No _	Depth (inches):	Wetland H	Hydrology Present	t? Yes 🔽 No
Describe Recorded Data (stre	eam gauge, monitoring	well, aerial photos, pre	vious inspections), if ava	ailable:	
Remarks:					
Skippers, crawfish, frogs	sobserved				

Sampling Point: W-BB9-WP

20'	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)		Species		Number of Dominant Species
1. Acer rubrum	20	 ✓ 	FAC	That Are OBL, FACW, or FAC:3 (A)
2. Fagus grandifolia	15	 ✓ 	FACU	Total Neuroban of Deminerat
3				Total Number of Dominant Species Across All Strata:5*(B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
6				
7				Prevalence Index worksheet:
	35	= Total Co	ver	Total % Cover of:Multiply by:
50% of total cover:17.				OBL species <u>5</u> x 1 = <u>5</u>
Sapling/Shrub Stratum (Plot size: 5')			·	FACW species <u>10</u> x 2 = <u>20</u>
A Loniooro Sp	10			FAC species 35 x 3 = 105
1. Lonicera Sp.			ND	
2				
3				UPL species x 5 =
4				Column Totals: <u>85</u> (A) <u>270</u> (B)
				0.40
5				Prevalence Index = B/A =3.18
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9			_	
	10	= Total Co	vor	$_$ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: <u>5</u>				4 - Morphological Adaptations ¹ (Provide supporting
	20% 0	IUIAI COVE		data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)	4 5			Problematic Hydrophytic Vegetation ¹ (Explain)
1. Podolphyllum peltatum	15	<u> </u>	FACU	
2. Onoclea sensibilis	10	 ✓ 	FACW	1
3. Microstegium vimenium	10	~	FAC	¹ Indicators of hydric soil and wetland hydrology must
4. Gallium asprellum	5	-	OBL	be present, unless disturbed or problematic.
5. Anemone virginiana	5			Definitions of Four Vegetation Strata:
			FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				
				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Co		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>22.</u>	5 20% of	total cove	r: <u>9</u>	Weeduring All weedurings greater than 2.20 ft in
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Co	ver	Present? Yes 🖌 No
50% of total cover: <u>0</u>	-	total cove		
Remarks: (Include photo numbers here or on a separate s				1
ND - Not Determined.				
* Vegetation not ID'd to species level not include	ed in dom	ninance t	est.	

Profile Desc	ription: (Describe t	o the dept	h needed to docur	nent the i	ndicator	or confirr	n the absence	of indicators.)
Depth	Matrix		Redox Features				- .	
(inches) 0-8	Color (moist)	<u>%</u> - 95	Color (moist) 7.5YR 4/6	<u>%</u> 50%	Type ¹			Remarks
	10YR4/1		1.31K 4/0	50%	С	M	clay loam	organic
8-18	10YR5/6	100	,				loamy clay	
	·					·	·	
						·	·	
							·	
1						·		
Type: C=Co Hydric Soil	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		_=Pore Lining, M=Matrix. Itors for Problematic Hydric Soils ³ :
3			Daula Courfa a					3
Histosol	(A1) bipedon (A2)		Dark Surface					cm Muck (A10) (MLRA 147)
Black Hi	• • •		Polyvalue Be Thin Dark Su				, 148)	oast Prairie Redox (A16) (MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye			147, 140)	Pi	iedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Ma)			(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		6)		Ve	ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Da					ther (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre	essions (F	3)			
	lucky Mineral (S1) (L l	RR N,	Iron-Mangan		es (F12) (LRR N,		
	A 147, 148)		MLRA 13				2	
	leyed Matrix (S4)		Umbric Surfa	. , ,				cators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo	•				tland hydrology must be present,
	Matrix (S6) ayer (if observed):		Red Parent M	viateriai (F	21) (IVILR	A 127, 14	7) uni	ess disturbed or problematic.
	3							
51								
Depth (ind	cnes):						Hydric Soil	Present? Yes <u>V</u> No
Remarks:								

. : ... a a al Dia du

WETLAND DETERMINATION DAT	A FORM – Eastern Mountains and Piedmont Region
Project/Site: EEP	City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT	State: PA Sampling Point: W-BB9-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklak	Ku Section, Township, Range: NA
	_ Local relief (concave, convex, none): <u>none</u> Slope (%): <u>2-4</u>
Subregion (LRR or MLRA): LRRN Lat: 40.233	20910830 Long: -79.94352205020 Datum: NAD 83
Soil Map Unit Name: Strip mines 8-25% slopes	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time	
Are Vegetation, Soil, or Hydrology signific	cantly disturbed? Are "Normal Circumstances" present? Yes <u>V</u> No
Are Vegetation, Soil, or Hydrology natura	
SUMMARY OF FINDINGS – Attach site map show	wing sampling point locations, transects, important features, etc.
Hydric Soil Present? Yes No_ Wetland Hydrology Present? Yes No_ Remarks: Upland	Is the Sampled Area within a Wetland? Yes
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	
	atic Plants (B14) Sparsely Vegetated Concave Surface (B8) n Sulfide Odor (C1) Drainage Patterns (B10)
	Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
	e of Reduced Iron (C4) Dry-Season Water Table (C2)
	on Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Mucl	k Surface (C7) Saturation Visible on Aerial Imagery (C9)
	xplain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No Depth (ir	nchos).
	IIIIII0)

Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Yes _____ No _____ Depth (inches):_____

Yes ____ No ____ Depth (inches):_____

Remarks:

Water Table Present?

No

V

Wetland Hydrology Present? Yes

Sampling Point: W-BB9-UP

20	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)		Species?		Number of Dominant Species
1. Acer rubrum	20	<u> </u>	FAC	That Are OBL, FACW, or FAC: 2 (A)
_{2.} Fagus grandifolia	10		FACU	
3				Total Number of Dominant Species Across All Strata:3(B)
				Species Across All Strata:3 (B)
4			·	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>67</u> (A/B)
6				
7				Prevalence Index worksheet:
	30	= Total Cov		Total % Cover of: Multiply by:
50% of total cover: <u>15</u>				OBL species x 1 =
	20% 01	lotal cover		FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15')	4 5			
1. Lonicera sp.	15	 ✓ 	FAC	FAC species $35 \times 3 = 105$
2				FACU species <u>30</u> x 4 = <u>120</u>
				UPL species x 5 =
3			·	Column Totals: 65 (A) 225 (B)
4			·	
5				Prevalence Index = B/A =3.46
6				
7				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
8			·	✓ 2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^1$
	15	= Total Cov	rer	
50% of total cover:	20% of	total cover	3	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
	15	~		Problematic Hydrophytic Vegetation ¹ (Explain)
			FACU	
2. Anemone virginiana	5	-	F <u>ACU</u>	¹ Indiastore of hydric coil and watland hydrology must
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4				
				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6			·	more in diameter at breast height (DBH), regardless of
7				height.
8				
				Sapling/Shrub – Woody plants, excluding vines, less
9			·	than 3 in. DBH and greater than or equal to 3.28 ft (1
10			·	m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	20	= Total Cov	rer	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>10</u>		total cover		
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in
				height.
1			·	
2				
3				
4				
				Hydrophytic
o			·	Vegetation Present? Yes <u>Ves</u> No
		= Total Cov		
50% of total cover: <u>0</u>	20% of	total cover	0	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Desc	ription: (Describe t	o the depth	n needed to docun	nent the ir	ndicator o	or confirm	the absence of indicators.)	
Depth	Matrix		Redo	x Features				
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture Remarks	
0-6	10YR4/2	100					clay loam	
6-18	10YR5/6	100					clay loam	
							·	
							·	
$\frac{1}{1}$ Type: C=C	oncentration, D=Depl	etion RM=F	Reduced Matrix M	S=Masked	Sand Gra	ains	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil				5-11103100			Indicators for Problematic Hyd	ric Soils ³ :
Histosol			Dark Surface	e (S7)			2 cm Muck (A10) (MLRA 1 4	
	bipedon (A2)		Polyvalue Be		e (S8) (N	ILRA 147.		-)
Black Hi	· · · ·		Thin Dark Su				(MLRA 147, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix (F	-2)		Piedmont Floodplain Soils (F19)
Stratified	l Layers (A5)		Depleted Ma	trix (F3)			(MLRA 136, 147)	
2 cm Mu	ick (A10) (LRR N)		Redox Dark	Surface (F	6)		Very Shallow Dark Surface	(TF12)
	d Below Dark Surface	e (A11)	Depleted Dar				Other (Explain in Remarks)	
	ark Surface (A12)		Redox Depre					
	lucky Mineral (S1) (L	.RR N,	Iron-Mangan		es (F12) (I	LRR N,		
	A 147, 148)		MLRA 13				3	
	Sleyed Matrix (S4)		Umbric Surfa				³ Indicators of hydrophytic vege	
	edox (S5)		Piedmont Flo					
	Matrix (S6) _ayer (if observed):		Red Parent N	Viateriai (F		A 127, 14	') unless disturbed or problema	tic.
	-							
Type:								
-	ches):						Hydric Soil Present? Yes	No 🔽
Remarks:								

Project/Site: EEP	City/County: Allegheny County	Sampling Date: 07/11/2015
Applicant/Owner: EQT	State:	PA Sampling Point: W-BB8-WP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku	_ Section, Township, Range: <u>NA</u>	
Landform (hillslope, terrace, etc.): slope	ocal relief (concave, convex, none): <u>NO</u>	ne Slope (%): >10
Subregion (LRR or MLRA): LRRN Lat: 40.232919	7 Long: -079.9423	3036 Datum: NAD 83
Soil Map Unit Name: Strip mines, 25-75% slope	NV	VI classification: None
Are climatic / hydrologic conditions on the site typical for this time of y	rear? Yes No (If no, e	xplain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Normal Circum	stances" present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed, explain a	any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, tra	ansects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u>✓</u> No Yes <u>✓</u> No Yes <u>✓</u> No	Is the Sampled Area within a Wetland?	Yes_✓ No
Remarks: Cowardin Code: PFO HGM: Slope WT: NRPWW			

HYDROLOGY

Wetland Hydrology Indicato	rs:	Secondary Indicators (minimum of two required)	
Primary Indicators (minimum	of one is required;	Surface Soil Cracks (B6)	
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aeri ✓ Water-Stained Leaves (B Aquatic Fauna (B13) 	0,,,,,	 True Aquatic Plants (B14) ✓ Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C Thin Muck Surface (C7) Other (Explain in Remarks) 	Dry-Season Water Table (C2)
Field Observations:	Mar Na		
Surface Water Present?		Depth (inches):	
Water Table Present?	Yes No _		
Saturation Present? (includes capillary fringe)	Yes No _	Depth (inches): Wet	land Hydrology Present? Yes _ ✔ No
	am gauge, monito	toring well, aerial photos, previous inspections)	, if available:
Remarks:			
slight H2S odor			

Sampling Point: W-BB8-WP

001	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species
1. Acer rubrum	10	✓	FAC	That Are OBL, FACW, or FAC:3 (A)
2				Total New Jone of Device of
3				Total Number of Dominant Species Across All Strata: 3* (B)
4				
			·	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				
		= Total Cov	er	
50% of total cover: 5	20% of	total cover	2	
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>40</u> x 2 = <u>80</u>
1. Lonicera sp.	10	\checkmark	ND	FAC species40 x 3 =120
2				FACU species x 4 =
3				UPL species x 5 =
				Column Totals: 85 (A) 205 (B)
4				
5			·	Prevalence Index = $B/A = 2.41$
6		·		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				\checkmark 2 - Dominance Test is >50%
9				
		= Total Cov		\checkmark 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 5		total cover	-	4 - Morphological Adaptations ¹ (Provide supporting
	20 /8 01			data in Remarks or on a separate sheet)
	20	/		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Pilea pumila	30	v	FACW	
2. microstegium vinemeum	10	·	FAC	¹ Indicators of hydric soil and wetland hydrology must
3. Onoclea sensibilis	10		FACW	be present, unless disturbed or problematic.
4. Gallium asprellum	5		OBL	Definitions of Four Vegetation Strata:
5				Deminions of Four vegetation Strata.
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7			·	height.
8			·	Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	55	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 27.5				
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in
1. Rubus pensylvanicum	10	1	FAC	height.
	-	•		
2			·	
3				
4				Hydrophytic
5				Vegetation
	4.0	= Total Cov	rer	Present? Yes 🖌 No
50% of total cover: 5		total cover		
Remarks: (Include photo numbers here or on a separate s				
	1001.)			

Profile Desc	cription: (Describe t	o the dept	h needed to docu	ment the i	ndicator	or confirm	n the absence	of indicators.)	
Depth	Matrix		Redo	x Features	3				
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-8	10YR4/2	100					clay loam	organic	
8-16	10YR5/6	100					CL		
						. <u> </u>			
¹ Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL	.=Pore Lining, M=Matrix.	
Hydric Soil	Indicators:						Indica	tors for Problematic Hyd	ric Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			20	cm Muck (A10) (MLRA 14 7	7)
Histic Ep	oipedon (A2)		Polyvalue Be	elow Surfac	ce (S8) (M	LRA 147	, 148) Co	oast Prairie Redox (A16)	
	stic (A3)		Thin Dark Su			47, 148)		(MLRA 147, 148)	
	en Sulfide (A4)		Loamy Gleye		F2)			edmont Floodplain Soils (F	19)
	d Layers (A5)		Depleted Ma					(MLRA 136, 147)	
	uck (A10) (LRR N)	()]]	Redox Dark		,		 Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 		
	d Below Dark Surface ark Surface (A12)	e (A11)	Depleted Da				Ot	iner (Explain in Remarks)	
	lucky Mineral (S1) (L		Redox Depre			RRN			
	A 147, 148)	···· ··,	MLRA 13		55 (I IZ) (I	,			
	Gleyed Matrix (S4)		Umbric Surfa	,	MLRA 13	6, 122)	³ Indi	cators of hydrophytic veget	tation and
-	Redox (S5)		Piedmont Flo					land hydrology must be pre	
-	Matrix (S6)		Red Parent I					ess disturbed or problemat	
Restrictive I	Layer (if observed):								
Туре:									
Depth (in	ches):						Hydric Soil	Present? Yes 🖌	No
Remarks:							1		
Strip mines	s, 25-75% slope								
	, r-								

Project/Site: EEP	City/County: A	llegheny County	_ Sampling Date: 07/11/2015			
Applicant/Owner: EQT		State: PA	Sampling Point: W-BB8-UP			
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Al	klaku Section, Towns	hip, Range: <u>NA</u>				
Landform (hillslope, terrace, etc.): plateau	Local relief (conca	ve, convex, none): <u>CONCAVe</u>	Slope (%): 2-4			
Subregion (LRR or MLRA): LRRN Lat: 40.2						
Soil Map Unit Name: Strip mines 25-45% slopes		NWI classifi				
Are climatic / hydrologic conditions on the site typical for this	/					
Are Vegetation, Soil, or Hydrology sig	Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 🖌 No					
Are Vegetation, Soil, or Hydrology na	turally problematic?	(If needed, explain any answe	ers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No. Hydric Soil Present? Yes No. Wetland Hydrology Present? Yes No. Demode Yes No.	✓ Is the Sa	ampled Area Wetland? Yes	No			
Remarks:						

Upland

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living F	Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled So	ils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No 🖌 Depth (inches):	
Saturation Present? Yes No <u>✓</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No✓
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect	ions), if available:
Remarks:	

Sampling Point: W-BB8-UP

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: <u>30</u> ')		Species?		Number of Dominant Species	
1. Acer rubrum	20	\checkmark	FAC	That Are OBL, FACW, or FAC:3 (A)	
2. Fagus grandifolia	15				
				Total Number of Dominant	
3		·	·	Species Across All Strata: (B)	
4				Demonstrat Deminant Creation	
5				Percent of Dominant Species That Are OBL, FACW, or FAC:100% (A/B	0
					'
6		·		Prevalence Index worksheet:	
7			·	Total % Cover of: Multiply by:	
	35	= Total Cov	rer		
50% of total cover: 17.8	5 20% of	total cover	7	OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =	
	15	1	FAC	FAC species 45 x 3 =135	
			1710	FACU species 15 x 4 = 60	
2			·	· · · · · · · · · · · · · · · · · · ·	
3				UPL species x 5 =	
4				Column Totals: <u>60</u> (A) <u>195</u> (B)	
5				0.05	
			·	Prevalence Index = $B/A = 3.25$	
6		·	·	Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
8					
9				\checkmark 2 - Dominance Test is >50%	
	15	Tullow		3 - Prevalence Index is ≤3.0 ¹	
7.5		= Total Cov		4 - Morphological Adaptations ¹ (Provide supportin	g
50% of total cover:50%	20% of	total cover	<u> </u>	data in Remarks or on a separate sheet)	-
Herb Stratum (Plot size: 5')					
1. Athyrium felix-femina	10	\checkmark	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)	
2					
2			·	¹ Indicators of hydric soil and wetland hydrology must	
3		·		be present, unless disturbed or problematic.	
4		·		Definitions of Four Vegetation Strata:	-
5					
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) o	
				more in diameter at breast height (DBH), regardless of	İ
7				height.	
8		·		Sapling/Shrub – Woody plants, excluding vines, less	
9				than 3 in. DBH and greater than or equal to 3.28 ft (1	
10				m) tall.	
		·			
11	10		·	Herb – All herbaceous (non-woody) plants, regardless	;
		= Total Cov		of size, and woody plants less than 3.28 ft tall.	
50% of total cover: <u>5</u>	20% of	total cover	2	Woody vine – All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 15')				height.	
1					
2					
			·		
3		·			
4				Hydrophytic	
5				Vegetation	
	•	= Total Cov	er	Present? Yes 🗸 No	
50% of total cover: 0		total cover	-		
Remarks: (Include photo numbers here or on a separate s	sheet.)				

Profile Desc	ription: (Describe t	o the depth	n needed to docun	nent the in	dicator o	or confirm	n the absence of	indicators.)		
Depth	Matrix		Redox Features							
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture		Remarks	
0-4	10YR3/3	100		·			clay loam		organic	
4-18	10YR3/3	100					clay loam			
				·						
							·			
				. <u> </u>			·			
				·						
				·						
	oncentration, D=Deple	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	lins.	² Location: PL=F			· • · · · 3
Hydric Soil								rs for Proble		
Histosol	· · /		Dark Surface	· · ·	- (CO) /M			Muck (A10)	•)
· · ·	pipedon (A2)		Polyvalue Be		. , .		•	st Prairie Rec ILRA 147, 1 4	. ,	
Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)						Piedmont Floodplain Soils (F19)				
Stratified Layers (A5) Depleted Matrix (F3)						(MLRA 136, 147)				
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6)						Very Shallow Dark Surface (TF12)				
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks)							,			
Thick Da	ark Surface (A12)		Redox Depre	ssions (F8)					
Sandy M	lucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Masse	s (F12) (L	.RR N,				
	A 147, 148)		MLRA 13	,			2			
	Bleyed Matrix (S4)		Umbric Surfa	. , .				tors of hydrop		
	Redox (S5)		Piedmont Flo	•	, ,	•		nd hydrology		
	Matrix (S6) Layer (if observed):		Red Parent N	laterial (F2	(MLR/	4 127, 14	() unless	s disturbed or	r problemati	С.
Type:	-1)								_	
Depth (in	cnes):						Hydric Soil Pro	esent? re	s	No <u>✓</u>
Remarks:										

Project/Site: EEP	City/County: Allegheny Co	unty	Sampling Date: 07/11/2015			
		State: PA	_ Sampling Point: W-BB7-WP			
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku						
Landform (hillslope, terrace, etc.): toeslope	1 0					
Subregion (LRR or MLRA): LRRN Lat: 40.230636	1 Long -07	9.9359447	Datum: NAD 83			
	Long					
Are climatic / hydrologic conditions on the site typical for this time of ye						
Are Vegetation, Soil, or Hydrology significantly						
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, e	explain any answers	s in Remarks.)			
SUMMARY OF FINDINGS – Attach site map showing	y sampling point location	ons, transects,	important features, etc.			
Hydrophytic Vegetation Present? Yes 🖌 No						
Hydric Soil Present? Yes V No		Voc 🗸	No			
Wetland Hydrology Present? Yes Ves	. Within a wetland?	165				
Remarks:	I					
Cowardin Code: PEM						
HGM: slope						
WT: NRPWW						
location of former strip mine, remediated. Surface riddle	d with "potholes" of vary	ing sizes, all fille	ed with water.			
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indicate	ors (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil C				
Surface Water (A1)		etated Concave Surface (B8)				
→ High Water Table (A2) → Hydrogen Sulfide Odor (C1) → Drainage Patterns (B10)						
	Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)					
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)						
Sediment Deposits (B2) Recent non Reduction in Thied Solis (C6) Crayitsh Burrows (C6) Crayitsh Burrows (C6) Crayitsh Burrows (C6) Saturation Visible on Aerial Imagery (C9)						
Iron Deposits (B5)		Geomorphic F	Position (D2)			
Inundation Visible on Aerial Imagery (B7)		Shallow Aquita				
Water-Stained Leaves (B9)		Microtopograp				
Aquatic Fauna (B13)		FAC-Neutral T	Test (D5)			
Field Observations:	. <u> </u>					
Surface Water Present? Yes <u>V</u> No Depth (inches	;): <u> </u>					
Water Table Present? Yes No Depth (inches Saturation Present? Yes No Depth (inches		Hydrology Present				
Saturation Present? Yes <u>V</u> No <u>Depth</u> (inches (includes capillary fringe)		Hydrology Present	? Yes Vo No			
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if ava	ilable:				
Remarks:						

Sampling Point: W-BB7-WP

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:5(A)
2				(*)
				Total Number of Dominant
3				Species Across All Strata: <u>5</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100% (A/B)
6				(***)
7				Prevalence Index worksheet:
·	0	Tatal Cau		Total % Cover of:Multiply by:
		= Total Cove		OBL species16 x 1 =16
50% of total cover: 0 Sapling/Shrub Stratum (Plot size: 15')	20% 0	total cover:	0	FACW species 25 x 2 = 50
Sapling/Shrub Stratum (Plot size: 15)				
1				
2				FACU species <u>6</u> x 4 = <u>24</u>
3				UPL species <u>2</u> x 5 = <u>10</u>
				Column Totals: <u>85</u> (A) <u>208</u> (B)
4				
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				
9.	-			✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is $\leq 3.0^1$
		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:0	20% of	total cover:	0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 10')				
1. Agrostis stolonifera	25	<u> </u>	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Carex stipata	10	v	<u>OBL</u>	
3. Juncus tenuis	10		FAC	¹ Indicators of hydric soil and wetland hydrology must
4. Chamerion angustifolium	5			be present, unless disturbed or problematic.
	5		F <u>AC</u>	Definitions of Four Vegetation Strata:
5. Alopecurus aequalis			<u>OBL</u>	Tree Mondy plants evoluting vince 2 in (7.6 cm) or
6. Solanum carolinense	2		F <u>ACU</u>	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7. Calystegia pubescens	2		F <u>ACU</u>	height.
8. Hypericum perforatum	1		F <u>AC</u>	, i i i i i i i i i i i i i i i i i i i
9 Gallium asprellum	1		OBL	Sapling/Shrub – Woody plants, excluding vines, less
10. Convolvulus arvensis	2			than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
			UPL	ni) taii.
11. Asclepias syriaca	2		F <u>ACU</u>	Herb – All herbaceous (non-woody) plants, regardless
	65	= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>32.5</u>	5 20% of	total cover:	13	We advise All we during a greater than 2.20 ft in
Woody Vine Stratum (Plot size: 10')				Woody vine – All woody vines greater than 3.28 ft in height.
1. Toxicodendron radicans	10	~	FAC	noight.
2 Rubus pensylvanicus	10	<u> </u>		
	10		FAC	
3				
4				Hydrophytic
5				Vegetation
	20	= Total Cove	er	Present? Yes 🖌 No
50% of total cover: <u>10</u>		total cover:		
Remarks: (Include photo numbers here or on a separate s	neet.)			

Profile Desc	ription: (Describe t	o the depth	n needed to docur	nent the ir	ndicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks
0-6	10YR4/3	100					clay loam	organic
6-18	10YR5/4	95	2.5YR 4/6	5			loamy clay	red mottles
			,					
¹ Type: C=Co	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: P	L=Pore Lining, M=Matrix.
Hydric Soil	ndicators:							ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			2	cm Muck (A10) (MLRA 147)
· ·	ipedon (A2)		Polyvalue Be				, 148)	Coast Prairie Redox (A16)
Black Hi	· · /		Thin Dark Su			47, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		-2)		P	Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Ma					(MLRA 136, 147)
	ck (A10) (LRR N)	(0.4.4)	Redox Dark					Yery Shallow Dark Surface (TF12)
	Below Dark Surface	e (A11)	Depleted Dat					Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	lucky Mineral (S1) (L \ 147, 148)	RR N,	Iron-Mangan MLRA 13		es (F I Z) (I	LRR N,		
	leyed Matrix (S4)		Umbric Surfa			6 122)	³ Ind	licators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo					etland hydrology must be present,
	Matrix (S6)		Red Parent N					less disturbed or problematic.
	_ayer (if observed):			natonai (i i				
Type:	J							
Depth (ind	`hes):		_				Hydric Soil	Present? Yes 🖌 No
Remarks:							I I Julio Coll	
	ailt loam 2 00/ al	~~~						
Rainsboro	silt loam 3-8% sl	ope						

Project/Site: EEP	City/County	Allegheny County	Sampling	Date: 07/11/2015
Applicant/Owner: EQT		State		ing Point: W-BB7-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Ak	laku Section, To	ownship, Range: NA		
Landform (hillslope, terrace, etc.): plateau	Local relief (co	oncave, convex, none): <u>CO</u>	ncave	Slope (%): 3-5
Subregion (LRR or MLRA): LRRN Lat: 40.23	3057348320	Long: -79.9357	7201000	Datum: NAD 83
Soil Map Unit Name: Rainsboro silt Ioam, 3-8%		N\	VI classification: No	ne
Are climatic / hydrologic conditions on the site typical for this ti	ime of year? Yes	✓ No (If no, e	xplain in Remarks.)	
Are Vegetation, Soil, or Hydrology sign	nificantly disturbed?	Are "Normal Circum	stances" present?	Yes 🖌 No
Are Vegetation, Soil, or Hydrology nat	urally problematic?	(If needed, explain a	any answers in Rema	arks.)
SUMMARY OF FINDINGS – Attach site map sh	nowing samplir	g point locations, tr	ansects, import	ant features, etc.
Hydrophytic Vegetation Present? Yes No_		a Samulad Area		
Hydric Soil Present? Yes No_		ne Sampled Area	res No	\checkmark
Wetland Hydrology Present? Yes No_	<u>√</u>			

HYDROLOGY					
Wetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (<u>n of one is require</u> erial Imagery (B7)		k all that apply) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Thin Muck Surface (C7) Other (Explain in Remarks)		Secondary Indicators (minimum of two required)
Aquatic Fauna (B13) Field Observations:					FAC-Neutral Test (D5)
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes N Yes N Yes N	<u>√</u>	_ Depth (inches): Depth (inches): Depth (inches):	Wetland	Hydrology Present? Yes No✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Remarks: Upland

Sampling Point: W-BB7-UP

	Absolute	- Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4	-			Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				
			·	Prevalence Index worksheet:
7	0		·	Total % Cover of: Multiply by:
		= Total Cov		OBL species x 1 =
50% of total cover: 0	20% of	total cover	:	
Sapling/Shrub Stratum (Plot size: 15')				FACW species 35 x 2 = 70
1				FAC species <u>35</u> x 3 = <u>105</u>
2				FACU species x 4 =
				UPL species x 5 =
3			·	Column Totals: 70 (A) 175 (B)
4				$\begin{array}{c} \text{Column rotals.} \\ \hline \end{array} \\ \begin{array}{c} 1 \\ 3 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 1 \\ 3 \\ \end{array} \\ \begin{array}{c} 1 \\ 3 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 1 \\ 3 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 1 \\ 3 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 1 \\ 3 \\ \end{array}
5				Prevalence Index = $B/A = 2.5$
6				
7				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
8			·	✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is $\leq 3.0^1$
	0	= Total Cov	/er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of	total cover	: 0	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Agrostis stolonifera	35	1	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Chamerion angustifolium	15			
			F <u>AC</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Convolvulus arvensis	5		FAC	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Demitions of Four Vegetation Strata.
			·	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6			·	more in diameter at breast height (DBH), regardless of
7			·	height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
			·	
11	EE		·	Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>27.5</u>	<u>)</u> 20% of	total cover	. 11	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1. Rubus pensylvanicus	10	\checkmark	FAC	
2 Toxicodendron radicans	5		FAC	
			1/10	
3			- <u> </u>	
4			·	Hydrophytic
5			<u> </u>	Vegetation
	15	= Total Cov	/er	Present? Yes 🖌 No
50% of total cover: 7.5		total cover	~	
Remarks: (Include photo numbers here or on a separate s			·	
Remarks. (include proto numbers here of on a separate s	neet.)			

Profile Desc	ription: (Describe to	the depth r	needed to docum	nent the ir	ndicator o	or confirm	the absence	e of indicator	s.)	
Depth	Matrix			k Features						
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture		Remarks	
0-5	10YR4/3						clay loam		organic	
5-20	10YR5/3						loamy cla	re	ed/gray mot	tles
								·		
								·		
·						<u> </u>		. <u> </u>		
								·		
						<u> </u>		. <u> </u>		
¹ Type: C=Co	oncentration, D=Deple	tion, RM=Re	duced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: F	PL=Pore Linin	g, M=Matrix.	
Hydric Soil I	ndicators:						Indic	ators for Pro	blematic Hyd	ric Soils ³ :
Histosol	(A1)	-	Dark Surface	(S7)			2	2 cm Muck (A	10) (MLRA 14	7)
	pipedon (A2)	-	Polyvalue Be		· · ·		148) (Coast Prairie I	Redox (A16)	
Black Hi		=	Thin Dark Su			47, 148)		(MLRA 147		
	n Sulfide (A4)	-	Loamy Gleye		-2)		F		odplain Soils (F	-19)
	Layers (A5)	-	Depleted Mat	, ,	2)		,	(MLRA 136		TF (0)
	ick (A10) (LRR N)	(Redox Dark S					•	Dark Surface (IF12)
	d Below Dark Surface ark Surface (A12)	(ATT) _	Depleted Dar Redox Depre				_ (Other (Explain	in Remarks)	
	lucky Mineral (S1) (LF	R N.	Iron-Mangane		,	RR N				
	147, 148)		MLRA 130			,				
	ileyed Matrix (S4)	_	Umbric Surfa		MLRA 13	6, 122)	³ Inc	dicators of hyd	drophytic vege	tation and
Sandy R	edox (S5)	_	Piedmont Flo	odplain Sc	oils (F19) ((MLRA 14	8) we	etland hydrold	ogy must be pr	esent,
Stripped	Matrix (S6)	-	Red Parent M	laterial (F2	21) (MLRA	A 127, 147	') ur	nless disturbe	d or problemat	ic.
Restrictive I	_ayer (if observed):									
Туре:			_							
Depth (ind	ches):		_				Hydric Soi	I Present?	Yes	No 🖌
Remarks:										

Project/Site: EEP	_ City/County: Allegheny Cou	unty	Sampling Date: 07/11/2015
Applicant/Owner: EQT			Sampling Point: W-BB6-WP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku	Section, Township, Range: NA		
Landform (hillslope, terrace, etc.): slope			Slope (%): <8
Subregion (LRR or MLRA): LRRN Lat: 40.22957			
Soil Map Unit Name: Culleoka-Weikert Shaly silt loams	Long.		
Are climatic / hydrologic conditions on the site typical for this time of	•	•	
Are Vegetation, Soil, or Hydrology significar		Circumstances" pr	esent? Yes No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, e	xplain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point locatio	ns, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes No			
Hydric Soil Present? Yes <u>V</u> No	is the sumpled Area	Yes 🖌	No
Wetland Hydrology Present? Yes No		res	_ NO
Remarks:			
Cowardin Code: PEM			
HGM: slope			
WT: RPWWN			
location of former strip mine, remediated. Surface rido	lled with "potholes" of varyii	ng sizes, all fille	ed with water.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicate	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all that appl	y)	Surface Soil C	Cracks (B6)
Surface Water (A1)	Plants (B14)	Sparsely Vege	etated Concave Surface (B8)
High Water Table (A2)		Drainage Patt	erns (B10)
Saturation (A3) Oxidized Rh	izospheres on Living Roots (C3)	Moss Trim Lin	es (B16)
	Reduced Iron (C4)		/ater Table (C2)
	Reduction in Tilled Soils (C6)	Crayfish Burro	
Drift Deposits (B3) Thin Muck S			ible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Expla	in in Remarks)		essed Plants (D1)
Iron Deposits (B5)		Geomorphic F	
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)		Shallow Aquit	ard (D3) bhic Relief (D4)
Aquatic Fauna (B13)		 FAC-Neutral 1 	
Field Observations:			03(03)
	os): 7		
Surface Water Present?Yes✓NoDepth (inchWater Table Present?YesNo✓Depth (inch	es):		
Saturation Present? Yes <u>No</u> Depth (inch	(cs): 2 Wetland H	ydrology Present	? Yes 🖌 No
(includes capillary fringe)			: Tes No
Describe Recorded Data (stream gauge, monitoring well, aerial ph	otos, previous inspections), if avai	lable:	
Remarks:			
very slight H2S odor			

Sampling Point: W-BB6-WP

30'	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:2 (B)
4				
				Percent of Dominant Species That Are OBL_EACW_or_EAC: 100 (A/B)
5			·	That Are OBL, FACW, or FAC: 100 (A/B)
6			·	Prevalence Index worksheet:
7			·	Total % Cover of: Multiply by:
		= Total Cov		
50% of total cover: 0	20% of	total cover	:0	
Sapling/Shrub Stratum (Plot size: 15')				FACW species 55 x 2 = 110
1				FAC species <u>20</u> x 3 = <u>60</u>
2				FACU species <u>5</u> x 4 = <u>20</u>
				UPL species5 x 5 =25
3		-	·	Column Totals: 90 (A) 220 (B)
4				
5			·	Prevalence Index = B/A =2.4
6				Hydrophytic Vegetation Indicators:
7			·	1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				\checkmark 3 - Prevalence Index is $\leq 3.0^{1}$
	0	= Total Cov	/er	
50% of total cover: <u>0</u>	20% of	total cover	: 0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Agrostis stolonifera	55	~	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. juncus tenuis	10		FAC	
3. Chamerion angustifolium	5			¹ Indicators of hydric soil and wetland hydrology must
	5		F <u>AC</u>	be present, unless disturbed or problematic.
4. Alopecurus aequalis			<u>OBL</u>	Definitions of Four Vegetation Strata:
5. sorghum halepense	5		FACU	Tree Meedu plante evoluting vince 2 in (7.0 em) er
6. convolvulus arvensis	5		<u>UPL</u>	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.				m) tall.
11.				
	85	= Total Cov	·	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: _ 42.		total cover		
	2078 01			Woody vine – All woody vines greater than 3.28 ft in
<u>Woody Vine Stratum</u> (Plot size: <u>5</u>) 1. Toxicodendron radicans	5	1	540	height.
		-	FAC	
2				
3			·	
4				Hydrophytic
5				Vegetation
	5	= Total Cov	/er	Present? Yes Ves No
50% of total cover: 2.5	20% of	total cover	:1	
Remarks: (Include photo numbers here or on a separate s	heet.)			1
mostly reclaimed vegetation				
-				

Profile Desc	ription: (Describe to	o the dept	h needed to docum	nent the	indicator	or confirm	n the absence	e of indicators.)
Depth	Matrix		Redox	K Feature	S			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-5	10YR4/3	100					LC	organic
5-20	10YR4/2	95	2.5YR 4/6	5	С	Μ	LC	red/gray mottles
					·			
					·			
					·			
¹ Type: C=C	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	=Maske	d Sand G	ains.	² Location: F	PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indic	ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			2	2 cm Muck (A10) (MLRA 147)
· — ·	oipedon (A2)		Polyvalue Bel				, 148) (Coast Prairie Redox (A16)
Black Hi			Thin Dark Su			147, 148)		(MLRA 147, 148)
🖌 Hydroge	n Sulfide (A4)		Loamy Gleye		(F2)		F	Piedmont Floodplain Soils (F19)
	l Layers (A5)		Depleted Mat	rix (F3)				(MLRA 136, 147)
2 cm Mu	ick (A10) (LRR N)		Redox Dark S	Surface (I	-6)		\	/ery Shallow Dark Surface (TF12)
Depleted	d Below Dark Surface	(A11)	Depleted Dar	k Surface	e (F7)		_ (Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre	ssions (F	8)			
Sandy M	lucky Mineral (S1) (L l	RR N,	Iron-Mangane	ese Mass	es (F12)	(LRR N,		
MLRA	A 147, 148)		MLRA 136	5)				
	Gleyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
Sandy F	ledox (S5)		Piedmont Flo	odplain S	Soils (F19) (MLRA 14	48) we	etland hydrology must be present,
	Matrix (S6)		Red Parent M	laterial (F	21) (MLF	RA 127, 147	7) ur	less disturbed or problematic.
Restrictive I	_ayer (if observed):							
Туре:								
Depth (in	ches):						Hydric Soi	l Present? Yes 🖌 No
Remarks:								
Culleoka-V	/eikert Shaly silt I	oams						
	, ,							

Project/Site: EEP	City/County: Allegheny Co	ounty Sam	npling Date: 07/11/2015
Applicant/Owner: EQT		State: PA S	ampling Point: W-BB6-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku	Section, Township, Range: <u>N</u>		
Landform (hillslope, terrace, etc.): plateau Lo	ocal relief (concave, convex, n	one): <u>concave</u>	Slope (%): 2-5
Subregion (LRR or MLRA): LRRN Lat: 40.229634	24210 Long: -7	9.93481801570	Datum: NAD 83
Soil Map Unit Name: Culleoka-weikert shaly silt loams, 1-15	;%	NWI classification	None
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes 🖌 No	(If no, explain in Remar	ˈks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Norm	al Circumstances" prese	nt? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally pr	roblematic? (If needed,	explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locati	ons, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Yes No_	- In the Compled Area		

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No_ ✔ No_ ✔ No_ ✔	Is the Sampled Area within a Wetland?	Yes No	✓
Remarks: Upland					
HYDROLOGY					

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Surface Water Table (A2) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	 Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect Remarks:	Wetland Hydrology Present? Yes No

Sampling Point: W-BB6-UP

001	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 1 (A)
2				Total Number of Deminent
3				Total Number of Dominant Species Across All Strata: 2 (B)
4				
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6		·	·	Prevalence Index worksheet:
7			·	Total % Cover of: Multiply by:
		= Total Cov		
50% of total cover: 0	20% of	total cover	0	
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1				FAC species x 3 =60
2				FACU species x 4 =100
3				UPL species x 5 =
				Column Totals: <u>45</u> (A) <u>160</u> (B)
4				
5				Prevalence Index = B/A =3.6
6			·	Hydrophytic Vegetation Indicators:
7		·	·	1 - Rapid Test for Hydrophytic Vegetation
8			·	2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
		= Total Cov	-	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of	total cover	0	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Asclepias lanceolata	10	\checkmark	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Daucus carota	10		FACU	
3. Convolvulus arvensis	5		FACU	¹ Indicators of hydric soil and wetland hydrology must
4 toxicodendron radicans	-			be present, unless disturbed or problematic.
		·		Definitions of Four Vegetation Strata:
5			·	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.				m) tall.
11			·	
	30		·	Herb – All herbaceous (non-woody) plants, regardless
50% - (1-1-1		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>15</u>	20% 01	total cover		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')	45			height.
1. Rubus pensylvanicus	15	✓	FAC	
2				
3				
4				the beaute die
5.				Hydrophytic Vegetation
	4.5	= Total Cov		Present? Yes No 🗸
50% of total cover:		total cover:		
Remarks: (Include photo numbers here or on a separate s	neet.)			

Profile Desc	ription: (Describe t	to the dept	h needed to docum	nent the i	ndicator	or confirm	the absence of	indicators.)	
Depth	Matrix			x Feature	4				
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture	Rema	arks
0-7	10YR4/3	100					CL		
7-12	10YR4/4	100					CL		
12-16	2.5Y5/2	100					CL		
									<u>.</u>
						·			<u>.</u>
									<u> </u>
¹ Type: C=Co	oncentration, D=Depl	etion. RM=	Reduced Matrix. MS	S=Masked	Sand Gra	ains.	² Location: PL=F	Pore Lining, M=M	atrix.
Hydric Soil I		,	· · · · · · · · · · · · · · · · · · ·						ic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			2 cm	n Muck (A10) (ML	RA 147)
Histic Ep	vipedon (A2)		Polyvalue Be	low Surfa	ce (S8) (N	ILRA 147,	148) Coas	st Prairie Redox (A16)
Black His	stic (A3)		Thin Dark Su			47, 148)	•	/ILRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		F2)			Imont Floodplain	Soils (F19)
	I Layers (A5)		Depleted Mar	. ,			•	/ILRA 136, 147)	
	ck (A10) (LRR N)		Redox Dark \$,			Shallow Dark Su	· · ·
-	Below Dark Surface	e (A11)	Depleted Dar				Othe	er (Explain in Rem	narks)
	rk Surface (A12)		Redox Depre		,				
	lucky Mineral (S1) (L \ 147, 148)	.RR N,	Iron-Mangan MLRA 13		es (F12) (I	LRR N,			
	leyed Matrix (S4)		Umbric Surfa		MI DA 13	6 122)	³ Indica	tors of hydrophyti	c vegetation and
-	edox (S5)		Piedmont Flo					nd hydrology mus	-
	Matrix (S6)		Red Parent N					s disturbed or pro	
	ayer (if observed):				/ (,	,		
Type:									
Depth (inc	ches):						Hydric Soil Pr	esent? Yes	No
Remarks:									

Project/Site: EEP	City/County: Washington	County	Sampling Date: 07/13/2015
Applicant/Owner: EQT			Sampling Point: W-BB12-WP
Investigator(s): A Lands, S Cowell, T Caddy,	Section, Township, Range: N		
Landform (hillslope, terrace, etc.): hillslope			Slope (%): <10
Subregion (LRR or MLRA): LRRN Lat: 40.226			
Soil Map Unit Name: Dormont silt loam, 3-8% slopes	20.g		
Are climatic / hydrologic conditions on the site typical for this time			
	-		
Are Vegetation, Soil, or Hydrology signific			
Are Vegetation, Soil, or Hydrology natura		explain any answe	
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point locati	ons, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No			
Hydric Soil Present? Yes Ves No		Yes_	No
Wetland Hydrology Present? Yes Vo		165	
Remarks:	I		
PEM			
slope			
isolate			
surface disturbed by heavy equipment			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a		Surface Soil	
	atic Plants (B14)		getated Concave Surface (B8)
	Sulfide Odor (C1)	Drainage Pa	
	Rhizospheres on Living Roots (C3)		
	of Reduced Iron (C4)		Water Table (C2)
	on Reduction in Tilled Soils (C6)	Crayfish Bur	
	k Surface (C7) plain in Remarks)		isible on Aerial Imagery (C9) tressed Plants (D1)
Iron Deposits (B5)		Geomorphic	
Inundation Visible on Aerial Imagery (B7)		Shallow Aqu	
Water-Stained Leaves (B9)		Microtopogra	
Aquatic Fauna (B13)		FAC-Neutral	-
Field Observations:			
Surface Water Present?Yes✓NoDepth (irWater Table Present?YesNo✓Depth (ir	nches):4		
Water Table Present? Yes No 🚩 Depth (ir	nches):		
Saturation Present? Yes No 🖌 Depth (ir		Hydrology Preser	nt? Yes 🖌 No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial	nhotos previous inspections) if av	ailable:	
Remarks:			

Sampling Point: W-BB12-WP

30'	Absolute Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	<u>% Cover</u> Species?	Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Total Number of Dominant Species Across All Strata:1 (B)
4			
			Percent of Dominant Species
5		·	That Are OBL, FACW, or FAC: 100 (A/B)
6		·	Prevalence Index worksheet:
7			
	0 = Total Cov	ver	Total % Cover of: Multiply by:
50% of total cover: 0	20% of total cover	0	OBL species $50 \times 1 = 50$
Sapling/Shrub Stratum (Plot size: 15')			FACW species <u>5</u> x 2 = <u>10</u>
1			FAC species <u>15</u> x 3 = <u>45</u>
			FACU species <u>20</u> x 4 = <u>80</u>
2			UPL species x 5 =
3		·	Column Totals: 90 (A) 185 (B)
4		·	$\begin{array}{c} \text{Column rotals.} \underline{ \text{col}} (A) \underline{ \text{rot}} (B) \end{array}$
5			Prevalence Index = B/A =2.06
6			Hydrophytic Vegetation Indicators:
7			
8			1 - Rapid Test for Hydrophytic Vegetation
9		·	2 - Dominance Test is >50%
- J	0 = Total Cov	. <u> </u>	\checkmark 3 - Prevalence Index is 3.0 ¹
50% of total cover: 0			4 - Morphological Adaptations ¹ (Provide supporting
			data in Remarks or on a separate sheet)
(11015 Struttum (1101 3120.	50		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Scirpus atrovirens	50	OBL	
2. Juncus tenuis	15	F <u>AC</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Trifolium repens	10	F <u>ACU</u>	be present, unless disturbed or problematic.
4. Trifolium hybridum	10	FACU	Definitions of Four Vegetation Strata:
5. Polygonum pensylvanicum	5	FACW	
6. microstegium vimineum	5		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
			more in diameter at breast height (DBH), regardless of height.
7		·	neight.
8		·	Sapling/Shrub – Woody plants, excluding vines, less
9		·	than 3 in. DBH and greater than or equal to 3.28 ft (1
10		·	m) tall.
11		·	Herb – All herbaceous (non-woody) plants, regardless
	95 = Total Cov	ver	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>47.</u>	5 20% of total cover	19	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')			height.
1			
2			
3			
4			
5.			Hydrophytic Vegetation
- J	0 = Total Cov		Present? Yes <u>V</u> No
50% of total cover: <u>0</u>	10101000		
Remarks: (Include photo numbers here or on a separate s	neet.)		

Profile Desc	ription: (Describe to	o the depth	needed to docum	ent the ir	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix		Redox	Features	5			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	2.5Y4/2	95	7.5YR 5/4	5	С	Μ	clay loam	
6-12	2.5Y4/1	95	7.5YR 5/4	5	С	Μ	loamy clay	
12-18	2.5Y4/2	100					loamy clay	
1 							21	
Hydric Soil I	oncentration, D=Deple	etion, RIVI=R	educed Matrix, MS:	=IVIasked	Sand Gra	ains.		L=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ :
•			Dark Surfage	(67)				3
Histosol	(AT) vipedon (A2)		Dark Surface		(82) a			cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16)
Black His	•		Thin Dark Sur				140)	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleyed			47, 140)	Р	Piedmont Floodplain Soils (F19)
- • •	Layers (A5)		Depleted Matr		_/			(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark S		6)		V	'ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dark	Surface	(F7)			Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depres	sions (F8	3)			
	lucky Mineral (S1) (Ll	RR N,	Iron-Mangane	se Masse	es (F12) (LRR N,		
	A 147, 148)		MLRA 136					
	leyed Matrix (S4)		Umbric Surfac					licators of hydrophytic vegetation and
	edox (S5)		Piedmont Floo					etland hydrology must be present,
	Matrix (S6) ayer (if observed):		Red Parent Ma	aterial (F2	21) (MLR	A 127, 147	7) un T	less disturbed or problematic.
Type:	•							
51	ches):		_				Hydric Soil	Present? Yes <u>No</u> No
Remarks:								
Dormont si	lt loam, 3-8% slop	pes						

Project/Site: EEP	City/County: Allegheny County Sampling Date: 07/13/2015						
Applicant/Owner: EQT	State: PA Sampling Point: W-BB12-UP						
Investigator(s): A. Lands, S. Cowell, T. Caddy	Section, Township, Range: NA						
Landform (hillslope, terrace, etc.): sideslope	Local relief (concave, convex, none): linear Slope (%): 6-10						
	8000040 Long: -79.9290000030 Datum: NAD 83						
Soil Map Unit Name: Dormont silt loam 15-25% slope	NWI classification: None						
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes 🖌 No (If no, explain in Remarks.)						
Are Vegetation, Soil, or Hydrology significar	antly disturbed? Are "Normal Circumstances" present? Yes No						
Are Vegetation, Soil, or Hydrology naturally	y problematic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.							
Hydrophytic Vegetation Present? Yes No_ ✓ Hydric Soil Present? Yes No_ ✓ Wetland Hydrology Present? Yes No_ ✓	✓ Is the Sampled Area ✓ within a Wetland? Yes No✓						

HYDROLOGY

Remarks:

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Fauna (B13) 	Dry-Season Water Table (C2)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No _✓ Depth (inches):	
Saturation Present? Yes No <u>✓</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No✓

Sampling Point: W-BB12-UP

30'	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
1			·	That Are OBL, FACW, or FAC: (A)
2 3				Total Number of Dominant Species Across All Strata: 1 (B)
4				Species Across All Strata: (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)
6				
7				Prevalence Index worksheet:
		= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover: 0	20% of	total cover	0	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1				FAC species X 3 =
2				FACU species <u>50</u> x 4 = <u>200</u>
3			. <u> </u>	UPL species x 5 = Column Totals: 50 (A) 200 (B)
4				$\begin{array}{c} \text{Column lotals:} \underline{ \text{OO}} \\ \end{array} (A) \underline{ \text{Column lotals:}} (B) \end{array}$
5				Prevalence Index = B/A =4
6				Hydrophytic Vegetation Indicators:
7			. <u> </u>	1 - Rapid Test for Hydrophytic Vegetation
8			. <u> </u>	2 - Dominance Test is >50%
9			·	3 - Prevalence Index is ≤3.0 ¹
50% of total cover:0		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')	20% 01			data in Remarks or on a separate sheet)
1. Trifolium repens	35	\checkmark	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Trifolium hybridum	10		FACU	
3. Lolium perenne	5		FACU	¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Four Vegetation Strata:
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>25</u>	20% of	total cover	10	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1			. <u> </u>	
2	-			
3				
4			·	Hydrophytic
5	0	= Total Cov		Vegetation Present? Yes No
50% of total cover:0		total cover		
Remarks: (Include photo numbers here or on a separate s			·	
	,			

Profile Desc	ription: (Describe f	to the dept	h needed to docur	nent the i	ndicator	or confirn	n the absence of	f indicators.)		
Depth	Matrix		Redo	x Features	6					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Re	marks	
0-16	2.5Y4/4	100					clay loam	loa	my clay	
							<u> </u>			
										<u> </u>
1							2			
	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	5=Masked	Sand Gra	ains.	Location: PL=	Pore Lining, M=	Matrix.	
Hydric Soil								ors for Problem	-	
Histosol	· · /		Dark Surface	· · /				m Muck (A10) (N	,	
	oipedon (A2)		Polyvalue Be					ast Prairie Redo		
Black Hi	· · ·		Thin Dark Su	, ,	•	47, 148)	•	MLRA 147, 148		
	n Sulfide (A4)		Loamy Gleye		=2)			dmont Floodplai		9)
	d Layers (A5)		Depleted Ma	. ,			•	MLRA 136, 147		
	ıck (A10) (LRR N)		Redox Dark					y Shallow Dark		F12)
	d Below Dark Surface	e (A11)	Depleted Da				Oth	er (Explain in R	emarks)	
	ark Surface (A12)		Redox Depre							
	lucky Mineral (S1) (L	.RR N,	Iron-Mangan		es (F12) (I	LRR N,				
	A 147, 148)		MLRA 13				2			
	Bleyed Matrix (S4)		Umbric Surfa	. , .				ators of hydroph		
-	edox (S5)		Piedmont Flo					and hydrology m		
	Matrix (S6)		Red Parent N	Aaterial (F2	21) (MLR .	A 127, 147	7) unles	ss disturbed or p	oroblematic	
Restrictive I	_ayer (if observed):									
Type:										
Depth (ind	ches):						Hydric Soil P	resent? Yes	1	No 🗸
Remarks:	,						-			
Remarko.										

Project/Site: EEP	City/County: Allegheny Count	ty Sampling Date: 07/11/2015			
Applicant/Owner: EQT		State: PA Sampling Point: W-BB5-WP			
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Akla					
Landform (hillslope, terrace, etc.): toe slope		none Slope (%): 3-5			
Subregion (LRR or MLRA): LRRN Lat: 40.245		0294342			
Soil Map Unit Name: Glenford silt Ioam, 3-8% slope	Long.				
Are climatic / hydrologic conditions on the site typical for this tim					
		· · · · · · · · · · · · · · · · · · ·			
Are Vegetation, Soil, or Hydrology signif					
Are Vegetation, Soil, or Hydrology natur	ally problematic? (If needed, expl	ain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point locations	, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes No					
Hydric Soil Present? Yes <u>Ves</u> No_	is the sampled Area	Yes No			
Wetland Hydrology Present? Yes <u>V</u> No_		Yes No			
Remarks:					
Cowardin Code: PEM					
HGM: depressional					
WT: RPWWN					
man made obstructions present, mostly fill materia					
HYDROLOGY					
Wetland Hydrology Indicators:	Se	condary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that a	apply)	Surface Soil Cracks (B6)			
		Sparsely Vegetated Concave Surface (B8)			
	n Sulfide Odor (C1)	Drainage Patterns (B10)			
	Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)			
	e of Reduced Iron (C4)	Dry-Season Water Table (C2)			
· · · · · ·	ron Reduction in Tilled Soils (C6) ck Surface (C7)	Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)			
	xplain in Remarks)	Stunted or Stressed Plants (D1)			
Iron Deposits (B5)		Geomorphic Position (D2)			
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)			
✓ Water-Stained Leaves (B9)	<u>~</u>	Microtopographic Relief (D4)			
Aquatic Fauna (B13)	<u> </u>	FAC-Neutral Test (D5)			
Field Observations:	-				
Surface Water Present? Yes <u>V</u> No Depth (nches):5				
Water Table Present? Yes No V Depth (nches):				
Saturation Present? Yes No Depth ((includes capillary fringe)	nches): Wetland Hyd	rology Present? Yes 🖌 No			
Describe Recorded Data (stream gauge, monitoring well, aeria	I photos, previous inspections), if availab	le:			
Remarks:					

Sampling Point: W-BB5-WP

20	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				
3				Total Number of Dominant Species Across All Strata: 3 (B)
				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				
7				Prevalence Index worksheet:
	0	= Total Co		Total % Cover of: Multiply by:
50% of total cover: <u>0</u>				OBL species x 1 = 20
45	20% 0	total cover		FACW species 20 x 2 = 40
Sapling/Shrub Stratum (Plot size: 15				
1				FAC species45 x 3 =135
2				FACU species x 4 =
3				UPL species x 5 =
			·	Column Totals: <u>85</u> (A) <u>195</u> (B)
4			•	
5				Prevalence Index = B/A = 2.29
6				Hydrophytic Vegetation Indicators:
7				
				1 - Rapid Test for Hydrophytic Vegetation
8			·	✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is $\leq 3.0^1$
		= Total Co		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of	total cover	:0	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Scirpus atrovirens	20	~	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Juncus tenuis	15	~		
			F <u>AC</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Dichanthelium clandestinum	15	~	F <u>AC</u>	be present, unless disturbed or problematic.
4. Carex cristatella	10		FACW	Definitions of Four Vegetation Strata:
5. agrostis stolonifera	10		FACW	Demittoris of Four Vegetation Strata.
6. Chamerion angustifolium	10		FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
	5			more in diameter at breast height (DBH), regardless of
7. rumex crispus			F <u>AC</u>	height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10.				m) tall.
11.				
	05	-	·	Herb – All herbaceous (non-woody) plants, regardless
10.1		= Total Co		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>42.5</u>) 20% of	total cover	: 17	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2.				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Co	/er	Present? Yes No No
50% of total cover: <u>0</u>		total cover		
Remarks: (Include photo numbers here or on a separate s				
Tremains. (include photo numbers here of on a separate s	neet.)			

Depth	Matrix	to the depth	needed to document the indica Redox Features	tor or confirm	the absence	of indicators.)
(inches)	Color (moist)	%	<u>Color (moist)</u> <u>%</u> Typ	e ¹ Loc ²	Texture	Remarks
0-6	2.5Y4/2	50			clay loam	
0-6	Gley 4/10Y	50			clay loam	
6-12	2.5Y5/4	100			clay loam	
1					2	
Type: C=C Hydric Soil		letion, RM=R	educed Matrix, MS=Masked Sand	Grains.	Location: P	L=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ :
Histosol			Dark Surface (S7)			cm Muck (A10) (MLRA 147)
_	bipedon (A2)		Polyvalue Below Surface (S8	3) (MLRA 147.		Coast Prairie Redox (A16)
Black Hi	•		Thin Dark Surface (S9) (MLF			(MLRA 147, 148)
Hydroge	en Sulfide (A4)		 Loamy Gleyed Matrix (F2) 		F	Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Matrix (F3)			(MLRA 136, 147)
	ick (A10) (LRR N)	()	Redox Dark Surface (F6)			/ery Shallow Dark Surface (TF12)
	d Below Dark Surface ark Surface (A12)	e (ATT)	 Depleted Dark Surface (F7) Redox Depressions (F8) 		_ (Other (Explain in Remarks)
	lucky Mineral (S1) (L	RR N.	Iron-Manganese Masses (F1	2) (I RR N.		
	A 147, 148)	,	MLRA 136)	_) (,		
	Gleyed Matrix (S4)		Umbric Surface (F13) (MLRA	A 136, 122)	³ Inc	licators of hydrophytic vegetation and
	Redox (S5)		Piedmont Floodplain Soils (F	19) (MLRA 14 8	3) we	etland hydrology must be present,
	Matrix (S6)		Red Parent Material (F21) (N	/ILRA 127, 147)) un	less disturbed or problematic.
	Layer (if observed):					
Туре:			_			
-	ches):				Hydric Soil	Present? Yes No
Remarks:						
	It loam, 3-8% slo	pe				
fill material	present					

Project/Site: EEP	City/County: Allegheny	/ County Si	ampling Date: <u>07/11/2015</u>
Applicant/Owner: EQT			Sampling Point: W-BB5-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku	_ Section, Township, Rang	e: NA	
Landform (hillslope, terrace, etc.): valley bottom	ocal relief (concave, conve	x, none): none	Slope (%): <u>2-4</u>
Subregion (LRR or MLRA): LRRN Lat: 40.249178	54360 Long:	-79.92963309210	Datum: NAD 83
Soil Map Unit Name: Udortents smoothed, gently sloping		NWI classification	_{on:} None
Are climatic / hydrologic conditions on the site typical for this time of y	/ear? Yes 🖌 No 🔄	(If no, explain in Rem	narks.)
Are Vegetation, Soil, or Hydrology significant	y disturbed? Are "No	ormal Circumstances" pres	sent? Yes No 🖌
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If need	ded, explain any answers i	in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	g sampling point loc	ations, transects, in	mportant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No ✓ No ✓ No ✓	Is the Sampled Area within a Wetland?	Yes	No
Remarks: Upland					
HYDROLOGY					

Wetland Hydrology Indicators:	Netland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all	Surface Soil Cracks (B6)		
High Water Table (A2) Hyd Saturation (A3) Oxi Water Marks (B1) Pre Sediment Deposits (B2) Red Drift Deposits (B3) Thi	e Aquatic Plants (B14) drogen Sulfide Odor (C1) idized Rhizospheres on Living Roots (C3) esence of Reduced Iron (C4) cent Iron Reduction in Tilled Soils (C6) n Muck Surface (C7) her (Explain in Remarks)	 Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) 	
Field Observations: Surface Water Present? Yes No De Water Table Present? Yes No De Saturation Present? Yes No De (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, Remarks:	epth (inches): Wetland	Hydrology Present? Yes No✓ ailable:	

Sampling Point: W-BB5-UP

201	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Species?	Status	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 1 (A	A)
2				Total Number of Dominant	
3				Species Across All Strata: 2 (E	B)
4					_)
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: (A	A/B)
6		·	·	Prevalence Index worksheet:	
7		·	·	Total % Cover of: Multiply by:	
		= Total Cov			
50% of total cover: <u>0</u>	20% of	total cover	: 0	OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =	
1				FAC species x 3 =60	
2				FACU species <u>30</u> x 4 = <u>120</u>	
3			·	UPL species <u>15</u> x 5 = <u>75</u>	
			·	05 055	(B)
4					(-)
5				Prevalence Index = B/A = 3.92	
6		·	·	Hydrophytic Vegetation Indicators:	
7		·		1 - Rapid Test for Hydrophytic Vegetation	
8				2 - Dominance Test is >50%	
9					
	•	= Total Cov	/er	3 - Prevalence Index is ≤3.0 ¹	
50% of total cover:0		total cover	-	4 - Morphological Adaptations ¹ (Provide suppor	rting
Herb Stratum (Plot size: 5')	2070 01			data in Remarks or on a separate sheet)	
1. Chamerion angustifolium	20	✓	EAC	Problematic Hydrophytic Vegetation ¹ (Explain)	
	15	•	FAC		
2. Artemesia vulgaris		√	UPL	¹ Indicators of hydric soil and wetland hydrology mus	st
3. Daucus carota	10		FACU	be present, unless disturbed or problematic.	
4. Dipascus fullonum	10	<u></u>	F <u>ACU</u>	Definitions of Four Vegetation Strata:	
_{5.} Mellilotus albus	10		FACU		
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	
			·	more in diameter at breast height (DBH), regardless	s of
7		·	·	height.	
8		·	·	Sapling/Shrub - Woody plants, excluding vines, le	ess
9		·	·	than 3 in. DBH and greater than or equal to 3.28 ft (
10				m) tall.	
11				Herb – All herbaceous (non-woody) plants, regardle	ess
	65	= Total Cov	/er	of size, and woody plants less than 3.28 ft tall.	000
50% of total cover: <u>32.</u>	5 20% of	total cover	<u>: 13</u>		
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft i height.	IN
1,					
			·		
2			·		
3		·	·		
4		·	·	Hydrophytic	
5				Vegetation	
	0	= Total Cov	/er	Present? Yes No _✓	
50% of total cover:0	20% of	total cover	: 0		
Remarks: (Include photo numbers here or on a separate s	heet.)			1	
	,				

Profile Desc	cription: (Describe t	o the dept	h needed to docur	nent the in	dicator	or confirm	n the absence o	of indicators	5.)	
Depth	Matrix			x Features						
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'	Loc ²	Texture		Remarks	
0-2	7.5YR3/3	100					clay loam			
2-16	10YR4/3	100					clay loam			
		·								
		·								
		·					<u> </u>			
1										
	oncentration, D=Depl	etion, RM=I	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL		, M=Matrix. Diematic Hyd	Iria Caila ³ .
Hydric Soil				(07)						
Histosol	(A1) pipedon (A2)		Dark Surface Polyvalue Be	· · ·	o (SO) /M			ast Prairie R	0) (MLRA 14	()
	istic (A3)		Thin Dark Su		. , .		· · <u> </u>	(MLRA 147,	. ,	
	en Sulfide (A4)		Loamy Gleye	. ,	•	47, 140)		•	dplain Soils (I	=19)
	d Layers (A5)		Depleted Ma		_/			(MLRA 136,	• •	,
	uck (A10) (LRR N)		Redox Dark	. ,	6)			•	ark Surface	(TF12)
Deplete	d Below Dark Surface	e (A11)	Depleted Date				Ot	her (Explain	in Remarks)	
	ark Surface (A12)		Redox Depre							
-	/lucky Mineral (S1) (L	RR N,	Iron-Mangan		s (F12) (I	LRR N,				
	A 147, 148)		MLRA 13				3		1. 2	
	Gleyed Matrix (S4) Redox (S5)		Umbric Surfa	. , .					rophytic vege gy must be pr	
	d Matrix (S6)		Red Parent N	•	, ,	•		•	or problema	
	Layer (if observed):					~ 127, 14				
Type:										
, i	ches):						Hydric Soil I	Present?	Yes	No 🗸
Remarks:	unco).									
Nomaina.										

Project/Site: _ EEP	City/County: Washington C	County s	Sampling Date: 07/10/2015
			Sampling Point: W-BB4-WP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku			
Landform (hillslope, terrace, etc.): terrace	· · · · · · · · · · · · · · · · · · ·		Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 40.254204	3 Long:079		
Soil Map Unit Name: Dormant-Culleoka Complex 15-25% s			
Are climatic / hydrologic conditions on the site typical for this time of \boldsymbol{y}			
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Normal	Circumstances" pre	esent? Yes No 🗾
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, e	explain any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locatio	ons, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes No			
Hydric Soil Present? Yes <u>Ves</u> No	is the Sampleu Area		
Wetland Hydrology Present? Yes <u>V</u> No		Yes	No
Remarks:	·		
Cowardin Code: PEM			
HGM: isolated			
WT: Depressional			
located behind gas station. UST's are present as well a	s man made obstructions		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicato	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil C	
✓ Surface Water (A1) True Aquatic F			etated Concave Surface (B8)
High Water Table (A2)		Drainage Patte	
•		Moss Trim Line	
Water Marks (B1) Presence of R	educed Iron (C4)	Dry-Season W	/ater Table (C2)
Sediment Deposits (B2) Recent Iron Re	eduction in Tilled Soils (C6)	Crayfish Burrow	ws (C8)
Drift Deposits (B3) Thin Muck Sur			ible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain	in Remarks)		essed Plants (D1)
Iron Deposits (B5)		Geomorphic P	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquita	
Water-Stained Leaves (B9) ✓ Aquatic Fauna (B13)		Microtopograp	
		FAC-Neutral T	est (D5)
Field Observations: Surface Water Present? Yes V No Depth (inchest)			
Surface Water Present? Yes No Depth (inchest Water Table Present? Yes No Depth (inchest No Depth (inchest No No No Depth (inchest No N			
		lydrology Present?	
Saturation Present? Yes No Depth (inchest (includes capillary fringe)	Si: weuand H	lydrology Present	? Yes <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if avai	ilable:	
Remarks:			

Sampling Point: W-BB4-WP

20'	Absolute Dominant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30'</u>) 1)	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2 3		Total Number of Dominant Species Across All Strata:2 (B)
4 5		Percent of Dominant Species
6		That Are OBL, FACW, or FAC:(A/B)
7		Prevalence Index worksheet:
	0 = Total Cover	Total % Cover of: Multiply by:
50% of total cover:0	20% of total cover: 0	OBL species 40 x 1 = 40
Sapling/Shrub Stratum (Plot size: 15')		FACW species 15 x 2 = 30
1		FAC species $30 \times 3 = 90$
2		FACU species <u>5</u> x 4 = <u>20</u>
3		UPL species x 5 =
4		Column Totals: <u>90</u> (A) <u>180</u> (B)
5		Prevalence Index = B/A =2
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		∠ 2 - Dominance Test is >50%
9	0 = Total Cover	\checkmark 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0	20% of total cover:0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size:5')		data in Remarks or on a separate sheet)
1. carex stipata	40 🖌 OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. juncus tenuis	20 🖌 FAC	
3. agrostis stolonifera		¹ Indicators of hydric soil and wetland hydrology must
4. Chloris virgata	10 FAC	be present, unless disturbed or problematic.
5, trifolium hybridum	5 FACU	Definitions of Four Vegetation Strata:
6		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7		more in diameter at breast height (DBH), regardless of height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11	90 = Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>45</u> <u>Woody Vine Stratum</u> (Plot size: <u>15'</u>)	20% of total cover: 18	Woody vine – All woody vines greater than 3.28 ft in
1		height.
2		
3.		
4		
5.		Hydrophytic Vegetation
	0 = Total Cover	Present? Yes <u>V</u> No
50% of total cover: <u>0</u>	20% of total cover: 0	
Remarks: (Include photo numbers here or on a separate s	heet.)	

Profile Desc	ription: (Describe t	o the depth	n needed to docun	nent the i	ndicator	or confirm	n the absence	of indicato	ors.)	
Depth	Matrix		Redox	K Feature		2				
(inches)	Color (moist)		Color (moist)		<u>Type¹</u>	_Loc ²	<u> </u>		Remarks	
0-5	10YR3/2	95	7.5YR 4/6	5	С	M	clay loam			
5-18	10YR4/3	100					clay loam	fill ma	terial w/ coa	rse gravel
		·								
						·				
		<u> </u>				·				
						·				
¹ Type: $C=C_{0}$	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	=Masked	I Sand Gr	ains.	² Location: PL	_=Pore Lini	ng, M=Matrix.	
Hydric Soil									oblematic Hy	dric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			2	cm Muck (/	A10) (MLRA 14	47)
	bipedon (A2)		Polyvalue Be		ce (S8) (N	ILRA 147,			e Redox (A16)	
Black Hi	stic (A3)		Thin Dark Su					(MLRA 14	7, 148)	
	en Sulfide (A4)		Loamy Gleye		(F2)		Pi	edmont Flo	oodplain Soils ((F19)
	d Layers (A5)		Depleted Mat					(MLRA 13		
	ick (A10) (LRR N)	()	Redox Dark S						/ Dark Surface	
·	d Below Dark Surface	e (A11)	Depleted Dar				Ot	ther (Expla	in in Remarks)	
	ark Surface (A12) 1ucky Mineral (S1) (L		Redox Depre							
-	A 147, 148)	.nn IN,	MLRA 13		es (F12) (
	Gleyed Matrix (S4)		Umbric Surfa		(MI RA 13	6 122)	³ Indi	cators of h	ydrophytic veg	etation and
	Redox (S5)		Piedmont Flo						logy must be p	
	Matrix (S6)		Red Parent M	•					ed or problema	
	Layer (if observed):								· · ·	
Type:										
Depth (in	ches):						Hydric Soil	Present?	Yes 🖌	No
Remarks:							I			
	ulleoka Complex	15-25%	slopes mostly f	ill mate	rial					
Donnant O		10 2070	olopoo, moony i	minato	nai					

Project/Site: EEP	_ City/County: Washington (County Sa	mpling Date: 07/10/2015
Applicant/Owner: EQT		State: PA	Sampling Point: W-BB4-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku	_ Section, Township, Range: N		
Landform (hillslope, terrace, etc.): terraced hillslope	ocal relief (concave, convex, nc	ne): concave	Slope (%): 3-8%
Subregion (LRR or MLRA): LRRN Lat: 40.253999	99960 Long: -79	.92622000020	Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15-15% s	lope	NWI classificatio	_{on:} None
Are climatic / hydrologic conditions on the site typical for this time of y	/ear? Yes 🖌 No	(If no, explain in Rema	arks.)
Are Vegetation, Soil, or Hydrologysignificantl	y disturbed? Are "Norma	l Circumstances" pres	ent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed,	explain any answers ir	n Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	g sampling point location	ons, transects, ir	nportant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No ✓ No ✓ No ✓	Is the Sampled Area within a Wetland?	Yes	No✓	
Remarks: Upland						
HYDROLOGY						

		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required	Surface Soil Cracks (B6)	
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) 	 True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Sc Thin Muck Surface (C7) Other (Explain in Remarks) 	Dry-Season Water Table (C2)
Field Observations:	1	
	Depth (inches):	
Water Table Present? Yes No	Depth (inches):	
(includes capillary fringe)	o Depth (inches):	Wetland Hydrology Present? Yes No✓

Sampling Point: W-BB4-UP

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC:0 (A)
2				
				Total Number of Dominant Species Across All Strata: 2 (B)
3				Species Across All Strata: <u>2</u> (B)
4				Percent of Dominant Species
5			·	That Are OBL, FACW, or FAC: 0 (A/B)
6	-	-		
7				Prevalence Index worksheet:
	0	= Total Cov	/er	Total % Cover of: Multiply by:
50% of total cover: 0			÷.	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
				FAC species 5 x 3 = 15
1				FACU species $50 \times 4 = 200$
2			·	
3				UPL species x 5 =
4				Column Totals: <u>55</u> (A) <u>215</u> (B)
5				2.01
			·	Prevalence Index = B/A =3.91
6			·	Hydrophytic Vegetation Indicators:
7			·	1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^{1}$
	•	= Total Cov	ver	
50% of total cover:0		total cover	-	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Trifolium hybridum	15	\checkmark	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
· · · · · · · · · · · · · · · · · · ·	10			
2. Cichorium intybus			FACU	¹ Indicators of hydric soil and wetland hydrology must
3. oxalis stricta	5		FACU	be present, unless disturbed or problematic.
4. plantago major	5		FACU	Definitions of Four Vegetation Strata:
_{5.} Coronilla varia	5		FAC	Deminions of Four Vegetation of ata.
6. lotus corniculatus	5		FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7. plantago lanceolata	5			more in diameter at breast height (DBH), regardless of
			F <u>ACU</u>	height.
8. taraxacum officianale	5		FACU	Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Herb – All herbaceous (non-woody) plants, regardless
	55	= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 27.5				
Woody Vine Stratum (Plot size: 15')	2070 01			Woody vine – All woody vines greater than 3.28 ft in
				height.
1			·	
2			·	
3				
4				Lu droph stie
5				Hydrophytic Vegetation
	0	= Total Cov	/or	Present? Yes No 🗸
50% of total cover:0		total cover	-	
Remarks: (Include photo numbers here or on a separate s	neet.)			

Profile Desc	ription: (Describe f	o the dept	th needed to docur	nent the i	ndicator	or confirm	n the absence	of indicators.)	
Depth	Matrix			x Feature					
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks	
0-6	10YR4/2	100				. <u> </u>	clay loam		
6-20	10YR4/3	100					clay loam	fill material w/ coarse	e gravels
							·		
						·			
		·		<u> </u>					
				<u> </u>			·		
							. <u></u>		
1							² 1	Dens Lisien M. Matrice	
Hvdric Soil	oncentration, D=Depl	etion, RM=	Reduced Matrix, Ma	S=IVIASKed	I Sand Gra	ains.		_=Pore Lining, M=Matrix. tors for Problematic Hydri	ic Soils ³
Histosol			Dark Surface	(\$7)				cm Muck (A10) (MLRA 147)	
	pipedon (A2)		Polyvalue Be	· · ·	ce (S8) (M	LRA 147		oast Prairie Redox (A16))
Black Hi			Thin Dark Su				, , . <u> </u>	(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye	, ,	•		Pi	edmont Floodplain Soils (F1	19)
Stratified	Layers (A5)		Depleted Mar	trix (F3)				(MLRA 136, 147)	
	ick (A10) (LRR N)		Redox Dark \$	``	,			ery Shallow Dark Surface (T	F12)
·	Below Dark Surface	e (A11)	Depleted Dar				O	ther (Explain in Remarks)	
	ark Surface (A12)		Redox Depre						
	lucky Mineral (S1) (L \ 147, 148)	KKN,	Iron-Mangan MLRA 13		es (F12) (I	_KK N,			
	leyed Matrix (S4)		Umbric Surfa		MIRA 13	6, 122)	³ Indi	cators of hydrophytic vegeta	ation and
-	edox (S5)		Piedmont Flo						
	Matrix (S6)		Red Parent N	•	, ,	•		ess disturbed or problemation	
Restrictive I	ayer (if observed):								
Туре:									
Depth (ind	ches):						Hydric Soil	Present? Yes	No 🖌
Remarks:							1		

Project/Site: Red Hook Compressor Station	City/County: Gree	ne	Sampling Date: 06/09/2015
Applicant/Owner: EQT		State: PA	Sampling Point: W-N1
Investigator(s): JH, LM, JK	Section, Township,	Range: <u>NA</u>	
Landform (hillslope, terrace, etc.): Terrace	ocal relief (concave, o	convex, none): None	Slope (%): 2
Subregion (LRR or MLRA): LRRN Lat: 39.917729	14740	Long: -80.13069448700	Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 p	percent slopes	NWI classifica	tion: None
Are climatic / hydrologic conditions on the site typical for this time of ye	vear?Yes 🖌 N	o (If no, explain in Re	marks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? A	re "Normal Circumstances" pr	esent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally pr	roblematic? (I	f needed, explain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling poir	t locations, transects,	important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <mark>✓</mark> Yes <mark>✓</mark> Yes √	No No No	Is the Sampled Area within a Wetland?	Yes	No	✓
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD						

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
	Dry-Season Water Table (C2)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect	Wetland Hydrology Present? Yes <u>V</u> No tions), if available:
Remarks:	

Sampling Point: W-N1

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				
3				Total Number of Dominant Species Across All Strata: 1 (B)
4				
				Percent of Dominant Species That Are OBL FACW or FAC: 100 (A/B)
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov		OBL species x 1 =
50% of total cover: 0	20% of	total cover	0	
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				
6				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
		= Total Cov	•	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:0	20% of	total cover	0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Juncus effusus	70		FACW	
2. Asclepias incarnata	10		<u>OBL</u>	
3. Carex lurida	5		<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Phalaris arundinaceae	2		FACW	Definitions of Four Vegetation Strata:
5. Carex vulpinoidea	10		OBL	Deminions of Four vegetation Strata.
6. Impatiens capensis	5		FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
				more in diameter at breast height (DBH), regardless of
7		·		height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	102	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 51	20% of	total cover	20.4	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4				Undeenhadie
5				Hydrophytic Vegetation
	0	= Total Cov	or	Present? Yes <u>V</u> No
50% of total cover: 0		total cover:	~	
Remarks: (Include photo numbers here or on a separate s	neet.)			

Sampling Point: W-N1

Profile Desc	cription: (Describe t	o the denth	needed to docu	ment the	indicator	or confirm	n the absence	e of indicators)
Depth	Matrix			ox Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-17	10YR 5/2	80	10YR 6/8	10		М	SC	
			10YR 6/1	10	D	Μ		
<u> </u>					. <u> </u>			
<u> </u>					. <u> </u>			
					·			
					. <u> </u>			
	oncentration, D=Depl	etion RM-E	Peduced Matrix M	S-Masko	d Sand G	raine	² Location: E	PL=Pore Lining, M=Matrix.
Hydric Soil						ianis.		cators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	e (S7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ace (S8) (MLRA 147.		Coast Prairie Redox (A16)
	stic (A3)		Thin Dark Su				, -, <u> </u>	(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye		, .	, -,	F	Piedmont Floodplain Soils (F19)
	d Layers (A5)		✓ Depleted Ma		(/			(MLRA 136, 147)
	uck (A10) (LRR N)		·	Dark Surface (F6) Very Shallow Dark Surfa				
	d Below Dark Surface	e (A11)	Depleted Da	,	,			Other (Explain in Remarks)
	ark Surface (A12)	()	Redox Depr					(
	/lucky Mineral (S1) (L	RR N.	Iron-Mangar			(LRR N.		
	A 147, 148)	,	MLRA 13		,ee (<u>_</u>)	(,		
	Bleyed Matrix (S4)		Umbric Surfa		(MLRA 1	36. 122)	³ Inc	dicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo					etland hydrology must be present,
	Matrix (S6)		Red Parent I					nless disturbed or problematic.
	Layer (if observed):				/ (,	, .	
Туре:	,							
Depth (in	ches):		_				Hydric Soi	I Present? Yes <u>√</u> No
Remarks:								

aine and Diadmont De _

WEILAND DETERMINATION DATA FORM – Eastern	Mountains and Pledmont Region
Project/Site: Red Hook Compressor Station City/County: Gre	ene Sampling Date: 06/09/2015
Applicant/Owner: EQT	State: PA Sampling Point: W-N1 UP
Investigator(s): JH, LM, JK Section, Township	p, Range: <u>NA</u>
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave,	, convex, none): Convex Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 39.91777586110	Long: -80.13079854330 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point	int locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Is the Sam within a W Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Is the Sam within a W Remarks: Upland Is the Sam within a W	
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Aquatic Fauna (B13) 	Dry-Season Water Table (C2)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect	Wetland Hydrology Present? Yes No

Remarks:

Sampling Point: W-N1 UP

30'	Absolute Dominant I		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	<u>% Cover</u> <u>Species?</u>	<u>Status</u>	Number of Dominant Species
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4			
5			Percent of Dominant Species That Are OBL, FACW, or FAC:0 (A/B)
6			
			Prevalence Index worksheet:
7	0 = Total Cove		Total % Cover of: Multiply by:
50% of total cover:0	10010		OBL species x 1 =
			FACW species x 2 =
			FAC species x 3 =
1			
2			FACU species x 4 =
3			UPL species x 5 =
4			Column Totals: (A) (B)
5			Drevelance Index D/A
6			Prevalence Index = B/A =
7			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
8			2 - Dominance Test is >50%
9	0 = Total Cove		3 - Prevalence Index is ≤3.0 ¹
		-	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')	00		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Solidago altissima		F <u>ACU</u>	
2. Trifolium pratense		F <u>ACU</u>	Indiactors of budris soil and watland budralagy must
3. Trifolium aureum		<u>UPL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Allium sp.		ŀ	Definitions of Four Vegetation Strata:
5. Lotus corniculatus	10 F	FACU	Demitton's of Four Vegetation Strata.
6. Galium aparine	<u>10</u> F		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7 Melilotus officinalis		FACU	more in diameter at breast height (DBH), regardless of height.
			neight.
8			Sapling/Shrub – Woody plants, excluding vines, less
9			than 3 in. DBH and greater than or equal to 3.28 ft (1
10			m) tall.
11			Herb – All herbaceous (non-woody) plants, regardless
	= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 42	20% of total cover:	16.8	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')			height.
1			
2			
3			
4.			
5.			Hydrophytic Vegetation
	0 = Total Cove	ar	Present? Yes No V
50% of total cover: 0	100010		
Remarks: (Include photo numbers here or on a separate sh			
	1001.)		

	ription: (Describe t	o the dept			or confirm	the absence	of indicators.)	
Depth (inchor)	<u>Matrix</u> Color (moist)	%	Redo: Color (moist)	<u>x Features</u> %Type ¹	Loc ²	Texture	Remark	0
(inches)				<u></u>		SC	Remark	5
0-19	10YR 6/2	100				50		
¹ Type: $C=Co$	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	G=Masked Sand G	rains.	² Location: P	L=Pore Lining, M=Matr	ix.
Hydric Soil							ators for Problematic	
Histosol			Dark Surface	(S7)			cm Muck (A10) (MLRA	•
	vipedon (A2)			low Surface (S8) (MI RA 147		Coast Prairie Redox (A1	
Black Hi	•			rface (S9) (MLRA			(MLRA 147, 148)	0)
	n Sulfide (A4)		Loamy Gleye		147, 140)	F	Piedmont Floodplain Soi	ls (F19)
	Layers (A5)		Depleted Mat			'	(MLRA 136, 147)	13 (1 1 5)
	ck (A10) (LRR N)		Redox Dark S				(MERA 136, 147) /ery Shallow Dark Surfa	000 (TE12)
	Below Dark Surface	(11)		k Surface (F7)			Other (Explain in Remar	
·		; (ATT)						KS)
	ark Surface (A12)		Redox Depre					
-	lucky Mineral (S1) (L	KK N,		ese Masses (F12)	LKK N,			
	147, 148)		MLRA 130		00 400)	31	licators of hydrophytic v	
	leyed Matrix (S4)			ce (F13) (MLRA 1				
	edox (S5)			odplain Soils (F19			etland hydrology must b	
	Matrix (S6)		Red Parent N	Naterial (F21) (ML	RA 127, 147) un	less disturbed or proble	ematic.
	ayer (if observed):							
Туре:								
Depth (ind	ches):					Hydric Soil	Present? Yes	No
Remarks:						1		

Project/Site: EEP	City/County: Greene		Sampling Date: 07/08/2015
Applicant/Owner: EQT			Sampling Point: W-AA1
Investigator(s): JH, LM, LS, CL	Section, Township, Range:	NA	
-	Local relief (concave, convex, r		Slope (%): <u>2</u>
Subregion (LRR or MLRA): LRRN Lat: 39.91	576824580 _{Long:} -8	30.13133243640	Datum: NAD 83
-			
Are climatic / hydrologic conditions on the site typical for this tim	ne of year? Ves No 🗸	(If no, explain in B	emarks)
Are Vegetation, Soil, or Hydrology signi			
Are Vegetation, Soil, or Hydrology 🖌 natur		l, explain any answei	
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point locat	tions, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes <u>Ves</u> No	Is the Sampled Area		
Hydric Soil Present? Yes 🖌 No_			No
Wetland Hydrology Present? Yes Ves No		103	
Remarks:			
Cowardin Code: PEM			
HGM: Riverine			
WT: RPWWD Large mound in middle of wetland. S-AA2 feeds W	-AA1 Stream is dammed by	road creating w	retland
		roud oreating w	
HYDROLOGY Wetland Hydrology Indicators:		Socondary Indica	tors (minimum of two required)
	applu)	-	
Primary Indicators (minimum of one is required; check all that		Surface Soil	
	uatic Plants (B14) en Sulfide Odor (C1)	Sparsery veg	petated Concave Surface (B8)
	d Rhizospheres on Living Roots (C3	•	
	e of Reduced Iron (C4)		Water Table (C2)
	ron Reduction in Tilled Soils (C6)	Crayfish Burr	
I — · —	ck Surface (C7)		sible on Aerial Imagery (C9)
	Explain in Remarks)		ressed Plants (D1)
Iron Deposits (B5)		🖌 Geomorphic	Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aqui	tard (D3)
Water-Stained Leaves (B9)			phic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes No Depth			
Water Table Present? Yes <u>V</u> No Depth			
Saturation Present? Yes <u>Ves</u> No Depth (includes capillary fringe)	inches): 0-10 Wetland	d Hydrology Presen	t? Yes 🔽 No
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspections), if a	vailable:	
Remarks:			
Heavy rainfall for 4 days before and during survey	S.		

20'	Absolute	Dominant		Dominance Test worksheet:		
Tree Stratum (Plot size: <u>30'</u>)	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)		
1				That are OBL, FACW, OF FAC: (A)		
2 3		·		Total Number of Dominant Species Across All Strata: 3 (B)		
4				(=)		
5				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)		
6						
7		·		Prevalence Index worksheet:		
		= Total Co				
50% of total cover: 0	20% of	total cover	: 0	OBL species x 1 =		
Sapling/Shrub Stratum (Plot size: 15')	-	,		FACW species x 2 =		
1. Platanus occidentalis	5	<u> </u>	FACW	FAC species x 3 =		
2				FACU species x 4 =		
3				UPL species X 5 = (A)		
4		·		Column Totals: (A) (B)		
5				Prevalence Index = B/A =		
6		·		Hydrophytic Vegetation Indicators:		
7		·		1 - Rapid Test for Hydrophytic Vegetation		
8				✓ 2 - Dominance Test is >50%		
9	5			3 - Prevalence Index is $\leq 3.0^1$		
50% of total cover: <u>2.5</u>		= Total Co total cover		4 - Morphological Adaptations ¹ (Provide supporting		
Herb Stratum (Plot size: 5')	20% 0	total cover		data in Remarks or on a separate sheet)		
1. Carex vulpinoidea	60	~	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)		
2. Scirpus cyperinus	20		FACW			
3. Scirpus atrovirens	5	·		¹ Indicators of hydric soil and wetland hydrology must		
4. Eupatorium perfoliatum	20	·		- be present, unless disturbed or problematic.		
5. Agrimonia parviflora	15	·	FACW	Definitions of Four Vegetation Strata:		
6. Solidago gigantea	5	·	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or		
7. Amphicarpaea bracteata	30	 ✓ 	FACW	more in diameter at breast height (DBH), regardless of		
8 Dipsacus laciniatus	5	·	FAC	height.		
		·	F <u>ACU</u>	Sapling/Shrub – Woody plants, excluding vines, less		
9		·		than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
10		·				
11	160			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
50% of total cover: <u>80</u>	20% of	= Total Co total cover	ver •. 32	or size, and woody plants less than 5.20 it tall.		
Woody Vine Stratum (Plot size: 15')	2070.01			Woody vine – All woody vines greater than 3.28 ft in		
1				height.		
2						
3		•				
4						
5.				Hydrophytic Vegetation		
···	0	= Total Co	ver	Present? Yes <u>V</u> No		
50% of total cover:0		total cover				
Remarks: (Include photo numbers here or on a separate s						
	,					

Sampling Point: _____W-AA1

Profile Desc	ription: (Describe t	to the dep	th needed to docur	nent the i	indicator	or confirm	n the absence of indicators.)
Depth	Matrix			x Feature	S		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-3	10YR 4/2	100					SCL
3-10	10YR 5/1	93	10YR 3/6	2	RM	M/PL	SCL
3-10	10YR 4/2	5					
10-20	10YR 5/6	100					SCL
						·	
						·	·
						·	
						·	
	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	S=Masked	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I				(07)			Indicators for Problematic Hydric Soils ³ :
Histosol	(A1) iipedon (A2)		Dark Surface		(02) (N		2 cm Muck (A10) (MLRA 147) , 148) Coast Prairie Redox (A16)
Black His			Thin Dark Su				(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye			,,	Piedmont Floodplain Soils (F19)
- • •	Layers (A5)		V Depleted Ma		`		(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark				Very Shallow Dark Surface (TF12)
	Below Dark Surface	e (A11)	Depleted Dat				Other (Explain in Remarks)
	rk Surface (A12)		Redox Depre				
	lucky Mineral (S1) (L 147, 148)	.KK N,	Iron-Mangan MLRA 13		es (f 12) (LKK N,	
	leyed Matrix (S4)		Umbric Surfa		(MLRA 13	6, 122)	³ Indicators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo				
	Matrix (S6)		Red Parent M				
Restrictive L	ayer (if observed):						
Туре:							
Depth (inc	:hes):						Hydric Soil Present? Yes <u>V</u> No
Remarks:							

Project/Site: EEP	City/County: Gre	ene	Sampling Date: 07/08/2015
Applicant/Owner: EQT			_ Sampling Point: W-AA1 UP
	Section, Townsh		_ 13
Landform (hillslope, terrace, etc.): Hillslope			Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat:			
Soil Map Unit Name: Newark silt loam		NWI classifica	ation: None
Are climatic / hydrologic conditions on the site typical for	r this time of year? Yes	No (If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	resent? Yes No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site m	ap showing sampling po	int locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes			
Hydrophytic Vegetation resent: res Hydric Soil Present? Yes		npled Area	
Wetland Hydrology Present? Yes	$NO_{NO_{NO_{NO_{NO_{NO_{NO_{NO_{NO_{NO_{$	vetland? Yes	No
Remarks:			
Upland			
Heavy rainfall for 4 days before and during	surveys. Several streams i	n survey area were floode	ed.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; check	all that apply)	Surface Soil (
	True Aquatic Plants (B14)		etated Concave Surface (B8)
-	Hydrogen Sulfide Odor (C1)	Drainage Pat	
	Oxidized Rhizospheres on Living		
	Presence of Reduced Iron (C4)	Dry-Season \	
I — · —	Recent Iron Reduction in Tilled S Thin Muck Surface (C7)		sible on Aerial Imagery (C9)
	Other (Explain in Remarks)		ressed Plants (D1)
Iron Deposits (B5)		Geomorphic	
Inundation Visible on Aerial Imagery (B7)		Shallow Aqui	
Water-Stained Leaves (B9)		Microtopogra	
Aquatic Fauna (B13)		FAC-Neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes No	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Presen	t? Yes No/
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring w	ell, aerial photos, previous inspe	L ctions), if available:	
Remarks:			
Heavy rainfall for 4 days before and during s	surveys.		

20'	Absolute Dominant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30'</u>) 1	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
23		Total Number of Dominant Species Across All Strata: 2 (B)
4 5	·	Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)
6		
7		Prevalence Index worksheet:
	0 = Total Cover	Total % Cover of: Multiply by:
	20% of total cover: 0	OBL species 0 $x = 0$ EACW species 0 $x = 0$
Sapling/Shrub Stratum (Plot size: 15')		
1	·	
2	·	
3	· · ·	
4		Column Totals: <u>75</u> (A) <u>315</u> (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8	·	2 - Dominance Test is >50%
9	0= Total Cover	3 - Prevalence Index is $\leq 3.0^1$
50% of total cover:0		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size:)		data in Remarks or on a separate sheet)
1. Erigeron annuus	15 FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Potentilla indica	30 🖌 FACU	
3. Trifolium pratense	10 FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4 Daucus carota		
5. Alliaria petiolata	5 <u>FACU</u>	Definitions of Four Vegetation Strata:
6. Carex sp.	30 🖌 ND	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7. Ranunculus sp.	5 ND	more in diameter at breast height (DBH), regardless of height.
8		
9		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11		Herb – All herbaceous (non-woody) plants, regardless
50% of total cover: <u>55</u>	<u>110</u> = Total Cover 20% of total cover: <u>22</u>	of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 15')		Woody vine – All woody vines greater than 3.28 ft in height.
1 2		
3.		
4		Under a best in
5		Hydrophytic Vegetation
	0 = Total Cover	Present? Yes No 🖌
50% of total cover: 0	20% of total cover: 0	
Remarks: (Include photo numbers here or on a separate s	sheet.)	
ND- Not determined.		

Profile Desc	cription: (Describe t	o the depth	n needed to docur	nent the ir	ndicator	or confirm	the absen	ce of indicato	rs.)	
Depth	Matrix			x Features	1		_		_	
(inches)	Color (moist)		Color (moist)	%	Type ¹	_Loc ²			Remarks	
0-19	10YR 4/2	85					SCL			
	10YR 5/3	10								
	10YR 8/6									
								_		
¹ Type: $C=C$	oncentration, D=Deple	etion RM=F	Reduced Matrix M	S=Masked	Sand Gra	ains	² Location:	PL=Pore Linii	na M=Matrix	
Hydric Soil				5-Maskoa				licators for Pr		
Histosol			Dark Surface	e (S7)				2 cm Muck (A	10) (MLRA 1	147)
Histic Ep	pipedon (A2)		Polyvalue Be		e (S8) (N	ILRA 147,	148)	Coast Prairie	Redox (A16)	
	stic (A3)		Thin Dark Su			47, 148)		(MLRA 14		
	en Sulfide (A4)		Loamy Gleye		-2)			Piedmont Flo	•	(F19)
	d Layers (A5)		Depleted Ma		-)			(MLRA 13		(<u> </u>
	ick (A10) (LRR N)	(111)	Redox Dark					Very Shallow		
	d Below Dark Surface ark Surface (A12)	(ATT)	Depleted Da					Other (Explai	n in Remarks	5)
	ark Surface (A12) Aucky Mineral (S1) (L		Redox Depre			BB N				
	A 147, 148)	nn n,	MLRA 13		(1 1 Z) (1					
	Gleyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)	3	Indicators of hy	drophytic ved	getation and
	Redox (S5)		Piedmont Flo					wetland hydrol		
	Matrix (S6)		Red Parent M	Material (F2	21) (MLR	A 127, 147	7)	unless disturbe	ed or problem	natic.
Restrictive	Layer (if observed):									
Туре:			_							
Depth (in	ches):						Hydric S	oil Present?	Yes	No 🔽
Remarks:							•			

Project/Site: EEP	City/County: Greene	_ Sampling Date: 07/10/2015
Applicant/Owner: EQT	State: PA	Sampling Point: W-AA5
Investigator(s): JH, LM, LS, CL	_ Section, Township, Range: <u>NA</u>	
Landform (hillslope, terrace, etc.): Hillslope/depression		Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 39.913554	· · · · · · · · · · · · · · · · · · ·	
Soil Map Unit Name: Dekalb channery loam, 15 to 25 perce	-	
Are climatic / hydrologic conditions on the site typical for this time of y		
	·	4
Are Vegetation, Soil, or Hydrology significant	-	" present? Yes No
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed, explain any answ	vers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	g sampling point locations, transect	ts, important features, etc.
Hydrophytic Vegetation Present? Yes No_		
Hydric Soil Present? Yes Vo	 Is the Sampled Area within a Wetland? Yes 	No
Wetland Hydrology Present? Yes V	Within a wettand?	NO
Remarks:	I	
Cowardin Code: PEM		
HGM: Isolate		
WT: RPWWN		
HYDROLOGY		
Wetland Hydrology Indicators:	•	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply		
		egetated Concave Surface (B8)
		Patterns (B10) Lines (B16)
		n Water Table (C2)
		urrows (C8)
Drift Deposits (B3) Thin Muck Su	-	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain		Stressed Plants (D1)
Iron Deposits (B5)	🗾 Geomorphi	ic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Ac	quitard (D3)
Water-Stained Leaves (B9)		raphic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutr	al Test (D5)
Field Observations:		
Surface Water Present? Yes No Depth (inche Water Table Present? Yes No Depth (inche Depth (inche Version))	s):	
Saturation Present? Yes No _ Depth (inche (includes capillary fringe)	s): Wetland Hydrology Pres	ent? Yes 🔽 No
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if available:	
Remarks:		
Heavy rainfall for 4 days before and during surveys.		

Sampling Point: W-AA5

	Absolute	• Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: 0* (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:0% (A/B)
6				
7				Prevalence Index worksheet:
		= Total Cov		Total % Cover of: Multiply by:
50% of total cover: <u>0</u>	20% of	total cover:	0	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				5 . 5 . 6
8				1 - Rapid Test for Hydrophytic Vegetation
9				2 - Dominance Test is >50%
	•	= Total Cov	er	$_$ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover:0	20% of	total cover:	0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Poa sp.	80	 ✓ 	ND	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Phalaris arundinacea	10		FACW	1
3. Poa trivialis	10		FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Daucus carota	5			
5				Definitions of Four Vegetation Strata:
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				noight
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10		·		m) tall.
11				,
	105	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 52.	$\frac{100}{20\%}$ of	total cover:	21	
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in
1,				height.
2				
3				
4				
5				Hydrophytic
	0	= Total Cov		Vegetation Present? Yes No
50% of total cover: 0				
Remarks: (Include photo numbers here or on a separate s				I
Wetland with problematic hydrophytic vegetation		d is adiac	ent to Pr	att Compressor Station (industrial area.)
		-		fed by groundwater and rain events making it a
slope wetland. Upland soils north and east of th				is by groundwater and rain events making it a
		a mare il	1301016.	
ND - Not Determined.				

* Vegetation not ID'd to species level not included in dominance test.

Profile Desc	ription: (Describe t	o the depth	needed to docum	nent the i	ndicator	or confirn	n the absence	of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	<u>Texture</u>	Remarks
0-17	2.5Y 5/1	70	10YR 5/6	10	D	Μ	SC	
0-17	7.5YR 3/1	20						
						•		
						·		
						·		
·						·		
¹ Type: $C=Co$	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	I Sand Gr	ains.	² Location: P	L=Pore Lining, M=Matrix.
Hydric Soil						-		ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			2	cm Muck (A10) (MLRA 147)
	ipedon (A2)		Polyvalue Be		ce (S8) (I	/LRA 147,		Coast Prairie Redox (A16)
Black Hi	stic (A3)		Thin Dark Su	irface (S9)	(MLRA	147, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		F2)		P	iedmont Floodplain Soils (F19)
	l Layers (A5)		Depleted Mat					(MLRA 136, 147)
	ck (A10) (LRR N)	(Redox Dark S					ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dar				_ 0	other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	lucky Mineral (S1) (L \ 147, 148)	KK N,	Iron-Mangan MLRA 13		es (F12) (LKK N,		
	leyed Matrix (S4)		Umbric Surfa			6 122)	³ Ind	icators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo					etland hydrology must be present,
	Matrix (S6)		Red Parent N	•				less disturbed or problematic.
	ayer (if observed):							
Type:	-							
51	ches):						Hydric Soil	Present? Yes 🖌 No
Remarks:							,	
rtomarko.								

Project/Site: EEP	City/County: Gree	ene	Sampling Date: 07/10/2015
Applicant/Owner: EQT		State: PA	Sampling Point: W-AA5 UP
Investigator(s): JH, LM, LS, CL	Section, Township		
Landform (hillslope, terrace, etc.): Hillslope			Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 3			
Soil Map Unit Name: Dekalb channery loam, 15 to		•	
Are climatic / hydrologic conditions on the site typical for			
	•		
Are Vegetation, Soil, or Hydrology			" present? Yes No
Are Vegetation, Soil, or Hydrology _	_ naturally problematic?	(If needed, explain any answ	vers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	p showing sampling poi	nt locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes	No 🖌		
Hydric Soil Present? Yes	IS the Salli		No
Wetland Hydrology Present? Yes			
Remarks:			
	I sector the constrained the sector		
Hydric soil is present but lack of hydrology ar	id vegetation makes this a	n upland sample plot.	
L HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Ind	cators (minimum of two required)
Primary Indicators (minimum of one is required; check a	all that apply)	Surface So	
	rue Aquatic Plants (B14)		/egetated Concave Surface (B8)
	ydrogen Sulfide Odor (C1)		Patterns (B10)
	xidized Rhizospheres on Living I		Lines (B16)
Water Marks (B1) P	resence of Reduced Iron (C4)	Dry-Seaso	n Water Table (C2)
Sediment Deposits (B2) R	ecent Iron Reduction in Tilled So	oils (C6) Crayfish B	urrows (C8)
	hin Muck Surface (C7)		Visible on Aerial Imagery (C9)
	ther (Explain in Remarks)		Stressed Plants (D1)
Iron Deposits (B5)			ic Position (D2)
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)		Shallow A	graphic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutr	
Field Observations:			
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Pres	ent? Yes No_
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring we	Il aprial photos, provious inspect	tions) if available:	
Describe Recorded Data (stream gauge, montoring we			
Remarks:			
Heavy rainfall for 4 days before and during su	irveys.		

30'		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Species?	Status	Number of Dominant Species
1	·			That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>3</u> (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC:33% (A/B)
				That are OBL, FACW, OF FAC: (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of:Multiply by:
		Total Cov		$\frac{1}{\text{OBL species}} = \frac{0}{x 1 = 0}$
50% of total cover: 0	20% of to	otal cover:	0	
Sapling/Shrub Stratum (Plot size: 15')				
1				
2				FACU species x 4 =
3				UPL species 70 x 5 = 350
4				Column Totals: <u>120</u> (A) <u>540</u> (B)
5				Prevalence Index = B/A =4.5
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^{1}$
	0 =	Total Cov	er	
50% of total cover:0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Lotus corniculatus	40	~	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Dipsacus laciniatus	50	V	UPL	
3. Securigera varia	20	•		¹ Indicators of hydric soil and wetland hydrology must
			<u>UPL</u>	be present, unless disturbed or problematic.
4. Cirsium arvense	5		F <u>ACU</u>	Definitions of Four Vegetation Strata:
5				-
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10	·			TH) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>57.</u>	5_ 20% of to	otal cover	23	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1. Vitis riparia	5	~	FACW	
2				
3.				
4	•			Hydrophytic
5	·			Vegetation Present? Yes No
0.5		Total Cov		
50% of total cover: <u>2.5</u>	20% of to	otal cover:	<u> </u>	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Desc	cription: (Describe t	o the dent	h needed to docum	nent the	indicator	or confirm	the absence of	of indicators)	oint:	
Profile Description: (Describe to the depth needed to document the indicator or confirm Depth Matrix Redox Features										
(inches)	Color (moist)	%	Color (moist)	<u>~ %</u>	Type ¹	Loc ²	Texture	Remarks		
0-19	7.5YR4/2	95	10 YR5/6	5	С	Μ	SCL			
					·					
					·					
					·					
1 Type: C-C	oncentration, D=Depl	etion RM-	Reduced Matrix M	S-Masker	d Sand Gra	ains	² Location: PL	=Pore Lining, M=Matrix		
Hydric Soil				9-1003800		JII13.		tors for Problematic H		
Histosol			Dark Surface	(S7)				cm Muck (A10) (MLRA		
	pipedon (A2)		Polyvalue Be		ace (S8) (N	ILRA 147,		past Prairie Redox (A16		
	istic (A3)		Thin Dark Su					(MLRA 147, 148)	,	
Hydroge	en Sulfide (A4)		Loamy Gleye		(F2)		Pi	edmont Floodplain Soils	s (F19)	
	d Layers (A5)		Depleted Ma					(MLRA 136, 147)		
	uck (A10) (LRR N)		Redox Dark					Very Shallow Dark Surface (TF12)		
	d Below Dark Surface	e (A11)	Depleted Dar				Ot	her (Explain in Remarks	s)	
	ark Surface (A12)		Redox Depre							
	/lucky Mineral (S1) (L A 147, 148)	RR N,	Iron-Mangan MLRA 13		es (F12) (LRR N,				
	Gleyed Matrix (S4)		Umbric Surfa		(MI RA 13	6 122)	³ Indi	cators of hydrophytic ve	detation and	
	Redox (S5)		Piedmont Flo					land hydrology must be		
	d Matrix (S6)		Red Parent N	•				ess disturbed or problen		
	Layer (if observed):				, ,		1	1		
Type:	-									
	ches):						Hydric Soil	Present? Yes 🖌	No	
Remarks:							,			
	but no hydrology	or hydro	phytic dominan	t vegita	tion.					
,	, ,,	,		0						

Project/Site: EEP	City/County: Gree	ene	Sampling Date: 07/10/2015
Applicant/Owner: EQT		State: PA	Sampling Point: W-AA6
Investigator(s): JH, LM, LS, CL	Section, Township	, Range: NA	
Landform (hillslope, terrace, etc.): Hillslope/Depression		-	Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 39			
Soil Map Unit Name: Huntington silt loam		-	
Are climatic / hydrologic conditions on the site typical for th			
	•		
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology		(If needed, explain any answ	
SUMMARY OF FINDINGS – Attach site map	showing sampling poi	nt locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No Is the Sam		
	NO Is the Sam NO within a W	pied Area etland? Ves 🗸	, No
Wetland Hydrology Present? Yes _	No		
Remarks:	I		
Cowardin Code: PEM			
HGM: Isolated WT: RPWWN			
Groundwater from W-AA6 flows into S-AA5			
HYDROLOGY			
Wetland Hydrology Indicators:		-	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all		Surface Soi	
	ue Aquatic Plants (B14)		egetated Concave Surface (B8)
	drogen Sulfide Odor (C1) idized Rhizospheres on Living I		atterns (B10)
	esence of Reduced Iron (C4)		i Water Table (C2)
	cent Iron Reduction in Tilled Sc	•	
	in Muck Surface (C7)		/isible on Aerial Imagery (C9)
	her (Explain in Remarks)		Stressed Plants (D1)
Iron Deposits (B5)		🗹 Geomorphi	
Inundation Visible on Aerial Imagery (B7)		Shallow Aq	
Water-Stained Leaves (B9)		Microtopogi	raphic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutra	al Test (D5)
Field Observations:			
Surface Water Present? Yes No Do	epth (inches):		
Water Table Present? Yes <u>V</u> No De			
Saturation Present? Yes <u>V</u> No <u>De</u>	epth (inches):0	Wetland Hydrology Prese	ent? Yes 🖌 No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well,	, aerial photos, previous inspec	tions), if available:	
Demortes			
Remarks: Heavy rainfall for 4 days before and during su	rvevs		
	toyo.		

20'	Absolute Dominant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30'</u>) 1	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2		Total Number of Dominant Species Across All Strata: 2 (B)
3 4		()
5		Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
6		Prevalence Index worksheet:
7	0 = Total Cover	Total % Cover of: Multiply by:
50% of total cover: 0	20% of total cover:0	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')		FACW species x 2 =
1		FAC species x 3 =
2		FACU species x 4 =
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		✓ 1 - Rapid Test for Hydrophytic Vegetation
8		✓ 2 - Dominance Test is >50%
9		3 - Prevalence Index is $\leq 3.0^{1}$
	= Total Cover	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of total cover:0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')		
1. Phalaris arundinacea	50 🖌 FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
_{2.} Typha angustifolia	<u>35</u> <u>V</u> <u>OBL</u>	
3. Juncus effusus	F <u>ACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Poa trivialis	20 FACW	Definitions of Four Vegetation Strata:
5		Deminitions of Four Vegetation Strata.
6		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7		more in diameter at breast height (DBH), regardless of height.
8		
9		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.		m) tall.
11.		
	110 = Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 55		
Woody Vine Stratum (Plot size: 15')		Woody vine – All woody vines greater than 3.28 ft in height.
1		
2		
3		
4		Hydrophytic
5		Vegetation
	0 = Total Cover	Present? Yes V No
50% of total cover:0	20% of total cover: 0	
Remarks: (Include photo numbers here or on a separate s	heet.)	

Depth	Matrix <u>Color (moist)</u> 10YR 5/2	<u>%</u> 75 	Color (moist) 10YR 3/6	x Feature 25		<u>Loc²</u> <u>M/PL</u>	Texture Remarks SCL	
0-19	10YR 5/2		10YR 3/6		<u>C</u>	<u>M/PL</u>	SCL	
		etion, RM=	Reduced Matrix, MS	S=Masked	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric S	
Depleted Bel Thick Dark S) don (A2) (A3) ulfide (A4) yers (A5) A10) (LRR N) low Dark Surface Surface (A12) y Mineral (S1) (Lf		 Dark Surface Polyvalue Be Thin Dark Su Loamy Gleye Depleted Ma Redox Dark S Depleted Dai Redox Deprese Iron-Mangan MLRA 13 	elow Surfa irface (S9 ed Matrix trix (F3) Surface (I rk Surface essions (F esse Mass) (MLRA (F2) 	147, 148)	2 cm Muck (A10) (MLRA 147)	
 Sandy Gleye Sandy Redox Stripped Mat 			Umbric Surfa Piedmont Flc Red Parent M	odplain S	oils (F19)	(MLRA 14		
-	er (if observed):							
JI	;):						Hydric Soil Present? Yes <u>V</u> No	
emarks:	·)·							

Project/Site: EEP	City/County: Gr	eene	Sampling Date: 07/10/2015
Applicant/Owner: EQT	Okj/Odukj		_ Sampling Point: W-AA6 UP
Investigator(s):	Section Townsh		
Landform (hillslope, terrace, etc.): Hillslope		, convox, popo): None	Slope (%): 8
Subregion (LRR or MLRA): LRRN		_ Long: -80.12721311840	
Soil Map Unit Name: Huntington silt loam	_ Lat:	_ Long: NWI classifica	
Are climatic / hydrologic conditions on the site ty	pical for this time of year? Yes		
Are Vegetation, Soil, or Hydrolog	-		
Are Vegetation, Soil, or Hydrolog		(If needed, explain any answer	
SUMMARY OF FINDINGS – Attach s			
SUMMARY OF FINDINGS – Attach s			important leatures, etc.
Hydric Soil Present? Yes	V No Is the Sam No V within a V	npled Area Vetland? Yes	No
Remarks: Upland			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required	; check all that apply)	Surface Soil (
Surface Water (A1)	True Aquatic Plants (B14)		etated Concave Surface (B8)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Drainage Patt	
Saturation (A3)	Oxidized Rhizospheres on Living		
Water Marks (B1)	Presence of Reduced Iron (C4)	-	Vater Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled S		
Drift Deposits (B3)	Thin Muck Surface (C7)		sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Remarks)		ressed Plants (D1)
Iron Deposits (B5)		Geomorphic F	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquit	
Water-Stained Leaves (B9)			phic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes No	Depth (inches):		
	Depth (inches):		
Saturation Present? Yes <u>No</u> (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present	t? Yes No
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous inspe	tions), if available:	
Remarks:			u la value la sur la alle ete ne
Heavy rainfall for 4 days before and du	uring surveys. No water table or	saturation 0-20." No othe	r nydrology indicators
present.			

30'	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	<u>% Cover Species? Status</u>	Number of Dominant Species
1. Ulmus rubra	8 🖌 FAC	That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata:3(B)
4		
5		Percent of Dominant Species That Are OBL_EACW, or EAC: 67% (A/B)
		That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
6		Prevalence Index worksheet:
7	8 = Total Cover	Total % Cover of:Multiply by:
50% ()) 1		OBL species x 1 =
451	20% of total cover: <u>1.6</u>	
Sapling/Shrub Stratum (Plot size: 15		FACW species x 2 =
1		FAC species x 3 =
2		FACU species x 4 =
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Dravelance in L D/A
6		Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		✓ 2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0 ¹
	0 = Total Cover	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of total cover:0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Cirsium arvense	60 🖌 FACU	
2. Phalaris arundinacea	40 F ACW	1
3. Apocynum cannabinum	10 FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4		
		Definitions of Four Vegetation Strata:
5		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		more in diameter at breast height (DBH), regardless of
7		height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11		Herb – All herbaceous (non-woody) plants, regardless
	110 = Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>55</u>	20% of total cover: 22	Mandara Allowed during a second station 2,00,6 in
Woody Vine Stratum (Plot size: 15')		Woody vine – All woody vines greater than 3.28 ft in height.
1		Toight
2.		
3		
4		Hydrophytic
5		Vegetation Present? Yes <u>Ves</u> No
	0 = Total Cover	Present? res_ NO
50% of total cover: <u>0</u>	20% of total cover:0	
Remarks: (Include photo numbers here or on a separate s	heet.)	

Profile Desc	ription: (Describe t	o the dep	th needed to docur	nent the ii	ndicator	or confirm	the absence	of indicato	rs.)	
Depth	Matrix		Redo	x Features	<u> </u>		_			
(inches)	Color (moist)		Color (moist)		Type ¹	Loc ²	Texture		Remarks	
0-19	10YR 4/1	60					SCL			
	2.5Y 5/3	40								
	oncentration, D=Depl	otion DM	Boducod Matrix, M	E Mackad	Sand Cri		² Location: P	Doro Linii	a M Matrix	
Hydric Soil				5=IVId5Keu	Saliu Gia	1115.				ydric Soils ³ :
Histosol			Dark Surface	(67)						5
	oipedon (A2)		Dark Surface Polyvalue Be		(S2) or				(10) (MLRA Redox (A16	
Black Hi	•		Thin Dark Su				140) _ 0	(MLRA 14)
	n Sulfide (A4)		Loamy Gleye			47, 140)	Р		odplain Soils	s (F19)
	l Layers (A5)		Depleted Ma		<i>L</i>)			(MLRA 13		, (113)
	ick (A10) (LRR N)		Redox Dark		6)		V		Dark Surfac	e (TF12)
	Below Dark Surface	e (A11)	Depleted Da						n in Remarks	
	ark Surface (A12)		Redox Depre				_	· ·		
Sandy M	lucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Masse	es (F12) (LRR N,				
MLRA	A 147, 148)		MLRA 13	6)						
	Gleyed Matrix (S4)		Umbric Surfa							getation and
	ledox (S5)		Piedmont Flo	•				5	ogy must be	
	Matrix (S6)		Red Parent I	Material (F	21) (MLR	A 127, 147	') un	less disturbe	ed or problen	natic.
Restrictive I	_ayer (if observed):									
Туре:										
Depth (in	ches):						Hydric Soil	Present?	Yes	No 🖌
Remarks:										

Project/Site: EEP	City/County: Greene		Sampling Date: 07/08/2015
Applicant/Owner: EQT			Sampling Point: W-AA2
	Section, Township, Range: <u>N</u>		
Landform (hillslope, terrace, etc.): Depression			Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 39.916			
-			
Are climatic / hydrologic conditions on the site typical for this time	e of year? Yes No _	(If no, explain in Re	marks.)
Are Vegetation, Soil, or Hydrology signif	cantly disturbed? Are "Norma	l Circumstances" pr	esent? Yes No 🗾
Are Vegetation, Soil, or Hydrology natura	ally problematic? (If needed, o	explain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point location	ons, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes <u>Ves</u> No			
Hydric Soil Present? Yes <u>V</u> No	is the sampled Area		No
Wetland Hydrology Present? Yes <u>V</u> No_		Yes	NO
Remarks:			
Cowardin Code: PEM			
HGM: Riverine			
WT: RPWWD			
HYDROLOGY			
Wetland Hydrology Indicators:		•	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all that a		Surface Soil C	
	atic Plants (B14)		etated Concave Surface (B8)
High Water Table (A2) Hydrogel	n Sulfide Odor (C1)	Drainage Patte	
	Rhizospheres on Living Roots (C3)	Moss Trim Lin	
	e of Reduced Iron (C4) on Reduction in Tilled Soils (C6)	Dry-Season W	
· · · · · · · · · · · · · · · · · · ·	k Surface (C7)		ible on Aerial Imagery (C9)
	kplain in Remarks)		essed Plants (D1)
Iron Deposits (B5)		Geomorphic F	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquita	
Water-Stained Leaves (B9)		Microtopograp	hic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral T	est (D5)
Field Observations:			
Surface Water Present? Yes 🖌 No Depth (i	nches): <u>0</u>		
Surface Water Present?Yes✓NoDepth (iWater Table Present?Yes✓NoDepth (i	nches): <u>0</u>		
Saturation Present? Yes 🖌 No Depth (i	nches): Wetland H	Hydrology Present	? Yes 🖌 No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeria	photos, previous inspections), if ava	ailable:	
Damades	· · · ·		
Remarks: Heavy rainfall for 4 days before and during surveys			

20'	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2 3		Total Number of Dominant Species Across All Strata:2 (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: (A/B)
6 7		Prevalence Index worksheet:
·	0 = Total Cover	Total % Cover of:Multiply by:
50% of total cover: 0	20% of total cover: 0	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')		FACW species x 2 =
1. Fraxinus pennsylvanica	8 🖌 FACW	FAC species x 3 =
2		FACU species x 4 =
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		✓ 2 - Dominance Test is >50%
9		3 - Prevalence Index is $\leq 3.0^1$
EQ9/ of total cover	<u>8</u> = Total Cover 20% of total cover: <u>1.6</u>	4 - Morphological Adaptations ¹ (Provide supporting
	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5') 1. Carex Iurida	80 🖌 OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Agrimonia parviflora		
3. Microstegium vimineum		¹ Indicators of hydric soil and wetland hydrology must
		be present, unless disturbed or problematic.
4		Definitions of Four Vegetation Strata:
5		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		more in diameter at breast height (DBH), regardless of
7		height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11	110 = Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>55</u>		
Woody Vine Stratum (Plot size: 15')		Woody vine – All woody vines greater than 3.28 ft in height.
1		
2		
3		
4		Hydrophytic
5	0 = Total Cover	Vegetation Present? Yes <u>Ves</u> No
50% of total cover: <u>0</u>		
Remarks: (Include photo numbers here or on a separate s	heet.)	

Profile Desc	ription: (Describe t	o the depth i	needed to docum	ent the i	ndicator	or confirm	n the absence of indicators.)
Depth	Matrix			Features			
(inches)	Color (moist)		Color (moist)	%	<u>Type</u>	Loc ²	Texture Remarks
0-9	10YR 4/1	93					SC
9-19	10YR 4/1	98	10YR 5/6	7	С	M/PL	SC
						·	
						·	
						·	
·						·	
						·	
¹ Type: C=Co	oncentration, D=Deple	etion, RM=Re	duced Matrix, MS	=Masked	Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			2 cm Muck (A10) (MLRA 147)
	ipedon (A2)		Polyvalue Bel				
Black His			Thin Dark Sur			147, 148)	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleyed		F2)		Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Mat		c)		(MLRA 136, 147)
	ck (A10) (LRR N) I Below Dark Surface	(A11)	Redox Dark S Depleted Dark				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
	irk Surface (A12)	(ATT)	Redox Depres				
	lucky Mineral (S1) (L	RR N.	Iron-Mangane			I RR N.	
-	147, 148)	,	MLRA 136				
	leyed Matrix (S4)		Umbric Surfac		MLRA 13	6, 122)	³ Indicators of hydrophytic vegetation and
	edox (S5)		Piedmont Floo	odplain S	oils (F19)	(MLRA 14	(18) wetland hydrology must be present,
	Matrix (S6)		Red Parent M	aterial (F	21) (MLR	A 127, 147	7) unless disturbed or problematic.
Restrictive L	ayer (if observed):						
Туре:			-				
Depth (inc	:hes):		_				Hydric Soil Present? Yes <u>V</u> No
Remarks:							

Project/Site: EEP		City/C	ounty: Greene		Sampling Date: 07/08/2	2015
Applicant/Owner: EQT					_ Sampling Point: W-A	
Investigator(s): JH, LM, LS	, CL	Sectio	on Township Range N			
Landform (hillslope, terrace, e					Slope (%): 1	0
Subregion (LRR or MLRA): <u>L</u>					Datum:_NAD	
Soil Map Unit Name: Dumps		Lai	Long	NWI classifica		
Are climatic / hydrologic condi						
· -						./
Are Vegetation, Soil, Are Vegetation, Soil, Soil,						•
SUMMARY OF FINDIN	GS – Attach sit	te map showing sam	pling point location	ons, transects,	important features	, etc.
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	Yes	No_ ✓ No_ ✓ No_ ✓	Is the Sampled Area within a Wetland?	Yes	_ No	
Remarks: Cowardin Code: HGM: WT: Heavy rainfall for 4 days	s before and dur	ing surveys. Several	streams in survey a	rea were floode	d.	
HYDROLOGY						
Wetland Hydrology Indicat	ors.			Secondary Indicat	ors (minimum of two requ	uired)
Primary Indicators (minimum		check all that apply)		Surface Soil C		<u>incu)</u>
Surface Water (A1)		True Aquatic Plants (B14)		etated Concave Surface ((B8)
High Water Table (A2)		Hydrogen Sulfide Ode		Drainage Patterns (B10)		
Saturation (A3)		Oxidized Rhizosphere				
Water Marks (B1)		Presence of Reduced			Vater Table (C2)	
Sediment Deposits (B2)		Recent Iron Reductio		Crayfish Burro		
Drift Deposits (B3)		Thin Muck Surface (C			ible on Aerial Imagery (C	9)
Algal Mat or Crust (B4)		Other (Explain in Ren	narks)	Stunted or Str	essed Plants (D1)	
Iron Deposits (B5)				Geomorphic F	Position (D2)	
Inundation Visible on Ae	erial Imagery (B7)			Shallow Aquit	ard (D3)	
Water-Stained Leaves (B9)			Microtopograp	ohic Relief (D4)	
Aquatic Fauna (B13)				FAC-Neutral	Fest (D5)	
Field Observations:		1				
Surface Water Present?		Depth (inches):				
Water Table Present?		Depth (inches):				,
Saturation Present? (includes capillary fringe)	Yes No _			Hydrology Present	? Yes No	<u> </u>
Describe Recorded Data (str	ream gauge, monitor	ring well, aerial photos, pre	vious inspections), if ava	ailable:		
Remarks:						
Heavy rainfall for 4 days	s before and dur	ing surveys				
		ing our oyor				

	Absolute	Dominant	Indicator	Dominance Test worksheet:
		Species?		Number of Dominant Species
1. Aesculus octandra	30	<u>√</u>	FACU	That Are OBL, FACW, or FAC: (A)
2. Robinia pseudoacacia	30		FACU	Total Number of Dominant
3. Acer rubrum	10		FAC	Species Across All Strata:7 (B)
4. Quercus rubra	30	\checkmark	FACU	
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)
6				
7.	-			Prevalence Index worksheet:
	100	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover: 50		total cover:		OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =0
1. Fraxinus americana	10		FACU	FAC species <u>10</u> x 3 = <u>30</u>
2. Prunus americana	40	\checkmark	FACU	FACU species x 4 =944
3. Sassafras albidum	15		FACU	UPL species
4. Quercus alba	10		FACU	Column Totals: 246 (A) 974 (B)
			1 400	
5				Prevalence Index = B/A =4.0
6		·		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8		·		2 - Dominance Test is >50%
9		·		3 - Prevalence Index is ≤3.0 ¹
		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>37.5</u>	20% of	total cover:	15	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')	4.0			Problematic Hydrophytic Vegetation ¹ (Explain)
1. Aesculus octandra	18	✓	FACU	
2. Prunus serotina	10		F <u>ACU</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Potentilla indica	8		FACU	be present, unless disturbed or problematic.
4. Prunus americana	25	\checkmark	F <u>ACU</u>	Definitions of Four Vegetation Strata:
_{5.} Quercus alba	10		FACU	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.		·		m) tall.
11.		·		
· · · ·	71	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>35.5</u>				
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in
				height.
1				
2				
3				
4		·		Hydrophytic
5	0			Vegetation Present? Yes No ✓
		= Total Cov		
50% of total cover:0		total cover:	0	
Remarks: (Include photo numbers here or on a separate sh	neet.)			

Profile Desc	cription: (Describe t	to the dept	th needed to docur	nent the i	ndicator of	or confirm	n the absence	of indicators.)
Depth	Matrix		Redo	x Features	5			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10YR 5/3	100					SCL	
2-19	10YR 5/6	100					SCL	
						·		
			·			·		
				·	<u> </u>	·		
				<u> </u>				
¹ Type: C=C	oncentration, D=Depl	etion. RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains	² Location: Pl	L=Pore Lining, M=Matrix.
Hydric Soil			i i cadood i i ating i i		eand end			ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			2	cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be	. ,	ce (S8) (M	LRA 147.		coast Prairie Redox (A16)
-	istic (A3)		Thin Dark Su					(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye			, -,	Р	iedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma		_/			(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark	• •	6)		V	ery Shallow Dark Surface (TF12)
	d Below Dark Surface	e (A11)	Depleted Dat	· ·	,			other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	/lucky Mineral (S1) (L	RRN	Iron-Mangan			RR N		
	A 147, 148)		MLRA 13		,5 (1 12) (1	,		
	Gleyed Matrix (S4)		Umbric Surfa	,	MLRA 13	6. 122)	³ Ind	icators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo					tland hydrology must be present,
	Matrix (S6)		Red Parent M					less disturbed or problematic.
	Layer (if observed):				, ,			·
Type:								
<u> </u>	ches):						Hydric Soil	Present? Yes No
Remarks:								
Remarks.								

WETLAND DETERMINATION DATA FORM – Easter	rn Mountains and Piedmont Region					
Project/Site: EEP City/County: G	reene Sampling Date: 07/09/2015					
Applicant/Owner: EQT	State: PA Sampling Point: W-AA3					
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA						
Landform (hillslope, terrace, etc.): Hillslope Local relief (concar						
Subregion (LRR or MLRA): LRRN Lat: 39.91694532470						
Soil Map Unit Name: Dormant-Culleoka complex, 15 to 25 percent slopes						
Are climatic / hydrologic conditions on the site typical for this time of year? Yes						
Are Vegetation, Soil, or Hydrology significantly disturbed?						
Are Vegetation, Soil, or Hydrology naturally problematic?						
SUMMARY OF FINDINGS – Attach site map showing sampling p						
Sommart of Thebings – Attach site map showing sampling p	ont locations, transects, important leatures, etc.					
Undria Cail Dragant? Vag Vag	ampled Area Wetland? Yes No					
HGM: Slope WT: RPWWD HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)					
✓ Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)					
✓ High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)					
Saturation (A3) Oxidized Rhizospheres on Livir Water Marks (B1) Presence of Reduced Iron (C4)						
Video Marks (B1) Recent Iron Reduction in Tilled						
Sediment Deposits (B2) Recent for Reduction in Third Solis (C6) Crayist Burlows (C8) Crayist Burlows (C8) Crayist Burlows (C8) Crayist Burlows (C9) Crayist Bur						
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)					
Iron Deposits (B5)	Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)					
Water-Stained Leaves (B9)	Microtopographic Relief (D4)					
Aquatic Fauna (B13)	FAC-Neutral Test (D5)					
Field Observations: Surface Water Present? Yes No Depth (inches):0						
Water Table Present? Yes No Depth (inches) Water Table Present? Yes No Depth (inches)						
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>√</u> No					

Remarks:

Heavy rainfall for 4 days before and during surveys.

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

	Abaaluta	Dominan	t Indiantar	Dominance Test worksheet:	
Tree Stratum (Plot size: <u>30'</u>)		Species			
1				Number of Dominant Species That Are OBL, FACW, or FAC: (A	A)
2					-,
				Total Number of Dominant Species Across All Strata 2 (F	->
3				Species Across All Strata: 2 (E	>)
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100% (A	ч/B)
6		<u> </u>		Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
		= Total Co			
50% of total cover:0	20% o	f total cove	r: <u> </u>	OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =	
1				FAC species x 3 =	
2				FACU species x 4 =	
3		_		UPL species x 5 =	
4				Column Totals: (A)	(B)
5					
6				Prevalence Index = B/A =	
_				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
8				2 - Dominance Test is >50%	
9				3 - Prevalence Index is ≤3.0 ¹	
		= Total Co		4 - Morphological Adaptations ¹ (Provide suppor	rting
50% of total cover: 0	20% o	f total cove	r: <u> </u>	data in Remarks or on a separate sheet)	•
	40			Problematic Hydrophytic Vegetation ¹ (Explain)	
1. Typha angustifolia	40	√	OBL		
2. Carex vulpinoidea	10		OBL	¹ Indicators of hydric soil and wetland hydrology mus	ot
3. Poa trivialis	60	_ ✓	FACW	be present, unless disturbed or problematic.	51
4. Juncus effusus	15	<u> </u>	FACW	Definitions of Four Vegetation Strata:	
_{5.} Solidago sp	5				
6. Lotus corniculatus	5		UPL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm	
7				more in diameter at breast height (DBH), regardless height.	s of
8					
				Sapling/Shrub – Woody plants, excluding vines, le	
9				 than 3 in. DBH and greater than or equal to 3.28 ft (m) tall. 	(1
10					
11	125			Herb – All herbaceous (non-woody) plants, regardle	ess
50% of total cover: 67.5	100	= Total Co	ver 27	of size, and woody plants less than 3.28 ft tall.	
	<u>)</u> 20% 0	r total cove	r: <u> </u>	Woody vine – All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 15')				height.	
1					
2					
3					
4				Hydrophytic	
5		<u> </u>		Vegetation	
	0	= Total Co	ver	Present? Yes <u>√</u> No	
50% of total cover: 0	20% o	f total cove	r: <u>0</u>		
Remarks: (Include photo numbers here or on a separate s	heet.)				
	,				

Profile Desc	ription: (Describe t	o the depth	n needed to docum	nent the i	ndicator	or confirm	the absence of indicators.)	
Depth	Matrix			k Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks	
0-16	10YR6/1	70	10YR4/6	10	RM	M/PL	SCL	
			10YR5/3	20	RM	M/PL	SCL	
		<u> </u>						
		otion DM [Doducod Motrix MC	Maakaa			² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil	oncentration, D=Deple	elion, Rivi=r	Reduced Matrix, Ma	s=iviasked	a Sanu G	ans.	Indicators for Problematic Hyd	ric Soils ³
Histosol			Dark Surface	(97)			2 cm Muck (A10) (MLRA 14	
	bipedon (A2)		Polyvalue Bel	. ,	ce (S8) (MI RA 147		, , , , , , , , , , , , , , , , , , ,
	stic (A3)		Thin Dark Su				(MLRA 147, 148)	
	en Sulfide (A4)		Loamy Gleye			,,	Piedmont Floodplain Soils (F	[;] 19)
	d Layers (A5)		✓ Depleted Mat		,		(MLRA 136, 147)	,
	ick (A10) (LRR N)		Redox Dark S	. ,	-6)		Very Shallow Dark Surface (TF12)
Depleted	d Below Dark Surface	(A11)	Depleted Dar	k Surface	e (F7)		Other (Explain in Remarks)	
Thick Da	ark Surface (A12)		Redox Depre	ssions (F	8)			
	lucky Mineral (S1) (L	RR N,	Iron-Mangane		es (F12)	(LRR N,		
	A 147, 148)		MLRA 136					
	Bleyed Matrix (S4)		Umbric Surfa				³ Indicators of hydrophytic vege	
	ledox (S5)		Piedmont Flo					
	Matrix (S6)		Red Parent M	laterial (F	21) (MLF	RA 127, 147) unless disturbed or problemat	ic.
	Layer (if observed):							
Туре:								
Depth (in	ches):						Hydric Soil Present? Yes <u>√</u>	No
Remarks:							•	
1								

Project/Site: EEP	_ City/County: Greene Sampling Date:
Applicant/Owner: EQT	State: PA Sampling Point: W-AA3 UP
Investigator(s): J. Heule L. McCarrell, L. Sexton, C. Lee	
5 ()	
Subregion (LBR or MLRA): LRRN Lat: 39.916991	Local relief (concave, convex, none): None Slope (%): 10 149540 Long: -80.12501773560 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25	
•	
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrology significant	tly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No_	Is the Sampled Area
Hydric Soil Present? Yes No	— within a Wetland? Yes No
Wetland Hydrology Present? Yes No _	_
Remarks:	
Upland	
HYDROLOGY	
	Cocondons Indicators (minimum of two required)
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1) True Aquatic	
High Water Table (A2) Hydrogen Su Saturation (A3) Oxidized Rhiz	Ifide Odor (C1) Drainage Patterns (B10) zospheres on Living Roots (C3) Moss Trim Lines (B16)
	Reduced Iron (C4) Dry-Season Water Table (C2)
	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Su	
Algal Mat or Crust (B4) Other (Explai	•••
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inche	
Water Table Present? Yes No 🖌 Depth (inche	
Saturation Present? Yes No Depth (inche (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	
Heavy rainfall for 4 days before and during surveys.	

30'	Absolute Dominant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30'</u>) 1	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
2 3		Total Number of Dominant Species Across All Strata: <u>3</u> (B)
4 5		Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)
6		
7		Prevalence Index worksheet:
	0 = Total Cover	
	20% of total cover: 0	
Sapling/Shrub Stratum (Plot size: 15')		
1		FAC species $0 x 3 = 0$ FACU species $100 x 4 = 400$
2		PACO species 100 $x 4 = 100$ UPL species 30 $x 5 = 150$
3		Column Totals: 130 (A) 550 (B)
4		
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7 8		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9	0 = Total Cover	$-$ 3 - Prevalence Index is $\leq 3.0^1$
50% of total cover: 0	20% of total cover:0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size:5')		data in Remarks or on a separate sheet)
1. Lotus corniculatus	30 🖌 UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Cirsium arvense	40 🖌 FACU	
3. Solidago altissima	10 FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Poa pratensis	50 V FACU	Definitions of Four Vegetation Strata:
5		-
6		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7		height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11	130 = Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>65</u> <u>Woody Vine Stratum</u> (Plot size: <u>15'</u>)		Woody vine – All woody vines greater than 3.28 ft in
		height.
1 2		
3.		
4		
5.		Hydrophytic Vegetation
	0 = Total Cover	Present? Yes No 🖌
50% of total cover: <u>0</u>	20% of total cover: 0	
Remarks: (Include photo numbers here or on a separate s	sheet.)	

Profile Desc	ription: (Describe t	o the dept	h needed to document the indicate	or or confirm	the absence of indicators.)	
Depth	Matrix		Redox Features	1		
(inches)	Color (moist)		Color (moist) % Type	$\frac{1}{Loc^2}$	Texture Remarks	
0-19	10YR 4/3	80			SC	
	10YR 7/8	20				
					·	
						—
		otion DM	Deduced Metrix MC Macked Cand	Croine	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil		euon, Rivi=	Reduced Matrix, MS=Masked Sand	Grains.	Indicators for Problematic Hydric Soils ³ :	
5			Dark Surfage (SZ)		-	
Histosol	oipedon (A2)		Dark Surface (S7) Polyvalue Below Surface (S8)		2 cm Muck (A10) (MLRA 147) 148) Coast Prairie Redox (A16)	
Black Hi	· · · · · · · · · · · · · · · · · · ·		Thin Dark Surface (S9) (MLR		(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleyed Matrix (F2)	A 147, 140)	Piedmont Floodplain Soils (F19)	
	l Layers (A5)		Depleted Matrix (F3)		(MLRA 136, 147)	
	ick (A10) (LRR N)		Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)	
	d Below Dark Surface	(A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)	
	ark Surface (A12)	()	Redox Depressions (F8)			
	lucky Mineral (S1) (L	RR N,	Iron-Manganese Masses (F12	2) (LRR N,		
	A 147, 148)					
	Gleyed Matrix (S4)		Umbric Surface (F13) (MLRA	136, 122)	³ Indicators of hydrophytic vegetation and	
	ledox (S5)		Piedmont Floodplain Soils (F1			
	Matrix (S6)		Red Parent Material (F21) (M			
Restrictive I	_ayer (if observed):					
Туре:						
Depth (in	ches):				Hydric Soil Present? Yes No	_
Remarks:						

WETLAND DETERMINAT	ΓΙΟΝ DATA FORM – Eastern Mountai	ns and Piedmo	nt Region			
Project/Site: EEP	City/County: Greene		Sampling Date: 07/10/2015			
Applicant/Owner: EQT	, ,	Sampling Point: W-AA4				
Investigator(s): JH, LM, LS, CL	Section, Township, Range: <u>N/A</u>					
Landform (hillslope, terrace, etc.): Terrace			Slope (%): 2			
Subregion (LRR or MLRA): LRRN			Datum: NAD 83			
Soil Map Unit Name: Dormont silt loam, 8 to 7	-	NWI classificat				
Are climatic / hydrologic conditions on the site typica	-					
Are Vegetation, Soil, or Hydrology _			esent? Yes 🖌 No			
Are Vegetation, Soil, or Hydrology _	✓ naturally problematic? (If needed.	explain any answers				
SUMMARY OF FINDINGS – Attach site						
SUMMART OF TINDINGS - Attach site			important leatures, etc.			
Hydrophytic Vegetation Present?YesHydric Soil Present?YesWetland Hydrology Present?Yes	No No within a Wetland?	Yes_✓	No			
Cowardin Code: PEM HGM: Riverine WT: RPWWD HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indicato	ors (minimum of two required)			
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface Soil C	· · · · ·			
	True Aquatic Plants (B14)		tated Concave Surface (B8)			
	✓ Hydrogen Sulfide Odor (C1)	Drainage Patte				
Saturation (A3)	✓ Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Line	es (B16)			
Water Marks (B1)	Presence of Reduced Iron (C4)	Dry-Season W	ater Table (C2)			
	Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burro	()			
	Thin Muck Surface (C7)		ble on Aerial Imagery (C9)			
	Other (Explain in Remarks)	Stunted or Stre ✓ Geomorphic P	essed Plants (D1)			
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)		Shallow Aquita				
Water-Stained Leaves (B9)		Microtopograp				
Aquatic Fauna (B13)		FAC-Neutral T				
Field Observations:						
Surface Water Present? Yes 🖌 No	Depth (inches):0					
Water Table Present? Yes 🖌 No	Depth (inches):0					

Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):		Wetland Hydrol
Describe Recorded Data	(stream gauge,	monitoring	g well, aerial photos, p	previous inspec	tions), if available:

No _____ Depth (inches):_____

Remarks:

Heavy rainfall for 4 days before and during surveys.

Wetland Hydrology Present? Yes 🧹 No_

001	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100% (A/B)
6				
7				Prevalence Index worksheet:
	0	= Total Cov	er	Total % Cover of:Multiply by:
50% of total cover: 0				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
				FAC species x 3 =
1				FACU species x 4 =
2				
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7		·		✓ 1 - Rapid Test for Hydrophytic Vegetation
8		<u> </u>		\checkmark 2 - Dominance Test is >50%
9				
	0	= Total Cov	rer	3 - Prevalence Index is $≤3.0^1$
50% of total cover:0		total cover:	•	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Carex Iurida	65	1	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Carex vulpinoidea	50			
		•	OBL	¹ Indicators of hydric soil and wetland hydrology must
3. Phalaris arundinacea	5	·	FACW	be present, unless disturbed or problematic.
4. Poa trivialis	5		FACW	Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
		·		Sapling/Shrub – Woody plants, excluding vines, less
9		·		than 3 in. DBH and greater than or equal to 3.28 ft (1
10	·	·		m) tall.
10 11		·		Herb – All herbaceous (non-woody) plants, regardless
11	125	= Total Cov	/er	,
11	<u>125</u> 20% of	= Total Cov	rer 25	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11	<u>125</u> 20% of	= Total Cov	rer 25	Herb – All herbaceous (non-woody) plants, regardless
11	5_ 20% of	total cover:	25	 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
11	5 20% of	total cover	25	 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
11	5 20% of	total cover:	25	 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
11	5 20% of	total cover:	25	 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
11	5 20% of	total cover:	25	 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic
11	520% of	i total cover:		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
11	520% of 	= Total Cover		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic
11	520% of	i total cover:		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
11	520% of	= Total Cover		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
11	520% of	= Total Cover		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
11	520% of	= Total Cover		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
11	520% of	= Total Cover		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
11	520% of	= Total Cover		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
11	520% of	= Total Cover		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
11	520% of	= Total Cover		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
11	520% of	= Total Cover		 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation

Profile Des	cription: (Describe t	o the dept	h needed to docur	nent the	indicator	or confirm	n the absence of indicators.)
Depth	Matrix		Redo	x Feature	S		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-3	10YR 5/1	100					SILC
3-19	10YR 5/1	80	10YR 3/6	80	С	M/PL	SILC
						·	
	·				·	·	
		<u> </u>			·	·	
	·	<u> </u>					· ·
I							
						·	
1							2
	Concentration, D=Depl	etion, RM=	Reduced Matrix, MS	5=Maske	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
-	Indicators:			(07)			-
Histoso			Dark Surface	. ,			2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		. , .		
	listic (A3)		Thin Dark Su Loamy Gleye	,	, .	147, 148)	(MLRA 147, 148)
	en Sulfide (A4) d Layers (A5)		✓ Depleted Ma		(FZ)		Piedmont Floodplain Soils (F19) (MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark \$, ,	-		Very Shallow Dark Surface (TF12)
	ed Below Dark Surface	(A11)	Depleted Dark	,	,		Other (Explain in Remarks)
	ark Surface (A12)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Redox Depre				
	Mucky Mineral (S1) (L	RR N.	Iron-Mangan		,	LRR N.	
-	A 147, 148)	,	MLRA 13			,	
	Gleyed Matrix (S4)		Umbric Surfa		(MLRA 13	86, 122)	³ Indicators of hydrophytic vegetation and
-	Redox (S5)		Piedmont Flo				
	d Matrix (S6)		Red Parent M	•	. ,	•	
Restrictive	Layer (if observed):						
Type:							
Depth (ir	nches):						Hydric Soil Present? Yes _ ✓ No
Remarks:	,						
Remarks.							

Sampling Date: 07/10/2015
State: PA Sampling Point: W-AA4 UP
Ά
ne): None Slope (%): 4
.115212 Datum: NAD 83
NWI classification: None
(If no, explain in Remarks.)
Circumstances" present? Yes No
explain any answers in Remarks.)
ons, transects, important features, etc.
ons, transects, important reatures, etc.
Yes No
Secondary Indicators (minimum of two required)
Surface Soil Cracks (B6)
 Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)

Aquatic Fauna (B13)			FAC-Neutral Test (D5)	
Field Observations:				
Surface Water Present?	-	No 🖌 Depth (inches):		
Water Table Present?	Yes	No 🖌 Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes	No 🖌 Depth (inches):	Wetland Hydrology Present? Yes No✓	
Describe Recorded Data (stre	eam gauge,	monitoring well, aerial photos, previous inspec	ctions), if available:	

Remarks:

Heavy rainfall for 4 days before and during surveys.

, , , , , , , , , , , , , , , , , , ,	Absolute	- Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:0 (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0% (A/B)
6				
				Prevalence Index worksheet:
7	0			Total % Cover of: Multiply by:
		= Total Cov	-	OBL species 0 x 1 = 0
50% of total cover:	20% of	total cover:	0	FACW species $0 \times 2 = 0$
Sapling/Shrub Stratum (Plot size: 15')				
1				
2				FACU species $60 \times 4 = 240$
3				UPL species <u>40</u> x 5 = <u>200</u>
				Column Totals: 100 (A) 440 (B)
4				()
5				Prevalence Index = $B/A = 4.4$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				
0				2 - Dominance Test is >50%
9	0			3 - Prevalence Index is ≤3.0 ¹
		= Total Cov	•	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:0	20% of	total cover:	0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Cirsium arvense	60		F <u>ACU</u>	
2. Securigera varia	40	\checkmark	UPL	
3				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree Mondy plants evoluting vince 2 in (7.6 cm) or
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 50	20% of	total cover:	20	Weedwine All weedwines greater than 2.20 ft in
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in height.
1				- Totgrid
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cov	er	Present? Yes No ✓
50% of total cover: 0	20% of	total cover:	0	
Remarks: (Include photo numbers here or on a separate s				1

Profile Desc	ription: (Describe t	o the dept	h needed to docum	nent the in	dicator of	or confirm	n the absence of indicators.)	
Depth	Matrix		Redox	Features				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks	
0-12	10YR 4/1	100					SCL	
12-20	10YR 7/6	100					SCL	_
								_
		<u> </u>				<u> </u>		—
		<u> </u>						
								_
								—
		<u> </u>						
								-
	oncentration, D=Depl	otion PM-		Maakad	Sond Cro		² Location: PL=Pore Lining, M=Matrix.	—
Hydric Soil			Reduced Matrix, Mc	lviaskeu	Sanu Gra		Indicators for Problematic Hydric Soils ³ :	
Histosol			Dark Surface	(97)			2 cm Muck (A10) (MLRA 147)	
	. ,			. ,	o (S8) (M	I PA 147		
Histic Epipedon (A2) Black Histic (A3)			Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148)					
Hydrogen Sulfide (A4)			Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19)					
Stratified Layers (A5)			Depleted Matrix (F3) (MLRA 136, 147)					
2 cm Muck (A10) (LRR N)			Redox Dark Surface (F6) Very Shallow Dark Surface (TF12)					
Depleted Below Dark Surface (A11)			Very Shallow Dark Gurade (1172) Depleted Dark Surface (F7) Other (Explain in Remarks)					
Thick Dark Surface (A12)			Redox Depressions (F8)					
	lucky Mineral (S1) (L	RR N.	Iron-Mangane		,	.RR N.		
MLRA 147, 148)			MLRA 136)					
Sandy Gleyed Matrix (S4)			Umbric Surface (F13) (MLRA 136, 122)			6, 122)	³ Indicators of hydrophytic vegetation and	
Sandy Redox (S5)			Piedmont Floodplain Soils (F19) (MLRA 148			(MLRA 14	48) wetland hydrology must be present,	
Stripped Matrix (S6)			Red Parent Material (F21) (MLRA 127, 147)			A 127, 147	7) unless disturbed or problematic.	
Restrictive	Layer (if observed):							
Type:								
Depth (inches):							Hydric Soil Present? Yes No _✓	
Remarks:								
r toinianto.								

Project/Site: EEP City/C	_{County:} Greene	Sampling Date: 07/10/2015						
Applicant/Owner: EQT		Sampling Point: W-AA7						
Investigator(s): JH, LM, LS, CL Section	Section, Township, Range: <u>NA</u>							
Landform (hillslope, terrace, etc.): Hillslope Local rel	ief (concave, convex, none): <u>None</u>	Slope (%): 15						
Subregion (LRR or MLRA): LRRN Lat: 39.91692035220	DLong: <u>-80.11417398970</u>	Datum: NAD 83						
Soil Map Unit Name: Dormont silt loam, 8 to 15 percent slopes	NWI classification: None							
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)								
Are Vegetation, Soil, or Hydrologysignificantly disturbed? Are "Normal Circumstances" present? Yes No								
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)								
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.								
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No	Is the Sampled Area within a Wetland? Yes	No∕						
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD								

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)							
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)							
Primary Indicators (minimum of one is required; check all that apply) ✓ Surface Water (A1) ✓ High Water Table (A2) ✓ Hydrogen Sulfide Odor (C1) ✓ Saturation (A3) ✓ Oxidized Rhizospheres on Living I Water Marks (B1) Presence of Reduced Iron (C4) Sediment Deposits (B2) Recent Iron Reduction in Tilled Sc Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Other (Explain in Remarks) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	 Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) 							
Water-Stained Leaves (B9)	Microtopographic Relief (D4)							
Aquatic Fauna (B13) FAC-Neutral Test (D5)								
Field Observations:								
Surface Water Present? Yes <u>✓</u> No Depth (inches): 0								
Water Table Present? Yes 🖌 No Depth (inches): 0								
Saturation Present? Yes <u>✓</u> No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? Yes <u>√</u> No							
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: Heavy rainfall for 4 days before and during surveys.								

HYDROLOGY

Sampling Point: W-AA7

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4		·		Percent of Dominant Species
5		·		That Are OBL, FACW, or FAC: 100% (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov	-	OBL species x1 =
50% of total cover: <u>0</u>	20% of	total cover	0	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15')				FAC species x 2 = FAC species x 3 =
1				FACU species
2				UPL species x 5 =
3				
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				3 - Prevalence Index is $≤3.0^1$
		= Total Cov	-	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of	total cover	0	data in Remarks or on a separate sheet)
	10			Problematic Hydrophytic Vegetation ¹ (Explain)
1. Scirpus atrovirens	10		OBL	
2. Carex vulpinoidea	60	✓	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Phalaris arundinacea	20	·	FACW	be present, unless disturbed or problematic.
4. Poa trivialis	15		FACW	Definitions of Four Vegetation Strata:
5. Poa palustris	40	_ ✓	FACW	Tree March right evelution views 2 in (7.0 err) er
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7		<u></u>		height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9		<u></u>		than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11		·		Herb – All herbaceous (non-woody) plants, regardless
	145	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>72.</u>	5 20% of	total cover	29	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2		<u></u>		
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cov	er	Present? Yes <u>√</u> No
50% of total cover: 0	20% of	total cover	0	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Desc	ription: (Describe to	o the dep	th needed to docur	nent the	indicator	or confirm	n the absence of indicators.)	
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks	
0-19	10YR 3/1	15	10YR 5/8	5	С	Μ	SC	
	10YR 5/1	80						
							· · · · · · · · · · · · · · · · · · ·	
¹ Type: C=Co	oncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Maske	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil I	ndicators:						Indicators for Problematic Hydric S	Soils ³ :
<u> </u>	(A1)		Dark Surface	· · /			2 cm Muck (A10) (MLRA 147)	
	pipedon (A2)		Polyvalue Be		• • •		, 148) Coast Prairie Redox (A16)	
Black Hi	. ,		Thin Dark Su	•	, .	147, 148)	(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		(F2)		Piedmont Floodplain Soils (F19)	
	Layers (A5)		Depleted Ma				(MLRA 136, 147)	-
	ck (A10) (LRR N)	(✓ Redox Dark		,		Very Shallow Dark Surface (TF1)	2)
	Below Dark Surface	(A11)	Depleted Da		. ,		Other (Explain in Remarks)	
	lucky Mineral (S1) (LF		Iron-Mangan		,			
	147, 148)	\\\ \ \	MLRA 13		503 (112) (LIXIX IN,		
	leyed Matrix (S4)		Umbric Surfa		(MLRA 1	36, 122)	³ Indicators of hydrophytic vegetatio	n and
	edox (S5)		Piedmont Flo					
	Matrix (S6)		Red Parent					
Restrictive L	ayer (if observed):							
Туре:								
Depth (inc	ches):						Hydric Soil Present? Yes _ ✓ No	
Remarks:	-							

WETLAND DETERMINATION DATA I	FORM – Eastern Mountains and Pied	dmont Region
Project/Site: EEP	City/County: Greene	Sampling Date: 07/10/2015
Applicant/Owner: EQT		Sampling Point: W-AA7 UP
Investigator(s): JH, LM, LS, CL		
	Local relief (concave, convex, none): None	Slope (%): 20
	2609920 Long: -80.113953935	
Soil Map Unit Name: Dormont-Culleoka complex, 8 to 15 p	-	
Are climatic / hydrologic conditions on the site typical for this time of		
Are Vegetation, Soil, or Hydrology significan		,
Are Vegetation, Soil, or Hydrology adjunitation	problematic? (If needed, explain any and	
		,
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point locations, transe	cts, important features, etc.
Hydrophytic Vegetation Present? Yes No_ ✓ Hydric Soil Present? Yes No_ ✓ Wetland Hydrology Present? Yes No_ ✓	Is the Sampled Area within a Wetland? Yes	No
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary In	dicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that appl	ly) Surface S	Soil Cracks (B6)
Surface Water (A1) True Aquation	c Plants (B14) Sparsely	Vegetated Concave Surface (B8)
		Patterns (B10)
	izospheres on Living Roots (C3) Moss Tri	
		son Water Table (C2)
Sediment Deposits (B2) Recent Iron Drift Deposits (B3) Thin Muck S		Burrows (C8) n Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Expla		or Stressed Plants (D1)
Iron Deposits (B5)		phic Position (D2)
Inundation Visible on Aerial Imagery (B7)		Aquitard (D3)
Water-Stained Leaves (B9)	Microtope	ographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neu	itral Test (D5)
Field Observations:		
	nes):	
Water Table Present? Yes No Depth (inch	ies):	

Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Yes No Depth (inches):

Remarks:

Heavy rainfall for 4 days before and during surveys.

Wetland Hydrology Present? Yes _____ No__

 \checkmark

Sampling Point: W-AA7 UP

	Absolute	- Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species
				That Are OBL, FACW, or FAC:0 (A)
2				Total Number of Dominant
3		·		Species Across All Strata: (B)
4	-			Demonst of Dominant Species
5				Percent of Dominant Species That Are OBL, FACW, or FAC:0% (A/B)
6				
		·	<u> </u>	Prevalence Index worksheet:
7	0			Total % Cover of: Multiply by:
		= Total Cov	-	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
50% of total cover: 0	20% of	total cover	0	
Sapling/Shrub Stratum (Plot size: 15')				
1				FAC species x 3 =0
2				FACU species 115 x 4 = 460
				UPL species 12 x 5 = 60
3				Column Totals: <u>127</u> (A) <u>520</u> (B)
4				$\begin{array}{c} \text{Column rotals.} \\ $
5				Prevalence Index = B/A =4.1
6				
7				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
8		·	<u> </u>	2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	0	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of	total cover	0	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Cirsium arvense	25	1	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
	12			
2. Securigera varia			<u>UPL</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Rubus allegheniensis	80		F <u>ACU</u>	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Demittoris of Pour Vegetation Strata.
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7		. <u> </u>		height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
		·		
11	447	·		Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 58.5	20% of	total cover	23.4	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
_{1.} Rubus allegheniensis	10	\checkmark	FACU	- Hong Ha
2		·		
3				
4				Hydrophytic
5				Vegetation
	4.0	= Total Cov	er	Present? Yes No
50% of total cover: 5		total cover		
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Desc	ription: (Describe t	o the dept	h needed to docu	ment the ir	ndicator o	or confirm	the absence of indicators.)	
Depth	Matrix			x Features	4			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'	Loc ²	Texture Remarks	
0-12	10YR 4/1	100					SCL	
12-20	10YR 7/6	100					SCL	
		·						
		·			<u> </u>			
		·						
·								
·								
¹ Type: C=Co	oncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil	ndicators:						Indicators for Problematic Hydric Soils ³	:
Histosol	(A1)		Dark Surface				2 cm Muck (A10) (MLRA 147)	
	oipedon (A2)		Polyvalue Be		. , .			
Black Hi	. ,		Thin Dark Su			47, 148)	(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		-2)		Piedmont Floodplain Soils (F19)	
	Layers (A5)		Depleted Ma	. ,	2)		(MLRA 136, 147)	
	ick (A10) (LRR N) d Below Dark Surface	(11)	Redox Dark Depleted Da	,	,		Very Shallow Dark Surface (TF12) Other (Explain in Remarks)	
-	ark Surface (A12)	(ATT)	Redox Depre					
	lucky Mineral (S1) (L		Iron-Mangan	,	,	RR N		
	147, 148)		MLRA 13		(1 12) (,		
	ileyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)	³ Indicators of hydrophytic vegetation and	
	edox (S5)		Piedmont Flo					
Stripped	Matrix (S6)		Red Parent I	Material (F2	21) (MLR/	A 127, 147	7) unless disturbed or problematic.	
Restrictive I	_ayer (if observed):							
Туре:								
Depth (ind	ches):						Hydric Soil Present? Yes No _✓	_
Remarks:								

Project/Site: EEP			Greene		Sampling Date: 07/11/2015			
			bunty: <u>creene</u>					
Applicant/Owner: EQT			N		_ Sampling Point: W-AA8			
Investigator(s): JH, LM, LS, CL	Depression		n, Township, Range: <u>N</u>		0			
Landform (hillslope, terrace, etc.):					Slope (%): 0			
Subregion (LRR or MLRA): LRR				0.10237266320	Datum: NAD 83			
Soil Map Unit Name: Dekalb cha				NWI classifica				
Are climatic / hydrologic conditions	on the site typical for the	his time of year? Ye	es No 🗸	(If no, explain in Re	emarks.)			
Are Vegetation, Soil	_, or Hydrology	significantly disturb	oed? Are "Norma	al Circumstances" pi	resent? Yes No 🗸			
Are Vegetation, Soil	_, or Hydrology 🧹	naturally problema	tic? (If needed,	explain any answer	s in Remarks.)			
SUMMARY OF FINDINGS	 Attach site map 	o showing sam	pling point locati	ons, transects,	important features, etc.			
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks:	Yes 🖌	No No No	Is the Sampled Area within a Wetland?	Yes_	No			
Cowardin Code: PEM HGM: Isolated WT: RPWWN								
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary Indicat	ors (minimum of two required)			
Primary Indicators (minimum of o	ne is required; check a	ll that apply)		Surface Soil (Cracks (B6)			
Surface Water (A1)		ue Aquatic Plants (E		Sparsely Vegetated Concave Surface (B8)				
$\frac{\checkmark}{4}$ High Water Table (A2)		drogen Sulfide Odo		Drainage Patterns (B10)				
Saturation (A3)			es on Living Roots (C3)					
Water Marks (B1)		esence of Reduced	n in Tilled Soils (C6)	Dry-Season Water Table (C2)				
Sediment Deposits (B2) Drift Deposits (B3)		in Muck Surface (C		Crayfish Burr	sible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)		her (Explain in Rem			ressed Plants (D1)			
Iron Deposits (B5)	0		landy	Geomorphic F				
Inundation Visible on Aerial I	magery (B7)			Shallow Aquit				
Water-Stained Leaves (B9)					ohic Relief (D4)			
Aquatic Fauna (B13)				✓ FAC-Neutral				
Field Observations:								
		epth (inches):						
Water Table Present? Y	es 🖌 No _ D		3		,			
(includes capillary fringe)	es 🖌 No D	optii (iiioiioo)		Hydrology Present	t? Yes _ ✔ _ No			
Describe Recorded Data (stream	gauge, monitoring well	, aerial photos, prev	vious inspections), if av	ailable:				
Remarks:								
Heavy rainfall for 4 days be	fore and during su	rveys.						
	C C							

Sampling Point: W-AA8

· · · · · ·	Alexalette	-	Le d'anten	Deminence Test worksheet
Tree Stratum (Plot size: <u>30'</u>)		Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>3</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100% (A/B)
6		·		Drevelence Index werkeheet:
7		<u></u>		Prevalence Index worksheet:
	0	= Total Co	ver	Total % Cover of: Multiply by:
50% of total cover: 0	20% of	total cover	r: <u>0</u>	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
				Column Totals: (A) (B)
4				
5				Prevalence Index = B/A =
6		·		Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9		·		3 - Prevalence Index is $\leq 3.0^{1}$
	0	= Total Co	ver	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of	total cover	r: <u>0</u>	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Carex lurida	40	\checkmark	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Carex vulpinoidea	30	\checkmark	OBL	
3. Juncus effusus	40	\checkmark	FACW	¹ Indicators of hydric soil and wetland hydrology must
4. Poa trivialis	25		FACW	be present, unless disturbed or problematic.
		· · · · · · · · · · · · · · · · · · ·		Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		· · · · · · · · · · · · · · · · · · ·		more in diameter at breast height (DBH), regardless of
7				height.
8		·		Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	135	= Total Co	ver	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>67</u> .				
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in height.
1,				neight.
2				
3				
4		· · · · · · · · · · · · · · · · · · ·		Hydrophytic
5		· · · · · · · · · · · · · · · · · · ·		Vegetation
	0	= Total Co	ver	Present? Yes <u>√</u> No
50% of total cover: 0	20% of	total cover	r: <u>0</u>	
Remarks: (Include photo numbers here or on a separate s	sheet.)			
Western 50% of wetland has been mowed in th	e last 2 m	onths e	astern 50)% has not. Therefore, the western part of the

wetland has problematic vegetation. Water table at 0" for entire plot. Wetland ID in the area with hydric vegetation.

	ription: (Describe to	o the dept				or confirm	the absence of	indicators.)	
Depth (inches)	<u>Matrix</u> Color (moist)	%	Redo: Color (moist)	<u>x Feature</u> %	s Type ¹	Loc ²	Texture	Rema	rke
<u>(incries)</u> 0-9	10YR 5/2	70	10YR 4/6	/0	C	<u></u>	SC	Keilid	1K5
0-9	10110 3/2	10	1011(4/0		0				
		<u> </u>							
		<u> </u>							
¹ Type: C=C	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	d Sand G	rains.	² Location: PL=	Pore Lining, M=Ma	atrix.
Hydric Soil			·					ors for Problemati	
<u> </u>	(A1)		Dark Surface	(S7)			2 cr	n Muck (A10) (MLI	RA 147)
Histic Ep	pipedon (A2)		Polyvalue Be	low Surfa	ce (S8) (I	MLRA 147,	148) Coa	ast Prairie Redox (A	A16)
Black Hi	stic (A3)		Thin Dark Su	rface (S9) (MLRA	147, 148)	(MLRA 147, 148)	
Hydroge	en Sulfide (A4)		Loamy Gleye		(F2)		Pie	dmont Floodplain S	oils (F19)
	d Layers (A5)		✓ Depleted Mat	, ,			•	MLRA 136, 147)	
	ıck (A10) (LRR N)		Redox Dark S		,			y Shallow Dark Su	
	d Below Dark Surface	(A11)	Depleted Dar				Oth	er (Explain in Rem	arks)
	ark Surface (A12)		Redox Depre						
	lucky Mineral (S1) (LI	RR N,	Iron-Mangan		es (F12)	(LRR N,			
	A 147, 148)		MLRA 13	•		00 400)	31.0.01		
	Bleyed Matrix (S4) Redox (S5)		Umbric Surfa Piedmont Flo	. ,	•			ators of hydrophytic and hydrology must	•
·	Matrix (S6)		Red Parent N	•		•		s disturbed or prob	•
	Layer (if observed):			nateriai (i		(A 121, 141) unles		Jemaic.
Type: Be	• • •								
JI -	ches): <u>9"</u>								
	cnes): <u> </u>						Hydric Soli P	resent? Yes <u></u>	No
Remarks:									

Project/Site: EEP	_ City/County: Greene	_ Sampling Date: 07/11/2015					
Applicant/Owner: EQT	State: PA	Sampling Point: W-AA8 UP					
Investigator(s): J. Heule, L. McCarell, L. Sexton, C. Lee	_ Section, Township, Range: NA						
Landform (hillslope, terrace, etc.): Flat plain	ocal relief (concave, convex, none): <u>None</u>	Slope (%): <u>0</u>					
Subregion (LRR or MLRA): LRRN Lat: 39.917200	006700 Long: -80.10240104760	0 Datum: NAD 83					
Soil Map Unit Name: Dekalb channery loam, 25 to 80 percent slopes NWI classification: None							
Are climatic / hydrologic conditions on the site typical for this time of y	year? Yes No 🖌 (If no, explain in I	Remarks.)					
Are Vegetation, Soil, or Hydrology significant	ly disturbed? Are "Normal Circumstances"	present? Yes No					
Are Vegetation, Soil, or Hydrology naturally p	oroblematic? (If needed, explain any answ	ers in Remarks.)					
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transect	s, important features, etc.					
Hydrophytic Vegetation Present? Yes No_	- Is the Sampled Area						
Hydric Soil Present? Yes No		No 🗸					
Wetland Hydrology Present? Yes No_							
Remarks:							
Upland							

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
	 Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Ver Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Ves No Depth (inches):	Wetland Hydrology Present? Yes No
Saturation Present? Yes No 🖌 Depth (inches):	

Sampling Point: W-AA8 UP

001	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Tatal New Jones (Developed)
3				Total Number of Dominant Species Across All Strata: 2 (B)
4				
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0% (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov		
50% of total cover: 0	20% of	total cover:	0	
Sapling/Shrub Stratum (Plot size: 15')				FACW species $0 x 2 = 0$
1				FAC species $0 \times 3 = 0$
2				FACU species <u>115</u> x 4 = <u>460</u>
3				UPL species 30 x 5 = 150
				Column Totals: 145 (A) 610 (B)
4				
5				Prevalence Index = B/A =4.2
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^1$
	0	= Total Cov	er	
50% of total cover:0	20% of	total cover:	0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Trifolium pratense	25		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Daucus carotaz	10	·	UPL	
3. Securigera varia	20	·		¹ Indicators of hydric soil and wetland hydrology must
			UPL	be present, unless disturbed or problematic.
4. Phleum pratense	60		F <u>ACU</u>	Definitions of Four Vegetation Strata:
5. Dactylis glomerata	30		FACU	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8.				
0				Sapling/Shrub – Woody plants, excluding vines, less
10				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10		·		inj tan.
11	4.45	·		Herb – All herbaceous (non-woody) plants, regardless
70.4	- 145	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>72.</u>	<u>)</u> 20% of	total cover:	29	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4				
		·		Hydrophytic
5	~			Vegetation Present? Yes No√
50% of table areas		= Total Cov		
50% of total cover:		total cover:	0	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Desc	ription: (Describe t	o the dept	h needed to docum	nent the in	dicator o	or confirm	the absence	e of indicators.)		
Depth	Matrix		Redo	x Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	R	emarks	
0-12	10YR4/1	100					SCL			
12-20	10YR7/6	100					SCL			
·										
·										
·										
¹ Type: C=C	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked S	Sand Gra	ains.	² Location: F	L=Pore Lining, M	=Matrix.	
Hydric Soil	Indicators:						Indic	ators for Probler	matic Hydri	: Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			2	2 cm Muck (A10) (MLRA 147)	
Histic Ep	bipedon (A2)		Polyvalue Be	low Surface	e (S8) (M	LRA 147,	148) (Coast Prairie Redo	ох (A16)	
Black Hi	,		Thin Dark Su		. , .		,	(MLRA 147, 14	. ,	
	en Sulfide (A4)		Loamy Gleye				F	Piedmont Floodpla		Э)
	d Layers (A5)		Depleted Ma		,			(MLRA 136, 14	,	,
2 cm Mu	ick (A10) (LRR N)		Redox Dark	Surface (F6	5)		١	/ery Shallow Dark		-12)
	d Below Dark Surface	e (A11)	Depleted Dar					Other (Explain in F		,
Thick Da	ark Surface (A12)		Redox Depre	essions (F8))					
Sandy M	lucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Masses	s (F12) (l	_RR N,				
	A 147, 148)		MLRA 13							
Sandy G	Bleyed Matrix (S4)		Umbric Surfa	ice (F13) (N	ILRA 13	6, 122)	³ Inc	dicators of hydrop	hytic vegeta	ion and
Sandy R	Redox (S5)		Piedmont Flo	odplain Soi	ils (F19)	(MLRA 14	• 8) we	etland hydrology r	nust be pres	ent,
Stripped	Matrix (S6)		Red Parent N	Aaterial (F2	1) (MLR/	A 127, 147	') ur	less disturbed or	problematic	
Restrictive	Layer (if observed):									
Type:										
Depth (in	ches):						Hydric Soi	Present? Yes	s N	lo √
Remarks:									· ·	
Remarks.										

Project/Site: EEP	City/County:	Greene		Sampling Date: 10/09/2015
Applicant/Owner: EQT				Sampling Point: W-M1
	Section, Tov			
Landform (hillslope, terrace, etc.): Hill slope			Linear	Slope (%): 12-15%
Subregion (LRR or MLRA): LRRN				
•				
Soil Map Unit Name: Dekalb channery loam,				
Are climatic / hydrologic conditions on the site typica	•			
Are Vegetation, Soil, or Hydrology _	significantly disturbed?	Are "Normal Circ	umstances" pre	esent? Yes 🗾 No
Are Vegetation, Soil, or Hydrology _	naturally problematic?	(If needed, explai	in any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site	e map showing sampling	g point locations,	transects,	important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No withi	e Sampled Area n a Wetland?	Yes 🖌	No
Wetland Hydrology Present? Yes	No			
Remarks: Cowardin Code: PEM HGM: Slope WT: Isolate				
HYDROLOGY				
Wetland Hydrology Indicators:		Sec	ondary Indicato	ors (minimum of two required)
Primary Indicators (minimum of one is required; ch			Surface Soil C	
	True Aquatic Plants (B14)			tated Concave Surface (B8)
	Hydrogen Sulfide Odor (C1)		Drainage Patte	
	Oxidized Rhizospheres on L	•	Moss Trim Line	
	Presence of Reduced Iron (Recent Iron Reduction in Til		Crayfish Burro	ater Table (C2)
· · · · · · · · · · · · · · · · · · ·	Thin Muck Surface (C7)		-	ble on Aerial Imagery (C9)
	Other (Explain in Remarks)			essed Plants (D1)
Iron Deposits (B5)			Geomorphic P	
Inundation Visible on Aerial Imagery (B7)			Shallow Aquita	
Water-Stained Leaves (B9)		_	Microtopograp	hic Relief (D4)
Aquatic Fauna (B13)		<u>~</u>	FAC-Neutral T	est (D5)
Field Observations:				
	Depth (inches):			
	Depth (inches):			
Saturation Present? Yes No (includes capillary fringe)	Depth (inches):	Wetland Hydro	ology Present	? Yes 🖌 No
Describe Recorded Data (stream gauge, monitorir	ng well, aerial photos, previous i	nspections), if available):	
Remarks:				

Sampling Point: W-M1

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: 1 (A)
2				
3				Total Number of Dominant Species Across All Strata: 1 (B)
				Species Across Air Strata. (D)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100% (A/B)
6				Prevalence Index worksheet:
7				
		= Total Cov		Total % Cover of: Multiply by:
50% of total cover: 0	20% of	total cover	: 0	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
				Column Totals: (A) (B)
4				
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				
	0	= Total Cov	/er	3 - Prevalence Index is $≤3.0^1$
50% of total cover: 0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Phalaris arundinacea	75	V	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Solidago altissima	10			
			FACU	¹ Indicators of hydric soil and wetland hydrology must
3. Rosa multiflora	10		FACU	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8			·	
				Sapling/Shrub – Woody plants, excluding vines, less
9			·	than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				
11			·	Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 47.	20% of	total cover	: 19	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4			·	
5			·	Hydrophytic
	0		·	Vegetation Present? Yes V No
		= Total Cov total cover		
50% of total cover: <u>0</u>		IULAI CUVEI		
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Desc	ription: (Describe	to the dept	h needed to docur	nent the i	indicator	or confirm	n the absence	e of indicators.)
Depth	Matrix		Redo	x Feature	S			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2"	10YR 2/1	100%					CL	Organics
2-8"	2.5Y 5/2	80	7.5YR 5/6	20	С	PL	GRCL	
	2101 0/2				<u> </u>			
——					·			
<u> </u>					·			
¹ Type: C=Co	oncentration, D=Dep	oletion, RM=	Reduced Matrix, MS	S=Masked	d Sand Gr	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indic	ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			:	2 cm Muck (A10) (MLRA 147)
Histic Ep	oipedon (A2)		Polyvalue Be				, 148) (Coast Prairie Redox (A16)
Black Hi	stic (A3)		📕 Thin Dark Su			147, 148)		(MLRA 147, 148)
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)		!	Piedmont Floodplain Soils (F19)
Stratified	l Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136, 147)
2 cm Mu	ick (A10) (LRR N)		Redox Dark	Surface (F	-6)			Very Shallow Dark Surface (TF12)
	d Below Dark Surfac	e (A11)	Depleted Date				0	Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	lucky Mineral (S1) (I	LRR N,	Iron-Mangan	ese Mass	es (F12)	(LRR N,		
	A 147, 148)		MLRA 13					
	leyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
	ledox (S5)		Piedmont Flo					etland hydrology must be present,
	Matrix (S6)		Red Parent N	Material (F	⁻ 21) (ML F	RA 127, 147	7) ui	nless disturbed or problematic.
Restrictive I	_ayer (if observed)	:						
Туре:								
Depth (ind	ches):						Hydric Soi	il Present? Yes 🖌 No
Remarks:								

Project/Site: EEP		City/Co	_{unty:} Greene		Sampling Date: 10/09/2015
Applicant/Owner: EQT			5		_ Sampling Point: W-M1 UPL
Investigator(s): J. McGuirk, A. Meng	el	Section			_ 1 3
Landform (hillslope, terrace, etc.): Hill sl					Slope (%): 8-10%
Subregion (LRR or MLRA): LRRN					
Soil Map Unit Name: Dekalb channer					
Are climatic / hydrologic conditions on the					
				•	
Are Vegetation, Soil, or H					resent? Yes <u>/</u> No
Are Vegetation, Soil, or H				explain any answer	
SUMMARY OF FINDINGS – Att	ach site map s	showing samp	oling point locatio	ons, transects,	important features, etc.
Hydrophytic Vegetation Present?	Yes No) <u> </u>	Is the Sampled Area		
Hydric Soil Present?	Yes No		within a Wetland?	Yes	No
Wetland Hydrology Present?	Yes No)			
Remarks: Upland					
HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is re	•			Surface Soil (
Surface Water (A1)		Aquatic Plants (B			etated Concave Surface (B8)
High Water Table (A2)		ogen Sulfide Odor		Drainage Patt	
Saturation (A3)			s on Living Roots (C3)	Moss Trim Lir	
Water Marks (B1) Sediment Deposits (B2)		ence of Reduced I	in Tilled Soils (C6)	Dry-Season v	Vater Table (C2)
Drift Deposits (B3)		Muck Surface (C7		-	sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		r (Explain in Rema			ressed Plants (D1)
Iron Deposits (B5)		(ZApidini in Horne		Geomorphic F	
Inundation Visible on Aerial Imager	/ (B7)			Shallow Aquit	
Water-Stained Leaves (B9)	. ,			Microtopogra	phic Relief (D4)
Aquatic Fauna (B13)				FAC-Neutral	Test (D5)
Field Observations:					
	No 🖍 Dep				
	No 🖍 Dep				
Saturation Present? Yes (includes capillary fringe)	No 🖍 Dep	th (inches):	Wetland H	lydrology Present	t? Yes No
Describe Recorded Data (stream gauge	, monitoring well, a	erial photos, previ	ous inspections), if ava	ilable:	
Remarks:					

Sampling Point: W-M1 UPL

20	Absolute Domina	ant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	<u>% Cover</u> Specie		Number of Dominant Species
1. Gleditsia triacanthos	15 🖌	FAC	That Are OBL, FACW, or FAC: (A)
2			Tatal Number of Deminant
3			Total Number of Dominant Species Across All Strata: <u>3</u> (B)
4			Percent of Dominant Species
5			That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
6	·		Prevalence Index worksheet:
7			
	= Total (Cover	Total % Cover of:Multiply by:
50% of total cover: 7.5	20% of total co	ver: 3	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')			FACW species x 2 =
1			FAC species x 3 =
			FACU species x 4 =
2			UPL species x 5 =
3	· ·		
4			Column Totals: (A) (B)
5			Prevalence Index = B/A =
6			Hydrophytic Vegetation Indicators:
7			
8			1 - Rapid Test for Hydrophytic Vegetation
9.	·		2 - Dominance Test is >50%
	0 = Total (3 - Prevalence Index is $≤3.0^1$
			4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>0</u>	20% of total co	ver:	data in Remarks or on a separate sheet)
	40		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Phleum pratense	40 🖌	FACU	
2. Dactylis glomerata	40 🗸	FACU	1
_{3.} Achillea millefolium	10	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Plantago lanceolata	10	UPL	
5. Solidago sp.	10	<u>01 L</u> ND	Definitions of Four Vegetation Strata:
6. Solanum carolinense	5		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. Solandin carolinense		FACU	more in diameter at breast height (DBH), regardless of
7	· ·		height.
8			Sanling/Shrub Woody plants, avaluding vines, loss
9			Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.			m) tall.
11	· ·		
	115 = Total (Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>57.</u>	5 - 20% of total co	20ver 23	or size, and woody plants less than 5.20 it tall.
$\frac{50\% \text{ of total cover}}{15'}$		ver. <u>20</u>	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')			height.
1	· ·		
2	· ·		
3			
4			the description
5.			Hydrophytic Vegetation
	= Total (Present? Yes No V
50% of total cover: 0			
Remarks: (Include photo numbers here or on a separate s	sneet.)		
ND - Not determined			

Profile Desc	ription: (Describe	to the dept	h needed to docun	nent the i	ndicator	or confirn	n the absence	e of indicator	°s.)	
Depth	Matrix		Redo	x Feature	s					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-6"	10YR 4/3	95	7.5YR 4/4	5	С	M	SiL			
6-12"	10YR 6/2	100%					GRL		Disturbe	ed
12+									Refusa	d
						·				
		·				·				
		·				·		·		
		·						·		
1 						·	21			
Hydric Soil	oncentration, D=Depl	ietion, RIVI=	Reduced Matrix, MS	s=IVIasked	i Sand Gr	ains.		PL=Pore Linin ators for Pro		
Histosol			Dark Surface	(57)				2 cm Muck (A		
	bipedon (A2)		Polyvalue Be		ce (S8) (I	/II RA 147.		Coast Prairie		
Black Hi	•		Thin Dark Su					(MLRA 147		
	en Sulfide (A4)		Loamy Gleye				F	Piedmont Floo		(F19)
Stratified	d Layers (A5)		Depleted Mat	trix (F3)				(MLRA 136	6, 147)	
	ıck (A10) (LRR N)		Redox Dark S	Surface (F	6)			/ery Shallow		
Depleted	d Below Dark Surface	e (A11)	Depleted Dar				(Other (Explair	n in Remarks	5)
	ark Surface (A12)		Redox Depre							
	lucky Mineral (S1) (L	_RR N,	Iron-Mangane		es (F12) (LRR N,				
	A 147, 148)		MLRA 130				31			
	Gleyed Matrix (S4)		Umbric Surfa Piedmont Flo					dicators of hy etland hydrolo		
	Redox (S5) Matrix (S6)		Red Parent N	•				nless disturbe		
	Layer (if observed):									
Type: St										
	ches): 12"						Hydric Soi	Present?	Yes	No 🖌
Remarks:										
Romanto.										

tains and Diadmont D .

WETLAND	DETERMINATION	DATA FORM -	– Eastern N	lountains	and Piedmo	ont Region	
Project/Site: EEP		City/C	_{county:} Greer	ne		Sampling Date: 07	7/11/2015
Applicant/Owner: EQT				S	tate: PA	_ Sampling Point:	W-AA9
Investigator(s): JH, LM, LS, C							
Landform (hillslope, terrace, etc.					Concave	Slope	(%): 0
Subregion (LRR or MLRA): LR							
Soil Map Unit Name: Glenford				-			
Are climatic / hydrologic conditio							
Are Vegetation, Soil							No
Are Vegetation, Soil							
SUMMARY OF FINDING	S – Attach site map	o showing sam	npling point	t locations	, transects,	important fea	tures, etc.
Hydrophytic Vegetation Present Hydric Soil Present? Wetland Hydrology Present? Remarks: Cowardin Code: PEM HGM: Isolated WT: RPWWN	Yes 🖌	No No No	Is the Sampl within a Wet		Yes_ ✓	_ No	
HYDROLOGY Wetland Hydrology Indicator	s:			Se	condary Indicate	ors (minimum of tv	vo required)
Primary Indicators (minimum of Surface Water (A1) ✓ High Water Table (A2) ✓ Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aeria Water-Stained Leaves (B9) Aquatic Fauna (B13)	— Tr — Hy — Ox — Pr — Re — Th — Ot	II that apply) ue Aquatic Plants (I vdrogen Sulfide Odd kidized Rhizosphere esence of Reduced ecent Iron Reduction in Muck Surface (C her (Explain in Ren	or (C1) es on Living Ro d Iron (C4) n in Tilled Soils C7)	bots (C3) s (C6) ✓	Drainage Patt Moss Trim Lin Dry-Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic F Shallow Aquita	etated Concave Su erns (B10) /ater Table (C2) /ater (C2) /ater (C3) /ater (C3)	gery (C9)
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (streat Remarks: Heavy rainfall for 4 days b		epth (inches): epth (inches): , aerial photos, pre		-		? Yes <u>√</u>	No

Sampling Point: W-AA9

	Abcoluto	• Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		
<u> </u>				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3			·	Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100% (A/B)
6				
7.				Prevalence Index worksheet:
	0	= Total Cov		Total % Cover of: Multiply by:
50% of total cover:0				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')	2070.01			FACW species x 2 =
				FAC species x 3 =
1				
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				
6			·	Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	0	= Total Cov	/er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of	f total cover	: 0	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Phalaris arundinacea	5		FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Carex vulpinoidea	30	\checkmark	OBL	
3. Juncus tenuis	20		FAC	¹ Indicators of hydric soil and wetland hydrology must
4. Poa trivialis	60			be present, unless disturbed or problematic.
••	E	•	FACW	Definitions of Four Vegetation Strata:
5. Phleum pratense	5		FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
			·	m) tall.
10				
11	120			Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>60</u>	20% of	f total cover	. 24	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4				
			·	Hydrophytic
5	0			Vegetation Present? Yes <u>√</u> No
		= Total Cov	-	
50% of total cover: 0		f total cover	: 0	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Depth (inches) Matrix Redox Features 0-19 10YR 5/1 97 10YR 5/8 3 C M SiCL 0-19 10YR 5/1 97 10YR 5/8 3 C M SiCL 0
0-19 10YR 5/1 97 10YR 5/8 3 C M SiCL
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Histosol (A1)
Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) ✓ Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Iron-Manganese Masses (F12) (LRR N, Sandy Gleyed Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:
Black Histic (A3)
Stratified Layers (A5) ✓ Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type:
2 cm Muck (A10) (LRR N)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Remarks:
Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Remarks:
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Image:
MLRA 147, 148) MLRA 136)
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Remarks:
Restrictive Layer (if observed): Type:
Type:
Depth (inches):
Remarks:
Soft iron-manganese masses in question do not have diffuse boundaries.
8

Project/Site: EEP	city/County: Greene	Sampling Date: 07/11/2015
Applicant/Owner: EQT		State: PA Sampling Point: W-AA9 UP
Investigator(s): J. Heule L. Sexton C. Le	ee L. McCarrell Section, Township, Range	
Landform (hillslope, terrace, etc.): Flat plair	Local relief (concave, convex,	, none): <u>None</u> Slope (%): <u>0</u>
Subregion (LRR or MLRA): LRRN	Lat: <u>39.91470007700</u> Long:	-80.09407900410 Datum: NAD 83
Soil Map Unit Name: Glenford silt loam,	3 to 8 percent slopes	NWI classification: None
Are climatic / hydrologic conditions on the site	typical for this time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydro	logy significantly disturbed? Are "Nor	rmal Circumstances" present? Yes No
	logy naturally problematic? (If neede	
SUMMARY OF FINDINGS – Attack	n site map showing sampling point loca	ations, transects, important features, etc.
Wetland Hydrology Present? Ye Remarks:	No_√ Is the Sampled Arguing As No_√ Ss No_√	ea Yes No∕
Upland HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required)	ed; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3)	 Oxidized Rhizospheres on Living Roots (C 	C3) Moss Trim Lines (B16)

Saturation (A3)			Oxidized Rhizospheres on Living F	Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1)			Presence of Reduced Iron (C4)		Dry-Season Water Table (C2)
Sediment Deposits (B2)			Recent Iron Reduction in Tilled So	oils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)			Thin Muck Surface (C7)		Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)			Other (Explain in Remarks)		Stunted or Stressed Plants (D1)
Iron Deposits (B5)					Geomorphic Position (D2)
Inundation Visible on Aeri	al Imagery (B [.]	7)			Shallow Aquitard (D3)
Water-Stained Leaves (BS	9)				Microtopographic Relief (D4)
Aquatic Fauna (B13)					FAC-Neutral Test (D5)
Field Observations:					
Surface Water Present?	Yes	No 🖌	Depth (inches):		
Water Table Present?	Yes	No 🖌	Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes	No 🖌	Depth (inches):	Wetland I	Hydrology Present? Yes No✓
Describe Recorded Data (strea	am gauge, mo	onitoring v	vell, aerial photos, previous inspect	tions), if ava	ailable:

Remarks:

Heavy rainfall for 4 days before and during surveys. Several streams in survey area were flooded.

Sampling Point: W-AA9 UP

	Absolute	• Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		
1 Ulmus rubra	8		FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
·· <u> </u>				
2				Total Number of Dominant
3				Species Across All Strata: <u>2*</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 50% (A/B)
6				
7.				Prevalence Index worksheet:
	8	= Total Co	/er	Total % Cover of: Multiply by:
50% of total cover: 4				OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 18 x 2 = 36
				FAC species 13 x 3 = 39
1				FACU species 25 $x = 100$
2		· ·		
3				
4				Column Totals: <u>86</u> (A) <u>325</u> (B)
5				Prevalence Index = $B/A = 3.8$
6				
7				Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9.				2 - Dominance Test is >50%
- 9	0	= Total Co		$_$ 3 - Prevalence Index is $\leq 3.0^1$
50% of total cover: 0		f total cover	-	4 - Morphological Adaptations ¹ (Provide supporting
	20% 0	total cover		data in Remarks or on a separate sheet)
	25	/		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Unknown grass	35	v	ND	
2. Daucus carotaz	18		FACW	¹ Indicators of hydric soil and wetland hydrology must
3. Apocynum cannabinum	10		FACU	be present, unless disturbed or problematic.
4. Dichanthelium clandestinum	5		FAC	Definitions of Four Vegetation Strata:
5. Hyssop officinalis	30	\checkmark	UPL	Deminions of Four Vegetation offata.
6. Rubus allegheniensis	15		FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
				noight.
8				Sapling/Shrub – Woody plants, excluding vines, less
9		. <u> </u>		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		·		m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
50.5		= Total Co	/er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>56.5</u>	20% of	f total cover	22.6	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4				
5				Hydrophytic Vegetation
	0	= Total Co	/or	Present? Yes No 🗸
50% of total cover: 0		f total cover		
Remarks: (Include photo numbers here or on a separate si			·	
	1000.)			

Profile Desc	ription: (Describe t	o the dep	th needed to document the indicator or confirm	the absence	of indicators.)				
Depth	Matrix		Redox Features						
(inches)	Color (moist)	%	Color (moist) % Type ¹ Loc ²	Texture	Rema	rks			
0-12	10YR4/1	90		SC					
	10YR7/6	10							
11-19	10YR7/6	100		SCL					
		ation BM	Reduced Matrix, MS=Masked Sand Grains.	² Location: D	L=Pore Lining, M=Ma	trix			
Hydric Soil					ators for Problemation	-			
Histosol			Dark Surface (S7)		2 cm Muck (A10) (MLF	-			
	vipedon (A2)		Polyvalue Below Surface (S8) (MLRA 147,		Coast Prairie Redox (A				
Black Hi			Thin Dark Surface (S9) (MLRA 147, 148)	_,	(MLRA 147, 148)	- /			
Hydroge	n Sulfide (A4)		Loamy Gleyed Matrix (F2)	F	Piedmont Floodplain S	oils (F19)			
	Layers (A5)		Depleted Matrix (F3)		(MLRA 136, 147)				
	ck (A10) (LRR N)		Redox Dark Surface (F6)	V	/ery Shallow Dark Sur	face (TF12)			
Depleted	Below Dark Surface	(A11)	Depleted Dark Surface (F7)		Other (Explain in Rema	arks)			
Thick Da	ark Surface (A12)		Redox Depressions (F8)	edox Depressions (F8)					
Sandy M	lucky Mineral (S1) (L	RR N,	Iron-Manganese Masses (F12) (LRR N,						
MLRA	A 147, 148)		MLRA 136)						
	ileyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)		dicators of hydrophytic	-			
Sandy R	edox (S5)		Piedmont Floodplain Soils (F19) (MLRA 14	8) we	etland hydrology must	be present,			
	Matrix (S6)		Red Parent Material (F21) (MLRA 127, 147	') un	less disturbed or prob	lematic.			
Restrictive I	ayer (if observed):								
Туре:						,			
Depth (ind	ches):			Hydric Soil	Present? Yes	No _✓			
Remarks:									

Project/Site: EEP	City/Cour	_{nty:} Greene	Sampling Date: 07/12/2015
Applicant/Owner: EQT		State: PA	Sampling Point: W-AA10
Investigator(s): JH, LM, LS, CL	Section, ⁻	Township, Range: NA	
Landform (hillslope, terrace, etc.): Depression			Slope (%); 0
Subregion (LRR or MLRA): LRRN			
Soil Map Unit Name: Dormont-Culleoka co			
Are climatic / hydrologic conditions on the site ty			
Are Vegetation, Soil, or Hydrolog	-		
Are Vegetation, Soil, or Hydrolog			
SUMMARY OF FINDINGS – Attach s	ite map showing sampli	ing point locations, transects	, important features, etc.
Hydrophytic Vegetation Present?YesHydric Soil Present?YesWetland Hydrology Present?Yes	<u> </u>	the Sampled Area ithin a Wetland? Yes	No
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD PEM is cut out of forrest, not a PFO			
HYDROLOGY			
Wetland Hydrology Indicators:			tors (minimum of two required)
Primary Indicators (minimum of one is required		Surface Soil (
Surface Water (A1)	True Aquatic Plants (B14		etated Concave Surface (B8)
 ✓ High Water Table (A2) ✓ Saturation (A3) 	Hydrogen Sulfide Odor (0 ✓ Oxidized Rhizospheres o		
Water Marks (B1)	Presence of Reduced Iro		Nater Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction in		
Drift Deposits (B3)	Thin Muck Surface (C7)		sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Remark		ressed Plants (D1)
Iron Deposits (B5)		✓ Geomorphic	Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aqui	· ,
Water-Stained Leaves (B9)			phic Relief (D4)
Aquatic Fauna (B13)		✓ FAC-Neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes No	Depth (inches):	—	
Water Table Present? Yes <u>✓</u> No	Depth (inches): 7		
(includes capillary fringe)	Depth (inches):0	Wetland Hydrology Presen	t? Yes_✔_ No
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previou	us inspections), if available:	
Remarks:			
Heavy rainfall for 4 days before and d	uring surveys.		

Sampling Point: W-AA10

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species That Are OBL_EACW. or EAC: 3 (A)
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant Species Across All Strata: 3 (B)
3				Species Across All Strata:3 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
6				Prevalence Index worksheet:
7	•	= Total Cov		Total % Cover of: Multiply by:
50% of total cover:0		total cover		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1. Nyssa sylvatica	3	\checkmark	FAC	FAC species x 3 =
2		•		FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
8			. <u> </u>	1 - Rapid Test for Hydrophytic Vegetation
		·	·	✓ 2 - Dominance Test is >50%
9	3	= Total Cov		3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 1.5	20% of	total cover	: 0.6	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Carex Iurida	20		OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Agrimonia parviflora	25	\checkmark	FACW	
3. Impatiens capensis	20		FACW	¹ Indicators of hydric soil and wetland hydrology must
4. Leersia oryzoides	40	\checkmark	OBL	be present, unless disturbed or problematic. Definitions of Four Vegetation Strata:
5				Demittions of Four vegetation Strata:
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				-
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Herb – All herbaceous (non-woody) plants, regardless
	105	= Total Cov	/er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>52.8</u>				We advise All we advise a proster than 2.00 ft in
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cov		Present? Yes ✓ No
50% of total cover:0	20% of	total cover	:0	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Desc	ription: (Describe t	the dept	h needed to docur	nent the i	indicator	or confirm	the absence of indicato	rs.)
Depth	Matrix		Redo	x Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-3	10YR 2/2	100					SL	
3-19	10YR 2/2	20	10YR 3/6	15	D	М	SL	
	10YR 5/1	65						
						·		
·							·	
						·		
		. <u> </u>				. <u> </u>		·
						·		
	oncentration, D=Depl	etion RM-	Reduced Matrix M	S-Masker	d Sand Gr	ains	² Location: PL=Pore Linir	ng M-Matrix
Hydric Soil I						um <u>s</u> .	Indicators for Pro	oblematic Hydric Soils ³ :
Histosol			Dark Surface	e (S7)			2 cm Muck (A	-
	ipedon (A2)		Polyvalue Be		ce (S8) (I	ILRA 147		
Black Hi			Thin Dark Su				(MLRA 14	
	n Sulfide (A4)		Loamy Gleye		(F2)			odplain Soils (F19)
	Layers (A5)		Depleted Ma				(MLRA 13)	-
	ck (A10) (LRR N)	()	✓ Redox Dark					Dark Surface (TF12)
	l Below Dark Surface Irk Surface (A12)	e (A11)	Depleted Da		. ,		Other (Explai	n in Remarks)
	lucky Mineral (S1) (L	RRN	Iron-Mangan					
	147, 148)	,	MLRA 13		00 (1 12) (,		
	leyed Matrix (S4)		Umbric Surfa		(MLRA 1:	86, 122)	³ Indicators of hy	drophytic vegetation and
	edox (S5)		Piedmont Flo					ogy must be present,
Stripped	Matrix (S6)		Red Parent M	Material (F	21) (MLR	A 127, 14	7) unless disturbe	ed or problematic.
Restrictive L	ayer (if observed):							
Туре:								
Depth (inc	ches):						Hydric Soil Present?	Yes 🖌 No
Remarks:								
10 percent	muck 3-19".							

Project/Site: EEP	City/County: Greene	Sampling Date: 07/12/2015
Applicant/Owner: EQT		_ State: PA Sampling Point: W-AA10 UP
Investigator(s): JH, LM, LS, CL	Section, Township, Range: N	
Landform (hillslope, terrace, etc.): Hillslope		
Subregion (LRR or MLRA): LRRN Lat:		
Soil Map Unit Name: Dormont-Culleoka complex	-	
•		
Are climatic / hydrologic conditions on the site typical for		
Are Vegetation, Soil, or Hydrology		
Are Vegetation, Soil, or Hydrology	naturally problematic? (If needed,	explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	ap showing sampling point locati	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes		
Hydric Soil Present? Yes		Yes No
Wetland Hydrology Present? Yes		Yes No
Remarks:		
Upland		
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check		Surface Soil Cracks (B6)
	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
•	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
	Oxidized Rhizospheres on Living Roots (C3)	
	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2) Crayfish Burrows (C8)
	Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
	Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)
Water-Stained Leaves (B9)		Microtopographic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Test (D5)
Field Observations:		
	Depth (inches):	
	Depth (inches):	
Saturation Present? Yes No	Depth (inches): Wetland	-Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring w	ell, aerial photos, previous inspections), if av	ailable:
Remarks:		
Heavy rainfall for 4 days before and during s	surveys.	
	2	

Sampling Point: W-AA10 UP

Tree Stratum (Dist size, 30')	Absolute	Dominant		Dominance Test worksheet:
		Species?		Number of Dominant Species
1. Fraxinus americana	55		FACU	That Are OBL, FACW, or FAC:1 (A)
2. Celtis occidentalis	40	<u> </u>	FACU	Total Number of Deminent
3				Total Number of Dominant Species Across All Strata:3(B)
4				
		·		Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
6	·	·		Prevalence Index worksheet:
7				
	95	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover: <u>47.</u>	5 20% of	total cover:	19	OBL species $0 \times 1 = 0$
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>5</u> x 2 = <u>10</u>
1				FAC species 80 x 3 = 240
				FACU species x 4 = 380
2				UPL species 0 x 5 = 0
3				
4	·	·		Column Totals: <u>180</u> (A) <u>630</u> (B)
5				Prevalence Index = B/A = 3.5
6				Hydrophytic Vegetation Indicators:
7				
8				1 - Rapid Test for Hydrophytic Vegetation
9				2 - Dominance Test is >50%
	0	= Total Cov		3 - Prevalence Index is $\leq 3.0^1$
50% of total cover:0				4 - Morphological Adaptations ¹ (Provide supporting
5	20 % 0	lotal cover.		data in Remarks or on a separate sheet)
	00			Problematic Hydrophytic Vegetation ¹ (Explain)
1. Verbesina alternifolia	80	 ✓ 	F <u>AC</u>	(
2. Viola sp	8			¹ Indicators of hydric soil and wetland hydrology must
_{3.} Grass sp	15			be present, unless disturbed or problematic.
4. Boehmeria cylindrica	5		FACW	Definitions of Four Vegetation Strata:
5				Deminions of Four Vegetation Strata.
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
				more in diameter at breast height (DBH), regardless of
7				height.
8		·		Sapling/Shrub – Woody plants, excluding vines, less
9	·	·		than 3 in. DBH and greater than or equal to 3.28 ft (1
10	·	·		m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	108	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 54	20% of	total cover:	21.6	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2.				
3.				
		·		
4		·		Hydrophytic
5		·		Vegetation Present? Yes No Vegetation
		= Total Cov		
50% of total cover: <u>0</u>		total cover:	0	
Remarks: (Include photo numbers here or on a separate s	sheet.)			

Profile Desc	cription: (Describe	o the depth	needed to docur	ment the i	ndicator	or confirm	the absence of ind	icators.)	
Depth	Matrix			ox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-12	10YR 4/1	100					SCL		
12-19	10YR 7/6	100					SCL		
	oncentration, D=Depl	etion, RM=F	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL=Pore		
Hydric Soil	Indicators:						Indicators f	or Problematic Hy	dric Soils ³ :
Histosol			Dark Surface					uck (A10) (MLRA 1	47)
	pipedon (A2)		Polyvalue Be					Prairie Redox (A16)	
	stic (A3)		Thin Dark Su			47, 148)	•	RA 147, 148)	(
	en Sulfide (A4)		Loamy Gleye		F2)			nt Floodplain Soils	(F19)
	d Layers (A5)		Depleted Ma				•	RA 136, 147)	(7510)
	ıck (A10) (LRR N) d Below Dark Surface	(111)	Redox Dark					allow Dark Surface Explain in Remarks)	
<u> </u>	ark Surface (A12)	; (ATT)	Depleted Da)
	lucky Mineral (S1) (L	RRN	Iron-Mangan						
	A 147, 148)		MLRA 13		55 (1 12) (Litter,			
	Gleyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)	³ Indicators	s of hydrophytic veg	etation and
	Redox (S5)		Piedmont Flo					nydrology must be p	
Stripped	Matrix (S6)		Red Parent I	Material (F	21) (MLR	A 127, 147	') unless di	sturbed or problema	atic.
Restrictive	Layer (if observed):								
Туре:									
Depth (in	ches):						Hydric Soil Prese	ent? Yes	No 🖌
Remarks:							1		

Project/Site: EEP	City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT	State: PA Sampling Point: W-M3
	Section, Township, Range: NA
	al relief (concave, convex, none): <u>Concave</u> Slope (%): <u>2-4%</u>
Subregion (LRR or MLRA): LRRN Lat: 39.902613	Long: -80.086839 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 pe	
Are climatic / hydrologic conditions on the site typical for this time of year	
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Normal Circumstances" present? Yes 🗾 No
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes <u>Ves</u> No	Is the Council of Area
Hydric Soil Present? Yes V No	Is the Sampled Area within a Wetland? Yes Yes No
Wetland Hydrology Present? Yes <u>Ves</u> No	
Remarks:	
Cowardin Code: PEM	
HGM: Riverine	
WT: RPWWD	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Pl	
High Water Table (A2) Hydrogen Sulfic	
	spheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1)	
Sediment Deposits (B2) Recent Iron Rec	duction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surfa	• •
Algal Mat or Crust (B4) Other (Explain i	n Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9) Aquatic Fauna (B13)	Microtopographic Relief (D4) FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches)	
Water Table Present? Yes No Depth (inches)	
Saturation Present? Yes No Depth (inches)	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
Remarks:	

Sampling Point: W-M3

	Absolute	Dominant	Indicator	Dominance Test worksheet:
20'		Species?		
Juglans nigra	5	~	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 3
2				Total Number of Dominant
3				Species Across All Strata:4 (B)
4				
5				Percent of Dominant Species That Are OBL_EACW_ or EAC: 75% (A/B)
<u> </u>				That Are OBL, FACW, or FAC:(A/B)
0				Prevalence Index worksheet:
7				
		= Total Cov	/er	Total % Cover of:Multiply by:
50% of total cover: 2.5	20% of	total cover	:1	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
 Saliv nigra 	5	~	OBL	FAC species x 3 =
		-	<u> </u>	FACU species x 4 =
2				
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				
				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9.				
	5	= Total Cov		3 - Prevalence Index is $\leq 3.0^1$
50% of total cover: 2.5		total cover		4 - Morphological Adaptations ¹ (Provide supporting
	20 /0 01		·	data in Remarks or on a separate sheet)
	00			Problematic Hydrophytic Vegetation ¹ (Explain)
1. Verbesina alternifolia	30	<u> </u>	FAC	
2. Typha angustifolia	20	 ✓ 	OBL	
_{3.} Agrimonia parviflora	10		FACW	¹ Indicators of hydric soil and wetland hydrology must
4 Salix nigra	10		OBL	be present, unless disturbed or problematic.
5. Dichanthelium clandestinum	10			Definitions of Four Vegetation Strata:
			FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. Solidago altissima	5		FACU	more in diameter at breast height (DBH), regardless of
7. Scirpus atrovirens	5		OBL	height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				
11				Herb – All herbaceous (non-woody) plants, regardless
	90	= Total Cov	/er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 45	20% of	total cover	: <u>18</u>	
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in height.
1				
2				
3				
4				Hydrophytic
5.				Vegetation
	0	= Total Cov	/er	Present? Yes 🖌 No
50% of total cover:0		total cover		
	_		·	
Remarks: (Include photo numbers here or on a separate sh	ieet.)			

Profile Desc	ription: (Describe to	o the depth	needed to docun	nent the i	ndicator	or confirm	n the absenc	e of indicators.)
Depth	Matrix		Redo	x Features	S			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8"	10YR 4/2	90	7.5YR 4/4	10	С	PL	SiL	
<u> </u>								
						·		
	ncentration, D=Deple	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gr	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil I								cators for Problematic Hydric Soils ³ :
Histosol			Dark Surface					2 cm Muck (A10) (MLRA 147)
	ipedon (A2)		Polyvalue Be				, 148)	Coast Prairie Redox (A16)
Black His			Thin Dark Su			147, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		F2)			Piedmont Floodplain Soils (F19)
	Layers (A5)		Cepleted Mat					(MLRA 136, 147)
	ck (A10) (LRR N)	(Redox Dark S					Very Shallow Dark Surface (TF12)
·	Below Dark Surface	(A11)	Depleted Dar				_	Other (Explain in Remarks)
	rk Surface (A12)		Redox Depre					
	ucky Mineral (S1) (L	KR N,	Iron-Mangan		es (F12) (LRR N,		
	147, 148)		MLRA 13			0. 400)	31	dia stana af la chancela tia constationa and
	leyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo	•				retland hydrology must be present,
	Matrix (S6) ayer (if observed):		Red Parent N	haterial (F	21) (IVILF	(A 127, 14)	/) u	nless disturbed or problematic.
	3							
51								
Depth (inc	hes):		_				Hydric So	il Present? Yes 🔽 No
Remarks:								

Project/Site: EEP	_ City/County: Greene) Sar	mpling Date: <u>10/08/2015</u>
Applicant/Owner: EQT		State: PA	Sampling Point: W-M4
Investigator(s): J. McGuirk, A. Mengel	_ Section, Township, Ra		
Landform (hillslope, terrace, etc.): Hill slope	ocal relief (concave, con	vex, none): Concave	Slope (%): 3-5%
Subregion (LRR or MLRA): LRRN Lat: 39.902359	9 47890 Lor	ng: <u>-80.08697573750</u>	Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50	percent slopes	NWI classification	_{n:} None
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🖌 No _	(If no, explain in Rema	arks.)
Are Vegetation, Soil, or Hydrology significant	tly disturbed? Are	"Normal Circumstances" prese	ent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If ne	eeded, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point l	ocations, transects, in	nportant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u>✓</u> No Yes <u>✓</u> No Yes <u>✓</u> No	Is the Sampled Area within a Wetland?	Yes No✓
Remarks: Cowardin Code: PEM HGM: Slope WT: RPWWN			

HYDROLOGY

Sampling Point: W-M4

	Abaaluta	Dominant	Indiantar	Deminence Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Dominant Species?		Dominance Test worksheet:
1,				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3			·	Species Across All Strata: (B)
4			·	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100% (A/E
6				
7.				Prevalence Index worksheet:
	0	= Total Cov	/er	Total % Cover of: Multiply by:
50% of total cover: 0				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
				FAC species x 3 =
1				FACU species x 4 =
2			·	
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				
			·	Prevalence Index = B/A =
6			·	Hydrophytic Vegetation Indicators:
7			·	1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				$3 - Prevalence Index is \leq 3.0^1$
	0	= Total Cov	ver	
50% of total cover: 0	20% o	f total cover	0	4 - Morphological Adaptations ¹ (Provide supportin
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Phalaris arundinacea	50	1	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
	20			
2. Typha angustifolia		v	OBL	¹ Indicators of hydric soil and wetland hydrology must
3. Onoclea sensibilis	10		FACW	be present, unless disturbed or problematic.
4. Carex vulpinoidea	10		OBL	Definitions of Four Vegetation Strata:
_{5.} Asclepias incarnata	5		OBL	Deminions of Four Vegetation of ata.
6. Juncus effusus	5		FACW	Tree - Woody plants, excluding vines, 3 in. (7.6 cm) of
				more in diameter at breast height (DBH), regardless of
7				height.
8			·	Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Here All herebesses (non woods) plants, regardless
	100	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>50</u>	20% 0	f total cover	20	
	20700			Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1			·	
2				
3			. <u> </u>	
4				
5				Hydrophytic
J	0		·	Vegetation Present? Yes <u>√</u> No
50% of total array 0		= Total Cov		
50% of total cover: <u>0</u>		f total cover		
Remarks: (Include photo numbers here or on a separate s	sheet.)			

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12"	10YR 3/1	97	10YR 4/4	3	С	Μ	CL	
						- <u> </u>		
·						·		
1 Type: C=Cc	oncentration, D=Deple	etion RM-R	Reduced Matrix MS	S-Masker	Sand Gr	ains	² Location: E	PL=Pore Lining, M=Matrix.
Hydric Soil I							Indic	ators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	(S7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be	. ,	ce (S8) (I	/LRA 147,		Coast Prairie Redox (A16)
Black Hi	,		Thin Dark Su				,	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye				F	Piedmont Floodplain Soils (F19)
Stratified	Layers (A5)						(MLRA 136, 147)	
	2 cm Muck (A10) (LRR N) ✓ Redox Dark Surface (F6)				\	/ery Shallow Dark Surface (TF12)		
Depleted	Below Dark Surface	(A11)	Depleted Dar	k Surface	e (F7)			Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre	ssions (F	8)			
Sandy M	lucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Mass	es (F12) (LRR N,		
MLRA	147, 148)		MLRA 13	6)				
Sandy G	ileyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 14					(MLRA 14	l8) we	etland hydrology must be present,	
Stripped	Matrix (S6)		Red Parent N	/laterial (F	21) (MLR	A 127, 147	7) ur	nless disturbed or problematic.
Restrictive L	ayer (if observed):							
Туре:								
Depth (inc	ches):						Hydric Soi	I Present? Yes <u>✓</u> No
Remarks:							1	

Project/Site: EEP	City/County: Greene		Sampling Date: 10/08/2015		
Applicant/Owner: EQT		State: PA	_ Sampling Point: W-M2		
Investigator(s): J. McGuirk, A. Mengel	Section, Township, Range:	١A			
Landform (hillslope, terrace, etc.): Valley bottom	ocal relief (concave, convex, n	one): Concave	Slope (%): 3-5%		
Subregion (LRR or MLRA): LRRN Lat: 39.901559	80100 Long: -8	0.08556468700			
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 p	percent slopes	NWI classifica	_{ition:} None		
Are climatic / hydrologic conditions on the site typical for this time of y	vear? Yes 🖌 No	(If no, explain in Re	marks.)		
Are Vegetation, Soil, or Hydrology significantl	y disturbed? Are "Norm	al Circumstances" pr	esent? Yes 🖌 No		
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed,	explain any answers	s in Remarks.)		
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes V					

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u>✓</u> Yes <u>✓</u> Yes <u>✓</u>	No No No	Is the Sampled Area within a Wetland?	Yes 🖌 No
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD				

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
✓ Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1) ✓ Saturation (A3) ✓ Water Marks (B1) Presence of Reduced Iron (C4) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Other (Explain in Remarks) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Water-Stained Leaves (B9)	Dry-Season Water Table (C2)
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes 🖌 No Depth (inches): 0"	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes <u>Ves</u> No <u>Depth</u> (inches): <u>0</u> " Wetla (includes capillary fringe)	nd Hydrology Present? Yes _ ✓ No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), it	f available:
Remarks:	

Sampling Point: W-M2

	Abcoluto	• Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		
1				Number of Dominant Species That Are OBL, FACW, or FAC:3(A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100% (A/B)
6				
7				Prevalence Index worksheet:
	~	= Total Co		Total % Cover of: Multiply by:
50% of total cover:0		f total cover	-	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')	2070 0		·	FACW species x 2 =
	10	/		FAC species x 3 =
1. Salix nigra		∀	OBL	· · · · · · · · · · · · · · · · · · ·
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				
				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	10	= Total Co	ver	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 5	20% of	f total cover	: 2	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Typha angustifolia	50	\checkmark	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Phalaris arundinacea	30		FACW	
3. Juncus effusus	20			¹ Indicators of hydric soil and wetland hydrology must
			FACW	be present, unless disturbed or problematic.
4. Poa trivialis			FACW	Definitions of Four Vegetation Strata:
5. Verbena hastata	5		FACW	
6. Carex lurida	5		OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7. Eupatorium perfoliatum	5		FACW	height.
8				
				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>62.5</u>	<u>5</u> 20% o	f total cover	: 25	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4				Hydrophytic
5				Vegetation Present? Yes ✓ No
		= Total Co		Present? Yes <u>√</u> No
50% of total cover:0	20% o	f total cover	: <u>0</u>	
Remarks: (Include photo numbers here or on a separate s	sheet.)			•

Profile Desc	ription: (Describe t	o the dept	h needed to docum	ent the i	ndicator	or confirm	n the absence	of indicators.)
Depth	Matrix Redox Features							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8"	10YR 4/1	90	7.5YR 4/4	10	С	PL	CL	
						·		
		<u> </u>				·		
						·		
						·	·	
						·		
						. <u> </u>		
						·		
						·		
	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	=Maskec	Sand Gr	ains.		_=Pore Lining, M=Matrix.
Hydric Soil								tors for Problematic Hydric Soils ³ :
Histosol	()		Dark Surface	· · ·				cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Bel		. , .		·	oast Prairie Redox (A16)
Black Hi	()		Thin Dark Sur	,		47, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		F2)			edmont Floodplain Soils (F19)
	Layers (A5)		✓ Depleted Mat	. ,	-0)			(MLRA 136, 147)
	ick (A10) (LRR N)	(\ 1 1)	Redox Dark S	· · ·	,			ery Shallow Dark Surface (TF12)
·	d Below Dark Surface ark Surface (A12)	(ATT)	Depleted Darl				0	ther (Explain in Remarks)
	lucky Mineral (S1) (L l		Iron-Mangane		,			
	147, 148)	ΝΝ Ν ,	MLRA 136		65 (112)	LNN N,		
	Gleyed Matrix (S4)		Umbric Surfac	,		6 122)	³ Indi	cators of hydrophytic vegetation and
	edox (S5)		Piedmont Floo		•			tland hydrology must be present,
	Matrix (S6)		Red Parent M	•	, ,	•	,	ess disturbed or problematic.
	_ayer (if observed):					,		
Type:								
Depth (in	aboa):						Hydric Soil	Present? Yes ✔ No
							Tryunc 301	
Remarks:								

Project/Site: EEP	City/County: Gre	ene	Sampling Date: 10/08/2015
Applicant/Owner: EQT		Sampling Point: W-M2, M3, M4 UPL	
	Section, Township		
Landform (hillslope, terrace, etc.): Hill slope			Slope (%): 3-5%
Subregion (LRR or MLRA): LRRN La			
Soil Map Unit Name: Dormont-Culleoka complete			
-			
Are climatic / hydrologic conditions on the site typical	•		
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	vresent? Yes 🚩 No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing sampling po	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No within a W	pled Area /etland? Yes	No
Remarks:	ł		
Upland			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; che	ck all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	True Aquatic Plants (B14)	Sparsely Ve	getated Concave Surface (B8)
High Water Table (A2)	_ Hydrogen Sulfide Odor (C1)	Drainage Pa	
Saturation (A3)	Oxidized Rhizospheres on Living		
Water Marks (B1)	Presence of Reduced Iron (C4)	•	Water Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Se		
Drift Deposits (B3)	Thin Muck Surface (C7) Other (Explain in Remarks)		sible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Iron Deposits (B5)			tressed Plants (D1) Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aqui	
Water-Stained Leaves (B9)		Microtopogra	
Aquatic Fauna (B13)		FAC-Neutral	
Field Observations:			
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	well aerial photos, provinus increas	tiona) if available:	
Describe Recorded Data (stream gauge, monitoring	weil, aeriai priotos, previous inspec	uons), ii avaliadie:	
Remarks:			

Sampling Point: W-M2, M3, M4 UPL

20'	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				·
5				Percent of Dominant Species That Are OBL_EACW_ or EAC: 0% (A/B)
			·	That Are OBL, FACW, or FAC: (A/B)
6			·	Prevalence Index worksheet:
7			·	Total % Cover of:Multiply by:
		= Total Cov		OBL species x 1 =
50% of total cover: 0	20% of	total cover	0	
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5			·	Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7			·	1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^1$
	0	= Total Cov	/er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of	total cover	0	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Phleum pratense	40	~	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Dactylis glomerata	20	~	FACU	
3. Potentilla indica	15			¹ Indicators of hydric soil and wetland hydrology must
	15		F <u>ACU</u>	be present, unless disturbed or problematic.
4. Andropogon virginicus			F <u>ACU</u>	Definitions of Four Vegetation Strata:
_{5.} _Trifolium pratense	10		FACU	
6. Plantago lanceolata	5		<u>UPL</u>	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7. Achillea millefolium	5		FACU	height.
8				Ŭ
9				Sapling/Shrub – Woody plants, excluding vines, less
			·	than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10			· <u> </u>	
11	110		·	Herb – All herbaceous (non-woody) plants, regardless
55		= Total Cov	ver	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>55</u>	20% of	total cover		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4				
-				Hydrophytic Vegetation
5	0	= Total Cov		Present? Yes No_
50% of total cover: 0		total cover	-	
Remarks: (Include photo numbers here or on a separate s	neet.)			

Profile Desc	ription: (Describe	to the dept	th needed to docun	nent the i	indicator	or confirm	n the absence of indicators.)
Depth	Matrix		Redo	x Feature			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-4"	7.5YR 4/4	100					SiL
4-12"	7.5YR 5/3	80	7.5YR 5/6	10	С	M	CL
			10YR 6/1	10	D	М	CL
		·			-	·	
		·					
		·	·				
		·					
		·					
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D Don	lation DM		Maakaa			² Leastion, DL. Dere Liping, M. Matrix
Hydric Soil	oncentration, D=Dep	ietion, Rivi=	Reduced Matrix, Mi	s=IVIasked	a Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	(57)			2 cm Muck (A10) (MLRA 147)
	bipedon (A2)		Polyvalue Be		re (S8) (I	/II RA 147	
Black Hi			Thin Dark Su				(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye			,,	Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma				(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		-6)		Very Shallow Dark Surface (TF12)
Depleted	d Below Dark Surface	e (A11)	Depleted Dar	rk Surface	e (F7)		Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre				
Sandy N	lucky Mineral (S1) (L	_RR N,	Iron-Mangan	ese Mass	es (F12) (LRR N,	
	A 147, 148)		MLRA 13				2
	Sleyed Matrix (S4)		Umbric Surfa				³ Indicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo	•			· · · ·
	Matrix (S6) Layer (if observed):		Red Parent N	laterial (F	·21) (MLF	A 127, 14	7) unless disturbed or problematic.
Depth (ind	ches).						Hydric Soil Present? Yes No _
Remarks:							
Memarks.							

Project/Site: EEP	_ City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT	State: PA Sampling Point: W-M5
	Section, Township, Range: <u>NA</u> Section, Township, Range:
	Local relief (concave, convex, none): Concave Slope (%): 0-1%
Subregion (LRR or MLRA): LRRN Lat: 39.901326	
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50	
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significant	Iy disturbed? Are "Normal Circumstances" present? Yes 🗾 No
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes V No Hydric Soil Present? Yes V No Wetland Hydrology Present? Yes V No Remodes: Yes Yes Yes Yes	is the earlipied field
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD	
HYDROLOGY	
 Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) 	Plants (B14)Sparsely Vegetated Concave Surface (B8)Ifide Odor (C1)Drainage Patterns (B10)zospheres on Living Roots (C3)Moss Trim Lines (B16)Reduced Iron (C4)Dry-Season Water Table (C2)Reduction in Tilled Soils (C6)Crayfish Burrows (C8)urface (C7)Saturation Visible on Aerial Imagery (C9)
Field Observations: Surface Water Present? Yes No Depth (inche Water Table Present? Yes No Depth (inche Saturation Present? Yes No Depth (inche (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pho Remarks: Remarks:	es): Wetland Hydrology Present? Yes No

Sampling Point: W-M5

20'	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)		Species?		Number of Dominant Species
1. Salix nigra	15	<u> </u>	OBL	That Are OBL, FACW, or FAC:3 (A)
2				Total Number of Deminent
3				Total Number of Dominant Species Across All Strata:3 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100% (A/B)
6				Dravalance Index warksheet.
7				Prevalence Index worksheet:
	15	= Total Co	ver	Total % Cover of:Multiply by:
50% of total cover: 7.5	20% of	f total cover	: 3	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1. Salix nigra	10	~	OBL	FAC species x 3 =
		·		FACU species x 4 =
2		. <u> </u>		
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Decostance had D/A
6				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9		<u> </u>		3 - Prevalence Index is ≤3.0 ¹
		= Total Co		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 5	20% of	f total cover	: 2	
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Typha angustifolia	75	~	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Ranunculus hispidus	5			
	5		F <u>AC</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Mimulus ringens			OBL	be present, unless disturbed or problematic.
4. Epilobium coloratum	5		FACW	Definitions of Four Vegetation Strata:
_{5.} Carex sp.	5		ND	
6. Eupatorium perfoliatum	3		FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7 Persicaria sagittata	3		OBL	more in diameter at breast height (DBH), regardless of height.
	·			neight.
8	·	-		Sapling/Shrub – Woody plants, excluding vines, less
9	·	- <u> </u>		than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	101	= Total Co	ver	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 50.	5 20% of	f total cover	20.2	
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Co	ver	Present? Yes V No
50% of total cover:0	20% 0	f total cover	: 0	
Remarks: (Include photo numbers here or on a separate s				
ND - Not determined	,			

	cription: (Describe t	o the dept				or confirm	n the absend	ce of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Feature %	Type ¹	Loc ²	Texture	Remarks
0-12"	10YR 5/2	95	5YR 5/4	5	C	M	CL	
					·			
¹ Type: C=C Hydric Soil	oncentration, D=Depl Indicators:	 etion, RM=	Reduced Matrix, M	S=Maske	d Sand Gr	ains.		PL=Pore Lining, M=Matrix. icators for Problematic Hydric Soils ³ :
Histosol Histic Ep Black Hi Hydroge Stratifiee 2 cm Mu Depletee Thick Da Sandy M	(A1) Dipedon (A2)		 Dark Surface Polyvalue Be Thin Dark Su Loamy Gleye Depleted Ma Redox Dark 3 Depleted Date Redox Depresimation Iron-Mangan MLRA 13 	low Surfa Inface (S9 ed Matrix trix (F3) Surface (I & Surface essions (F esse Mass) (MLRA ((F2) =6) e (F7) :8)	147, 148)	148)	2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Sandy G Sandy F	Gleyed Matrix (S4) Redox (S5) I Matrix (S6)		Umbric Surfa Piedmont Flo	ice (F13) odplain S	oils (F19)	(MLRA 14	18) \	ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive I	Layer (if observed):							
Type: Depth (ind	ches):		_				Hydric So	oil Present? Yes 🖌 No
Remarks:								

Project/Site: EEP	City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT	City/County: Greene Sampling Date: 10/08/2015 State: PA Sampling Point: W-M6
	State Sampling Point
	Section, rownship, Range
Subregion (LRR or MLRA): LRRN Lat: 39.90	-
Soil Map Unit Name: Dormont-Culleoka complex, 25 to	
Are climatic / hydrologic conditions on the site typical for this tir	ne of year? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology sign	ificantly disturbed? Are "Normal Circumstances" present? Yes 🗾 No
Are Vegetation, Soil, or Hydrology natu	rally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
	───── Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes <u>V</u> No	
Remarks:	
Cowardin Code: PEM	
HGM: Riverine	
WT: RPWWD	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	
	quatic Plants (B14) Sparsely Vegetated Concave Surface (B8)
•	en Sulfide Odor (C1) Drainage Patterns (B10) d Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
	d Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) ce of Reduced Iron (C4) Dry-Season Water Table (C2)
	Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
1 — ·	uck Surface (C7) Saturation Visible on Aerial Imagery (C9)
	Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth	
Water Table Present? Yes No Depth	
Saturation Present? Yes <u>No</u> Depth	(inches): Wetland Hydrology Present? Yes <u>V</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeri	al photos, previous inspections), if available:
Remarks:	

Sampling Point: W-M6

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				
				Total Number of Dominant Species Across All Strata: 2 (B)
3				Species Across All Strata: 2 (B)
4		·		Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100% (A/B)
6				
7.				Prevalence Index worksheet:
	0	= Total Co		Total % Cover of: Multiply by:
50% of total cover: 0				OBL species x 1 =
	20% 0	lotal cover		FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15')				
1		·		FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				
9				∠ 2 - Dominance Test is >50%
	0	= Total Co		3 - Prevalence Index is $\leq 3.0^{1}$
50% of total cover:0		total cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% 0	total cover		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Typha angustifolia	30	<u> </u>	OBL	
2. Schoenoplectus tabernaemontani	30	 ✓ 	OBL	1
_{3.} Juncus effusus	20		FACW	¹ Indicators of hydric soil and wetland hydrology must
4. Scirpus atrovirens	10		OBL	be present, unless disturbed or problematic.
5. Agrimonia parviflora	10	·		Definitions of Four Vegetation Strata:
	5	·	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. Solidago sp.		·	ND	more in diameter at breast height (DBH), regardless of
7. Poa sp.	5		ND	height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
				m) tall.
10		·		
11		·		Herb – All herbaceous (non-woody) plants, regardless
	110	= Total Co	ver	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 55	20% of	total cover	r: <u>22</u>	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				Telgha
2.				
3		·		
4				Hydrophytic
5				Vegetation
	0	= Total Co	ver	Present? Yes V No
50% of total cover: 0	20% of	total cover	r: <u>0</u>	
Remarks: (Include photo numbers here or on a separate s	sheet.)			
ND - Not determined				

Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12"	10YR 5/2	95	5YR 4/4	5	<u>C</u>	PL	CL	
					·	·		
	Dincentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Maske	d Sand Gr	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil							Inc	licators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	. ,				2 cm Muck (A10) (MLRA 147)
Histic Ep Black Hi	bipedon (A2) stic (A3)		Polyvalue Be Thin Dark St				148)	Coast Prairie Redox (A16) (MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye			147, 140)		Piedmont Floodplain Soils (F19)
_	Layers (A5)		Depleted Ma		(/			(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark		-6)			Very Shallow Dark Surface (TF12)
	Below Dark Surface	e (A11)	Depleted Da	rk Surface	e (F7)			Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre	essions (F	8)			
Sandy M	lucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Mass	es (F12) (LRR N,		
	A 147, 148)		MLRA 13	,				
	leyed Matrix (S4)		Umbric Surfa					Indicators of hydrophytic vegetation and
	edox (S5)		Piedmont Flor					wetland hydrology must be present,
	Matrix (S6)		Red Parent I	Material (F	⁻ 21) (MLR	A 127, 147	7)	unless disturbed or problematic.
	_ayer (if observed):							
								,
Depth (ind	ches):						Hydric S	oil Present? Yes 🔽 No
Remarks:								

Project/Site: EEP	City/County: Greene	Sampling Date: 10/08/2015			
Applicant/Owner: EQT		State: PA Sampling Point: W-M5, M6 UP			
Investigator(s): J. McGuirk, A. Mengel	Section Townshin Range NA				
Landform (hillslope, terrace, etc.): Valley bottom					
Subregion (LRR or MLRA): LRRN La		08933135920 Datum: NAD 83			
Soil Map Unit Name: Dormont-Culleoka comple		NWI classification: None			
Are climatic / hydrologic conditions on the site typical	· · · · · · · · · · · · · · · · · · ·	•			
Are Vegetation, Soil, or Hydrology	significantly disturbed? Are "Normal	Circumstances" present? Yes No			
Are Vegetation, Soil, or Hydrology	naturally problematic? (If needed, e	xplain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site	nap showing sampling point locatio	ns, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks: Yes	No within a Wetland?	Yes No			
Upland					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; che		Surface Soil Cracks (B6)			
	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)			
Saturation (A3)	Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4)	Moss Trim Lines (B16)			
Water Marks (B1) Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2) Crayfish Burrows (C8)			
Drift Deposits (B3)	Thin Muck Surface (C7)	Clayish burlows (Co) Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Stunted or Stressed Plants (D1)			
Iron Deposits (B5)		Geomorphic Position (D2)			
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)			
Water-Stained Leaves (B9)		Microtopographic Relief (D4)			
Aquatic Fauna (B13)		FAC-Neutral Test (D5)			
Field Observations:					
	_ Depth (inches):				
Water Table Present? Yes No	_ Depth (inches):				
Saturation Present? Yes No	_ Depth (inches): Wetland H	ydrology Present? Yes No			
(includes capillary fringe)	well aerial photos, previous inspections), if avai	lable.			
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspections), if avai	lable:			
Remarks:					

Sampling Point: W-M5, M6 UPL

20'		ant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	<u>% Cover</u> Speci	es? <u>Status</u>	Number of Dominant Species
1	· ·		That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4			
5			Percent of Dominant Species That Are OBL EACW, or EAC: 50% (A/B)
			That Are OBL, FACW, or FAC:(A/B)
6	· ·		Prevalence Index worksheet:
7	0 = Total		Total % Cover of:Multiply by:
50% of total cover: 0			OBL species x 1 =
15	20% of total co	over: 0	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15)			
1			
2	· ·		
3			UPL species x 5 =
4			Column Totals: <u>90</u> (A) <u>340</u> (B)
5			3.77
6			Prevalence Index = B/A = <u>3.77</u>
7			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
8	· ·		2 - Dominance Test is >50%
9			3 - Prevalence Index is ≤3.0 ¹
	0 = Total		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>0</u>	20% of total co	over: 0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')			Problematic Hydrophytic Vegetation ¹ (Explain)
1. Dactylis glomerata	40 🗸	FACU	
_{2.} Verbesina alternifolia	20 🗸	FAC	1
3. Cirsium vulgare	10	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Solanum carolinense	10	FACU	
5. Solidago sp.	10	ND	Definitions of Four Vegetation Strata:
A shill so mill of a liver	10	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
	·	F <u>ACU</u>	more in diameter at breast height (DBH), regardless of
7			height.
8			Sapling/Shrub – Woody plants, excluding vines, less
9	· ·		than 3 in. DBH and greater than or equal to 3.28 ft (1
10	·		m) tall.
11			Herb – All herbaceous (non-woody) plants, regardless
	<u>100</u> = Total	Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>50</u>	20% of total co	over: 20	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')			height.
1			
2			
3.			
4.			
т	· ·		Hydrophytic
- 5	0 = Total		Vegetation Present? Yes No 🗸
50% of total cover: <u>0</u>		over: 0	
Remarks: (Include photo numbers here or on a separate s	sheet.)		
ND - Not determined			

Profile Desc	ription: (Describe	to the dept	h needed to docum	nent the ir	ndicator o	or confirm	the absend	e of indicato	rs.)		
Depth	Matrix		Redox	K Features	5						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	5	
0-12"	10YR 4/3	100%					SiL				
								_			
			,								
								_			
¹ Type: $C=Cc$	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	=Masked	Sand Gra	ains.	² Location:	PL=Pore Lini	ng, M=Matrix	ζ.	
Hydric Soil I								cators for Pr			oils ³ :
Histosol			Dark Surface	(S7)				2 cm Muck (A		•	
	pipedon (A2)		Polyvalue Bel		e (S8) (N	II RA 147.		Coast Prairie			
Black His	•		Thin Dark Su					(MLRA 14		~)	
	n Sulfide (A4)		Loamy Gleye			,,		Piedmont Flo		s (F19)	
	Layers (A5)		Depleted Mat		,			(MLRA 13	•	- (- /	
	ck (A10) (LRR N)		Redox Dark S		6)			Very Shallow		ce (TF12)
	Below Dark Surfac	e (A11)	Depleted Dar					Other (Explai			
	ark Surface (A12)	. ,	Redox Depre					· ·		,	
	lucky Mineral (S1) (I	LRR N,	Iron-Mangane			LRR N,					
-	A 147, 148)				. , ,						
Sandy G	leyed Matrix (S4)		Umbric Surfa	ce (F13) (MLRA 13	6, 122)	³ II	ndicators of hy	/drophytic ve	egetation	and
	edox (S5)		Piedmont Flo					vetland hydro			
	Matrix (S6)		Red Parent N	•				Inless disturb		•	
	ayer (if observed)										
Type:	-										
51	ches):						Hydric So	oil Present?	Yes	No	~
Remarks:											
rtomanto.											

Project/Site: EEP	City/County: Wetzel	_ Sampling Date: <u>10/21/2015</u>
Applicant/Owner: EQT	State: WV	Sampling Point: W-Z1
Investigator(s): SAZ, CS	Section, Township, Range: <u>NA</u>	
	ocal relief (concave, convex, none): <u>Concave</u>	Slope (%):_0
Subregion (LRR or MLRA): LRRN Lat: 39.562971	Long: -80.543704	Datum: NAD 83
Soil Map Unit Name: Skidmore gravelly loam	NWI classifi	ication: None
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes 🖌 No (If no, explain in I	Remarks.)
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Normal Circumstances"	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transect	s, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <mark>✓</mark> Yes <mark>✓</mark> Yes √	No No No	Is the Sampled Area within a Wetland?	Yes	No
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD					

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
	Dry-Season Water Table (C2)
Field Observations: Surface Water Present? Yes No _ ✓ Depth (inches): Water Table Present? Yes No _ ✓ Depth (inches): Saturation Present? Yes No _ ✓ Depth (inches): (includes capillary fringe) Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect	Wetland Hydrology Present? Yes <u>✓</u> No tions), if available:
Remarks:	

Sampling Point: W-Z1

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')		Species?		Number of Dominant Species
Juglans nigra	15	\checkmark	FACU	That Are OBL, FACW, or FAC:3 (A)
·· <u>·</u> ····		·		
2				Total Number of Dominant
3		·	·	Species Across All Strata:4 (B)
4				Demonst of Dominant Chaption
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)
6				
			·	Prevalence Index worksheet:
7	15			Total % Cover of:Multiply by:
	10	= Total Cov	/er	OBL species x 1 =
50% of total cover:	20% of	total cover	:	
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1. Acer negundo	10	\checkmark	FAC	FAC species x 3 =
2				FACU species x 4 =
		·		UPL species x 5 =
3			·	Column Totals: (A) (B)
4			·	
5				Prevalence Index = B/A =
6				
7			·	Hydrophytic Vegetation Indicators:
			·	1 - Rapid Test for Hydrophytic Vegetation
8			·	✓ 2 - Dominance Test is >50%
9		·		3 - Prevalence Index is ≤3.0 ¹
	10	= Total Cov	/er	
50% of total cover: 5	20% of	total cover	: 2	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5')				data in Remarks or on a separate sheet)
1. Dichanthelium clandestinum	20	1	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Phalaris arundinacea	30	· <u>· ·</u>		
		•	FACW	¹ Indicators of hydric soil and wetland hydrology must
3. Vernonia noveboracensis	15	. <u> </u>	FACW	be present, unless disturbed or problematic.
4. Viola sororia	15		FAC	Definitions of Four Vegetation Strata:
5. Symphyotrichum prenanthoides	10		FAC	Demilitions of Four vegetation Strata.
6. Persicaria maculosa	10			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
		·	FACW	more in diameter at breast height (DBH), regardless of
7		·	·	height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10.				m) tall.
			·	
11	100		·	Herb – All herbaceous (non-woody) plants, regardless
50	100	= Total Cov	/er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>50</u>	20% of	total cover	20	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				U
2.				
			·	
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cov	/er	Present? Yes 🖌 No
50% of total cover:0		total cover		
			·	
Remarks: (Include photo numbers here or on a separate s	neet.)			

Profile Desc	cription: (Describe t	o the dep	th needed to docur	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix		Redo	x Feature	S			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 4/2	100					SiL	
8-20	10YR 4/2	90	10YR 5/8	10	С	M/PL	SiL	
					<u> </u>			
<u> </u>								
·						·		
	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Masked	d Sand Gr	ains.		L=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indic	ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			2	2 cm Muck (A10) (MLRA 147)
Histic E	pipedon (A2)		Polyvalue Be	low Surfa	ce (S8) (N	ILRA 147,	148) <u> </u>	Coast Prairie Redox (A16)
Black Hi	istic (A3)		Thin Dark Su	ırface (S9) (MLRA 1	47, 148)		(MLRA 147, 148)
Hydroge	en Sulfide (A4)		Loamy Gleye	ed Matrix (F2)		F	Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma	. ,				(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark		,			/ery Shallow Dark Surface (TF12)
·	d Below Dark Surface	(A11)	Depleted Date		. ,		C	Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	/lucky Mineral (S1) (L	RR N,	Iron-Mangan		es (F12) (LRR N,		
	A 147, 148)		MLRA 13	,			2	
	Eleyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo					etland hydrology must be present,
	Matrix (S6)		Red Parent M	Aaterial (F	21) (MLR	A 127, 147) un	less disturbed or problematic.
Restrictive	Layer (if observed):							
Туре:								,
Depth (in	ches):						Hydric Soil	Present? Yes 🖌 No
Remarks:							1	

Project/Site: EEP	City/County: V	Vetzel	Sampling Date: 10/21/2015
Applicant/Owner: EQT		State: WV	_ Sampling Point: W-Z1 UPL
Investigator(s): SAZ, CS	Section, Town	ship, Range: <u>NA</u>	
Landform (hillslope, terrace, etc.): Floodplain	Local relief (conca	ave, convex, none): Convex	Slope (%): <u>0</u>
Subregion (LRR or MLRA): LRRN Lat: 39	.563019	Long: <u>-80.54361</u>	Datum: NAD 83
Soil Map Unit Name: Skidmore gravelly loam		NWI classifica	ation: none
Are climatic / hydrologic conditions on the site typical for this	s time of year? Yes 🗹	No (If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrologys	significantly disturbed?	Are "Normal Circumstances" p	resent? Yes 🖌 No
Are Vegetation, Soil, or Hydrology r	naturally problematic?	(If needed, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing sampling	point locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No No No	Is the Sampled Area within a Wetland?	Yes	No
Remarks: Upland					
HYDROLOGY					

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) 	Dry-Season Water Table (C2)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspec	Wetland Hydrology Present? Yes No

Sampling Point: W-Z1 UPL

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0)	% Cover	Species?	Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				
				Total Number of Dominant Species Across All Strata: 2 (B)
3			·	Species Across All Strata: <u>2</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				
7.				Prevalence Index worksheet:
	0	= Total Cov	r er	Total % Cover of: Multiply by:
50% of total cover: 0				OBL species x 1 =
	2078 01			FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 0))				
1				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
				Column Totals: (A) (B)
4			·	
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				
8				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9	~		·	3 - Prevalence Index is ≤3.0 ¹
		= Total Cov	-	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>0</u>	20% of	total cover	0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 0)				
1. Dactylis glomerata	65	\checkmark	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Trifolium pratense	20	\checkmark	FACU	
3 Echinochloa crus-galli	10		FAC	¹ Indicators of hydric soil and wetland hydrology must
4 Plantago major	5			be present, unless disturbed or problematic.
	· · · · · ·			Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
		-		noight.
8			·	Sapling/Shrub – Woody plants, excluding vines, less
9		-		than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	100	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 50		total cover:		
Woody Vine Stratum (Plot size: 15')				Woody vine – All woody vines greater than 3.28 ft in
				height.
1			·	
2				
3				
4				
5				Hydrophytic
- J	0			Vegetation Present? Yes No
		= Total Cov	-	
50% of total cover: <u>0</u>	20% of	total cover:	0	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Desc	ription: (Describe to	o the dept	n needed to docum	nent the i	indicator	or confirm	the absence of indicators.)
Depth	Matrix			K Feature	4		
(inches)	Color (moist)	<u>%</u>	Color (moist)		Type'		Texture Remarks
0-5	10YR 4/4	70	7.5 YR 5/6	10	С	Μ	GL
	5Y 6/6	20					
		·					
		·				·	
		·			-		
	,	·					·
·		·			. <u> </u>		
	oncentration, D=Deple	etion, RM=I	Reduced Matrix, MS	=Masked	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I							Indicators for Problematic Hydric Soils ³ :
Histosol	. ,		Dark Surface	· · ·			2 cm Muck (A10) (MLRA 147)
·	pipedon (A2)		Polyvalue Bel				
Black Hi	. ,		Thin Dark Su			47, 148)	(MLRA 147, 148)
	n Sulfide (A4) I Layers (A5)		Loamy Gleye Depleted Mat		(F2)		Piedmont Floodplain Soils (F19) (MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark S	· · ·	-6)		WERA 130, 147) Very Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dar		,		Other (Explain in Remarks)
·	ark Surface (A12)	()	Redox Depre				<u> </u>
Sandy M	lucky Mineral (S1) (LI	RR N,	Iron-Mangane	ese Mass	és (F12) (LRR N,	
MLRA	A 147, 148)		MLRA 136	5)			
Sandy G	ileyed Matrix (S4)		Umbric Surfa				³ Indicators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo				
	Matrix (S6)		Red Parent M	laterial (F	21) (MLR	A 127, 147	7) unless disturbed or problematic.
	_ayer (if observed):						
, i	arse fragments						
Depth (ind	ches): <u>5</u>						Hydric Soil Present? Yes No _✓
Remarks:							

Project/Site: EEP		City/C	County: Wetzel		Sampling Date: 10/21/2015			
Applicant/Owner: EQT					Sampling Point: W-Z3			
Investigator(s): SAZ, CS		Sectio	on, Township, Range: <mark>N</mark>	Ā				
Landform (hillslope, terrace, etc.): Subregion (LRR or MLRA):	flloodplain	Local reli	ief (concave, convex, nor	ne): Concave	Slope (%): 0			
Subregion (I RR or MI RA): LRRN	lat:	39.552937	Long: -80	.544539	Datum: NAD 83			
Soil Map Unit Name: Skidmore gra			2019					
Are climatic / hydrologic conditions			,					
Are Vegetation, Soil								
Are Vegetation, Soil				explain any answer	,			
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.								
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <mark>✓</mark> Yes <mark>✓</mark> Yes <u>✓</u>	No No No	Is the Sampled Area within a Wetland?	Yes 🗸	No			
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWN								
Data form for wetlands W-Z	3A and W-Z3B.							
HYDROLOGY								
Wetland Hydrology Indicators: Primary Indicators (minimum of or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Water Fauna (B13)		True Aquatic Plants (Hydrogen Sulfide Ode	or (C1) es on Living Roots (C3) d Iron (C4) on in Tilled Soils (C6) C7)	 Surface Soil (Sparsely Veg Drainage Pat Moss Trim Lin Dry-Season V Crayfish Burr Saturation Vis Stunted or St ✓ Geomorphic I Shallow Aquit 	getated Concave Surface (B8) tterns (B10) nes (B16) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) tard (D3) uphic Relief (D4)			
Field Observations:								
		Depth (inches): Depth (inches):						
Saturation Present? Ye		Depth (inches):		lydrology Presen	t? Yes _ ✔ _ No			
(includes capillary fringe) Describe Recorded Data (stream	gauge monitoring w	ell aerial photos, pre	vious inspections), if ava	ilahle.				
Remarks:	gauge, morntoring w	ell, aenai priotos, pre						

Sampling Point: W-Z3

1	= Total Cov		Number of Dominant Species That Are OBL, FACW, or FAC Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC Prevalence Index workshee <u>Total % Cover of:</u> OBL species	2: <u>3</u> <u>3</u> 2: <u>100</u>	(A) (B) (A/B)
2.	= Total Cov		That Are OBL, FACW, or FAC Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC Prevalence Index workshee <u>Total % Cover of:</u>	2: <u>3</u> <u>3</u> 2: <u>100</u>	(B)
2.	= Total Cov		Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC Prevalence Index workshee Total % Cover of:	c: 100	
3.	= Total Cov	/er	Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC Prevalence Index workshee Total % Cover of:	c: 100	
4	_ = Total Cov	/er	Percent of Dominant Species That Are OBL, FACW, or FAC Prevalence Index workshee Total % Cover of:	c: 100	
5.	_ Total Cov		That Are OBL, FACW, or FAC Prevalence Index workshee Total % Cover of:	c: <u>100</u>	(A/B)
6	_ = Total Co of total cover	/er	Prevalence Index workshee Total % Cover of:	et:	(A/B)
7. 0 50% of total cover: 0 20% of Sapling/Shrub Stratum (Plot size: 1.	_ = Total Cov of total cover	ver	Total % Cover of:		
0 0 20% of total cover: 0 20% of total cover: 0 20% of total cover: 10 20% of total cover: 0 20% of total cover: 20% of total cover: 20% of total cover: 20% of total cover:	of total cover		Total % Cover of:		
50% of total cover: 0 20% of total cover: Sapling/Shrub Stratum (Plot size: 15') 1.	of total cover				
Sapling/Shrub Stratum (Plot size: 15') 1 2		. 0	OBL species		
1					
2 3 4			FACW species		
2 3 4			FAC species	x 3 =	_
3 4			FACU species	x 4 =	_
4			UPL species	x 5 =	_
			Column Totals:		
				. /	_ ()
5		·	Prevalence Index = B/A	A =	_
6		·	Hydrophytic Vegetation Ind		
7			1 - Rapid Test for Hydror		
8			✓ 2 - Dominance Test is >5		
9					
	= Total Co	/er	3 - Prevalence Index is ≤		
	of total cover	•	4 - Morphological Adapta		
Herb Stratum (Plot size: 5')		·	data in Remarks or or	n a separate sheet)	
1. Carex Iurida 30	1	OBL	Problematic Hydrophytic	Vegetation ¹ (Explai	in)
2. Carex vulpinoidea 20					
2. I		OBL	¹ Indicators of hydric soil and	wetland hydrology n	nust
3. Arthraxon hispidus 20		FAC	be present, unless disturbed		
4. Juncus effusus 15		FACW	Definitions of Four Vegetat	ion Strata:	
5. Cyperus esculentus 10		FACW			
6. Scirpus atrovirens 5		OBL	Tree – Woody plants, excludi		
7			more in diameter at breast he height.	eight (DBH), regardle	ess of
		·	neight.		
8		·	Sapling/Shrub - Woody plan		
9		·	than 3 in. DBH and greater th	an or equal to 3.28	ft (1
10		·	m) tall.		
11			Herb – All herbaceous (non-v	woody) plants, regai	rdless
	= Total Co	/er	of size, and woody plants les		
	of total cover	: 20	Woody vine – All woody vine	a graatar than 2.20	ftin
Woody Vine Stratum (Plot size: 15')			height.	s greater than 5.20	/ 11 111
1					
2					
		·			
3					
4			Hydrophytic		
5		·	Vegetation		
	= Total Co	-	Present? Yes 🗸	No	
50% of total cover:0 20% of	of total cover	:0			

Depth	Matrix		Redo	x Feature	S				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-8	10YR 4/2	80	7.5YR 5/8	10	С	M/PL	SiCL		
	2.5Y 6/8	10	······································						
						·			
			·			·			
			······································						
						·			
						·			
			. <u> </u>			·			
Type: C=C	oncentration, D=Depl	etion, RM	=Reduced Matrix, MS	S=Masked	d Sand Gr	ains.	² Location: PL=Por	e Lining	g, M=Matrix.
ydric Soil	Indicators:						Indicators	or Prol	blematic Hydric Soi
Histosol	(A1)		Dark Surface	e (S7)			2 cm M	uck (A1	0) (MLRA 147)
_ Histic Ep	pipedon (A2)		Polyvalue Be	low Surfa	ce (S8) (N	/ILRA 147,	148) Coast F	Prairie R	Redox (A16)
Black Hi	istic (A3)		Thin Dark Su	ırface (S9) (MLRA '	147, 148)	(MLF	RA 147,	148)
Hydroge	en Sulfide (A4)		Loamy Gleye	ed Matrix ((F2)		Piedmo	nt Floo	dplain Soils (F19)
Stratified	d Layers (A5)		Depleted Ma	trix (F3)			(MLF	RA 136,	147)
2 cm Mu	uck (A10) (LRR N)		Redox Dark	Surface (F	-6)		Very SI	allow D	Dark Surface (TF12)
Deplete	d Below Dark Surface	e (A11)	Depleted Da	rk Surface	e (F7)		Other (Explain	in Remarks)
	ark Surface (A12)	, ,	Redox Depre		. ,			·	,
Sandy N	/lucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Mass	es (F12) (LRR N,			
MLR	A 147, 148)		MLRA 13	6)					
Sandy G	Bleyed Matrix (S4)		Umbric Surfa	ce (F13)	(MLRA 13	86, 122)	³ Indicator	s of hyd	lrophytic vegetation a
Sandy F	Redox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	8) wetland	nydrolog	gy must be present,
	I Matrix (S6)		Red Parent N	Material (F	21) (MLR	A 127, 147) unless d	sturbed	d or problematic.
estrictive	Layer (if observed):								
Туре:									
Depth (in	ches):						Hydric Soil Prese	ent?	Yes 🖌 No 🔤
emarks:									
on diotur	bod opile through	out mos	st of wetland, sar	nnla nai	nt tokor	in a loog	diaturhad area		

Project/Site: EEP	City/County: W	/etzel	_ Sampling Date: 10/21/2015
Applicant/Owner: EQT		State: WV	Sampling Point: W-Z3 UPL
Investigator(s): SAZ, CS	Section, Towns	hip, Range: <u>NA</u>	
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concav	ve, convex, none): None	Slope (%): 0
Subregion (LRR or MLRA): LRRS Lat:	39.553178	Long: <u>-80.544416</u>	Datum: NAD 83
Soil Map Unit Name: Skidmore gravelly loam		NWI classifi	cation: none
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes	_ No (If no, explain in F	Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances"	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	ap showing sampling p	oint locations, transects	s, important features, etc.
1			

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No_ ✓ No_ ✓ No_ ✓	Is the Sampled Area within a Wetland?	Yes	No∕
Remarks: Upland					
HYDROLOGY					

Wetland Hydrology Indicators: Secon	dary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply) Su	Surface Soil Cracks (B6)		
Surface Water (A1) True Aquatic Plants (B14) Sp	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2) Hydrogen Sulfide Odor (C1) Dr	ainage Patterns (B10)		
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Me	oss Trim Lines (B16)		
Water Marks (B1) Presence of Reduced Iron (C4) Dr	y-Season Water Table (C2)		
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Cr	ayfish Burrows (C8)		
Drift Deposits (B3) Thin Muck Surface (C7) Sa	aturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Other (Explain in Remarks) St	unted or Stressed Plants (D1)		
Iron Deposits (B5) Ge	eomorphic Position (D2)		
Inundation Visible on Aerial Imagery (B7) Sh	nallow Aquitard (D3)		
Water-Stained Leaves (B9) Mi	icrotopographic Relief (D4)		
Aquatic Fauna (B13) FA	AC-Neutral Test (D5)		
Field Observations:			
Surface Water Present? Yes No _ ✓ Depth (inches):			
Water Table Present? Yes No 🖌 Depth (inches):			
Saturation Present? Yes No 🖌 Depth (inches): Wetland Hydrolo (includes capillary fringe)	gy Present? Yes No✓		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

Sampling Point: W-Z3 UPL

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>3</u> (B)
4			·	Percent of Dominant Species
5			. <u> </u>	That Are OBL, FACW, or FAC: <u>33</u> (A/B)
6				_
7				Prevalence Index worksheet:
	~	= Total Cov	ver	Total % Cover of:Multiply by:
50% of total cover: 0				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 0)				FACW species x 2 =
				FAC species x 3 =
1				FACU species x 4 =
2				
3			. <u> </u>	UPL species x 5 =
4				Column Totals: (A) (B)
5				Drevelance Index D/A
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
			·	1 - Rapid Test for Hydrophytic Vegetation
8			·	2 - Dominance Test is >50%
9		·	·	3 - Prevalence Index is ≤3.0 ¹
		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0	20% of	total cover	0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 0)				
1. Dactylis glomerata	50		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
_{2.} Juncus effusus	15	\checkmark	FACW	
3. Trifolium pratense	15	\checkmark	FACU	¹ Indicators of hydric soil and wetland hydrology must
4 Plantago lanceolata	10		UPL	be present, unless disturbed or problematic.
5. Daucus carota	10		UPL	Definitions of Four Vegetation Strata:
6. Phalaris arundinacea	10		·	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. Thalans arthundinacea	10	·	FACW_	more in diameter at breast height (DBH), regardless of
7			·	height.
8		. <u> </u>	·	Sapling/Shrub – Woody plants, excluding vines, less
9			. <u> </u>	than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				
	110	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 55	20% of	total cover	22	
Woody Vine Stratum (Plot size: 15')	2070.01			Woody vine - All woody vines greater than 3.28 ft in
				height.
1		·	·	
2		·	·	
3				
4				Hydrophytic
5				Vegetation
	~	= Total Cov	/er	Present? Yes No 🗸
50% of total cover:0		total cover		
Remarks: (Include photo numbers here or on a separate s			·	
Remarks. (include photo numbers here of on a separate s	neet.)			

Profile Descr	iption: (Describe t	o the depth	needed to docur	nent the in	dicator o	or confirm	the absence	of indicato	rs.)	
Depth	Matrix		Redo	x Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-5	10YR 4/3	100					L			
¹ Type: C=Co	ncentration, D=Deple	etion, RM=R	Reduced Matrix, MS	S=Masked S	Sand Gra	ains.	² Location: Pl	_=Pore Linir	ng, M=Matrix.	
Hydric Soil Ir	ndicators:		· · ·						oblematic Hy	dric Soils ³ :
Histosol (A1)		Dark Surface	e (S7)			2	cm Muck (A	10) (MLRA 1	47)
·	pedon (A2)		Polyvalue Be		e (S8) (M	LRA 147,		· ·	Redox (A16)	,
Black His	• • • •		Thin Dark Su				,	(MLRA 147	. ,	
Hydroger	Sulfide (A4)		Loamy Gleye				P	iedmont Flo	odplain Soils	(F19)
	Layers (A5)		Depleted Ma		,			(MLRA 136		. ,
	k (A10) (LRR N)		Redox Dark	Surface (F6)		V		Dark Surface	(TF12)
Depleted	Below Dark Surface	e (A11)	Depleted Dar	rk Surface (F7)		0	ther (Explain	n in Remarks)	
Thick Da	k Surface (A12)		Redox Depre	essions (F8)	1					
Sandy M	ucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Masses	s (F12) (I	_RR N,				
MLRA	147, 148)		MLRA 13	6)						
Sandy GI	eyed Matrix (S4)		Umbric Surfa	ice (F13) (N	ILRA 13	6, 1 22)	³ Ind	icators of hy	drophytic veg	etation and
Sandy Re	. ,		Piedmont Flo	•	. ,	•		tland hydrol	ogy must be p	present,
	Matrix (S6)		Red Parent M	Aaterial (F2	1) (MLR	A 127, 147)) unl	ess disturbe	ed or problema	atic.
	ayer (if observed):									
туре: <u>Gra</u>	avel									
Depth (inc	hes): <u>5</u>						Hydric Soil	Present?	Yes	No 🖌
Remarks:										

Project/Site: EEP	City/County: Wetzel	Sampling Date: <u>10/21/2015</u>
Applicant/Owner: EQT	State	: <u>WV</u> Sampling Point: <u>W-Z2</u>
Investigator(s): SAZ, CS	Section, Township, Range: N/A	
A 11 1 1 1	ocal relief (concave, convex, none): <u>Co</u>	Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.550181	Long: -80.5447	62
Soil Map Unit Name: Skidmore gravelly loam	N	NI classification: None
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes _ ✔ No (If no, e	xplain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Normal Circum	nstances" present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, explain	any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, tr	ansects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes \checkmark Yes \checkmark Yes \checkmark	No No No	Is the Sampled Area within a Wetland?	Yes_✓	No
Remarks: Cowardin Code: PEM					
HGM: Riverine WT: RPWWD					

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
	 Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Field Observations:	
Surface Water Present? Yes No _ ✓ _ Depth (inches): Water Table Present? Yes No _ ✓ _ Depth (inches): Saturation Present? Yes No _ ✓ _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect	Wetland Hydrology Present? Yes _ ✓ No tions), if available:
Remarks:	

Sampling Point: W-Z2

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4		. <u> </u>		Percent of Dominant Species
5	-			That Are OBL, FACW, or FAC: 100 (A/B)
6				
7				Prevalence Index worksheet:
	0	= Total Cove		Total % Cover of: Multiply by:
50% of total cover: 0				OBL species x 1 =
15	20% 01	total cover.	<u> </u>	FACW species x 2 =
1		. <u> </u>		FAC species x 3 =
2	-			FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6		·		Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				\checkmark 2 - Dominance Test is >50%
9		_	_	
	0	= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover:0		total cover:	-	4 - Morphological Adaptations ¹ (Provide supporting
	2070.01			data in Remarks or on a separate sheet)
	70	/		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Carex vulpinoidea			OBL	
2. Carex lurida	10		<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Scirpus polyphyllus	5		OBL	be present, unless disturbed or problematic.
4. Juncus canadensis	5		OBL	
5. Persicaria sagittata	5		OBL	Definitions of Four Vegetation Strata:
6. Juncus effusus	5			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
	5		F <u>ACW</u>	more in diameter at breast height (DBH), regardless of
7. Cyperus esculentus	- 5	·	F <u>ACW</u>	height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				
	105	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 52.5				or size, and woody plants less than 3.20 it tall.
	<u> </u>	total cover.	21	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4				
		·		Hydrophytic
5	0			Vegetation Present? Yes _ ✓ No
		= Total Cove		
50% of total cover: <u>0</u>	20% of	total cover:	0	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Descriptio	n: (Describe to	o the depth	n needed to docum	nent the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix		Redo	x Features	5				
(inches) C	olor (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-10 1	0YR 4/2	80	7.5YR 5/8	20	С	M/PL	SiCL		
						·			
						·			
						·			
· ·									
<u> </u>						·			
<u> </u>						·			
						·			
¹ Type: C=Concen	tration, D=Deple	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gr	ains.	² Location: PL	_=Pore Lining, M=Matrix.	
Hydric Soil Indica							Indica	tors for Problematic Hydric Soils ³ :	
Histosol (A1)			Dark Surface	(S7)			2	cm Muck (A10) (MLRA 147)	
Histic Epipedo	n (A2)		Polyvalue Be		ce (S8) (N	ILRA 147,		oast Prairie Redox (A16)	
Black Histic (A	(3)		Thin Dark Su					(MLRA 147, 148)	
Hydrogen Sulf	ide (A4)		Loamy Gleye				Pi	iedmont Floodplain Soils (F19)	
Stratified Laye	ers (A5)		✓ Depleted Ma	trix (F3)				(MLRA 136, 147)	
2 cm Muck (A	10) (LRR N)		Redox Dark	Surface (F	6)		Very Shallow Dark Surface (TF12)		
Depleted Belo	w Dark Surface	(A11)	Depleted Dar	k Surface	(F7)		O	ther (Explain in Remarks)	
Thick Dark Su	rface (A12)		Redox Depre	ssions (F8	3)				
Sandy Mucky	Mineral (S1) (LI	RR N,	Iron-Mangan	ese Masse	es (F12) (LRR N,			
MLRA 147,	,		MLRA 13	,					
Sandy Gleyed			Umbric Surfa					cators of hydrophytic vegetation and	
Sandy Redox	(S5)		Piedmont Flo	•	, ,	•		tland hydrology must be present,	
Stripped Matri	. ,		Red Parent M	Aaterial (F	21) (MLR	A 127, 147) unl	ess disturbed or problematic.	
Restrictive Layer	(if observed):								
_{Туре:} <u>Rock</u>									
Depth (inches):	10						Hydric Soil	Present? Yes 🖌 No	
Remarks:							1		

Project/Site: EEP	City/County: We	etzel	_ Sampling Date: 10/21/2015
Applicant/Owner: EQT		State: WV	
Investigator(s): SAZ, CS	Section, Townsh	ip, Range: <u>NA</u>	
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave	e, convex, none): <u>Convex</u>	Slope (%): 0
Subregion (LRR or MLRA): LRRN	Lat: 39.550418	_ Long: <u>-80.544845</u>	Datum: NAD 83
Soil Map Unit Name: Skidmore gravelly loar	n	NWI classifi	_{cation:} None
Are climatic / hydrologic conditions on the site typ	ical for this time of year? Yes	No (If no, explain in F	Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances"	present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach si	te map showing sampling po	oint locations, transects	s, important features, etc.
	1		

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No_✓ No_✓ No_✓	Is the Sampled Area within a Wetland?	Yes	No∕	
Remarks: Upland						
HYDROLOGY						

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Fauna (B13) 	Dry-Season Water Table (C2)
Field Observations:	
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect Remarks: Remarks:	Wetland Hydrology Present? Yes No✓ tions), if available:

Sampling Point: W-Z2 UPL

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:0 (A)
2				
				Total Number of Dominant Species Across All Strata: 1 (B)
3				Species Across All Strata: 1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				
		= Total Cov		Total % Cover of: Multiply by:
50% of total cover: 0	20% of	total cover:	0	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 0)				FACW species x 2 =
1				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
				Column Totals: (A) (B)
4				
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9.				
	0	= Total Cov	er	3 - Prevalence Index is ≤3.0 ¹
50% of total cover:0		total cover:	-	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size:)				data in Remarks or on a separate sheet)
1. Dactylis glomerata	60	\checkmark	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Clinopodium vulgare	15			
			UPL	¹ Indicators of hydric soil and wetland hydrology must
3. Trifolium pratense	10		FACU	be present, unless disturbed or problematic.
4. Glechoma hederacea	10		F <u>ACU</u>	Definitions of Four Vegetation Strata:
5. Verbesina alternifolia	5		FAC	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
				noight.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				iii) taii.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>50</u>	20% of	total cover:	20	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15')				height.
1				
2				
3				
4				
				Hydrophytic
5	•			Vegetation Present? Yes No
50% of total array 0		= Total Cov		
50% of total cover: 0		total cover:	0	
Remarks: (Include photo numbers here or on a separate s	heet.)			

	ription: (Describe t	o the depth				or confirm	the absence	of indicato	rs.)	
Depth	Matrix	%		x Features		1 2	Tautura		Devee	
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-5	10YR 4/4	100					SiL			
						<u> </u>				
¹ Type: C=Co	ncentration, D=Depl	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL	-Pore Linir	ng, M=Matrix.	
Hydric Soil I	ndicators:						Indica	tors for Pro	oblematic Hy	dric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			2	cm Muck (A	10) (MLRA 1 4	47)
	ipedon (A2)		Polyvalue Be	. ,	;e (S8) (₩	LRA 147,			Redox (A16)	
Black His	stic (A3)		Thin Dark Su	rface (S9)	(MLRA 1	47, 148)	,	(MLRA 147	7, 148)	
	n Sulfide (A4)		Loamy Gleye				Pi		odplain Soils (F19)
Stratified	Layers (A5)		Depleted Mat	trix (F3)	,			(MLRA 136	6, 147)	
2 cm Mu	ck (A10) (LRR N)		Redox Dark S	Surface (F	6)		Very Shallow Dark Surface (TF12)			
Depleted	Below Dark Surface	e (A11)	Depleted Dar	k Surface	(F7)		O	ther (Explain	n in Remarks)	
Thick Da	rk Surface (A12)		Redox Depre	ssions (F8	3)					
Sandy M	ucky Mineral (S1) (L	RR N,	Iron-Manganese Masses (F12) (LRR N,							
MLRA	147, 148)		MLRA 13	6)						
Sandy G	leyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)				³ Indicators of hydrophytic vegetation and			etation and
Sandy R	edox (S5)		Piedmont Floodplain Soils (F19) (MLRA 148							resent,
	Matrix (S6)		Red Parent M	/laterial (F2	21) (MLR /	A 127, 147) unl	ess disturbe	ed or problema	atic.
	ayer (if observed):									
Type: CO	arse fragments									
Depth (inc	hes): 5		_				Hydric Soil	Present?	Yes	No 🖌
Remarks:							1			

STREAM ID S-BB1				STREAM NAME Lobbs Run				
LAT 40.253691 LONG -79.962318				DATE 07/08/2015				
CLIENT EQT		G -79.902310		PROJECT NAME EQT EEP				
					P			
INVESTIGATORS JH, LM, LS, CL								
FLOW REGIME Perennial L IntermittentEphemeral TNW RPW								
			fleasurements k Width: <u>2.0 ft</u>		Stream Erosion <u>✓</u> NoneModerate	Heavy		
		Top of Ban	k Height:		Artificial. Modified or Char	nolizod		
		LB 1.0	ft RB 1.0	ft	Yes <u>✓</u> No	menzeu		
CHANNEL FE		Water Dept	th: 5.00 in	_				
CHANNEL FE	ATURES	Water Widt			Dam PresentYes	<u>∕</u> No		
		High Water	Mark: <u>4.0</u> in		Sinuosity 🖌 Low	Medium High		
		Flow Direct			Gradient			
					✓ FlatModerate			
					(0.5/100 ft (2 ft/100 ft)	(10 ft/100 ft)		
		Water Pres	sent r, stream bed dry		Proportion of Reach Repre Morphology Types	sented by Stream		
		Stream b			Riffle 80 % Run 10	%		
FLOW		Standing	g water		Pool 10 %			
CHARACTERI	STICS	Flowing	water		Turbidity			
		Velocity			ClearSlightly turbidTurbid			
		Fast Moderate			OpaqueStained			
		Slow			Other			
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)								
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock				Detritus	sticks, wood, coarse			
Boulder		mm (10")			plant materials (CPOM)	30		
Cobble		m (2.5"-10")	60	Muck-Mud	black, very fine organic (FPOM)	5		
Gravel		(0.1"-2.5")	20					
Sand Silt		nm (gritty)).06 mm	10	Marl	grey, shell fragments	0		
Clay		mm (slick)	10 0		grey, shen nagments			
Oldy	. 0.004	. ,	ant Surrounding Lan	duse	Indicate the dominant type	(Check one)		
		🖌 Forest	Commer		Indicate the dominant type (Check one)			
		Field/Pa			GrassesHerba	ceous		
WATERSHED		Agricult Other:	uralResident	lai	Floodplain Width			
FEATURES						rate 15-30ft		
		Canopy Co		adad	✓ Narrow <16ft			
		_ ∠ Partly o Shaded		aded	Wetland PresentYesNo			
					Wetland ID			
AQUATIC VEGETATION Rooted eme				d record the o Rooted submo	lominant species present ergent Rooted float	ing Free floating		
AGOANO VEGETATION		Floating		Attached alga				
1		Crawfish ho	oles, mayflies, water b	ougs, skimmer	S			
			-					
MACROINVER OR OTHER	TEBRATES	;						
WILDLIFE								
OBSERVED/O OBSERVATIO								
NOTES								

STREAM ID S	-BB2		STREAM NA	TREAM NAME UNT to Lobbs Run				
LAT 40.24931	1 LON	G -79.957857	7 DATE 07/08	/2015				
CLIENT EQT			PROJECT N	AME EQT EEF	D			
INVESTIGATO	INVESTIGATORS JH, LM, LS, CL							
FLOW REGIME WATER TYPE								
Perenniai -	Perennial Intermittent Ephemeral 🖌 TNW RPW NRPW 🖌							
CHANNEL FE	ATURES	Top of Bank Width: <u>1.0 ft</u> Top of Bank Height: LB <u>1.0 ft</u> RB <u>1.0 ft</u> Water Depth: <u>2.00 in</u> Water Width: <u>11.0 in</u>			Stream Erosion ✓ None Moderate Heavy Artificial, Modified or Channelized Yes ✓ No Dam Present _Yes ✓ No Sinuosity ✓ Low Medium High			
		Flow Direct	ion: <u>North</u>		Gradient FlatModerate (0.5/100 ft (2 ft/100 ft)	<u>✓</u> Severe (10 ft/100 ft)		
FLOW CHARACTERISTICS ↓ Flowing water Velocity			r, stream bed dry bed moist g water		Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 10 % Pool 10 % * Turbidity Slightly turbid Turbid Opaque Stained Turbid			
INORGANIC SUBSTRATE COMP (should add up to 100%)				-	DRGANIC SUBSTRATE COMPONENTS does not necessarily add up to 100%)			
Substrate Type	Diame		% Composition in Sampling Reach		Characteristic	% Composition in Sampling Area		
Bedrock				Detritus	sticks, wood, coarse			
Boulder		mm (10")		Doundo	plant materials (CPOM)	30		
Cobble		m (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	70		
Gravel Sand		(0.1"-2.5") nm (gritty)						
Silt).06 mm	60	Marl	grey, shell fragments	0		
Clay		nm (slick)	40		groy, onon nagmonto			
		Predominant Surrounding Landuse Forest Commercial ✓ Field/Pasture Industrial Agricultural ✓ Other: Canopy Cover ✓ Partly open Partly shaded Shaded ✓			Indicate the dominant type (Check one) Trees Shrubs Grasses ↓ Herbaceous Floodplain Width Wide > 30ft Moderate 15-30ft ↓ Narrow <16ft Wetland Present ↓ Yes No Wetland ID W-BB2			
AQUATIC VEGETATION				d record the d Rooted subme Attached algae	• <u> </u>	ingFree floating		
		la ·						
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES		crawfish ho	eep/well at top of hill les.					

STREAM ID S	-BB5			STREAM NAME Monongehela River			
LAT 40.24207	2 LON	G -79.949452	DATE 07/08/	DATE 07/08/2015			
CLIENT EQT	-		PROJECT N/	AME EQT EEF	0		
INVESTIGAT	ORS AL,SC,	ſC,JA					
FLOW REGIME WATER TYPE Perennial Intermittent Ephemeral TNW RPW NRPW					NRPW		
Estimate Measure Top of Bank Wid Top of Bank Heig LB 30.0 ft Water Depth: Water Width: 76 High Water Mark Flow Direction:			Width: <u>860.0 ft</u> Height: ft <u>767.(ft</u> lark:in n: East		Stream Erosion ✓ None Moderate Artificial, Modified or Char Yes ✓ No Dam Present Yes Sinuosity ✓ Low Gradient ✓ Flat Moderate (0.5/100 ft (2 ft/100 ft)	MediumHigh Severe (10 ft/100 ft)	
FLOW CHARACTERISTICS			stream bed dry d moist vater		Proportion of Reach Represented by Stream Morphology Types Riffle % Run 100 % Pool % Turbidity Clear ✓ Slightly turbid Turbid OpaqueStained Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			-	RGANIC SUBSTRATE COM loes not necessarily add u			
Substrate Type	Diame		% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock					sticks, wood, coarse		
Boulder	> 256	mm (10")	15	Detritus	plant materials (CPOM)	30	
Cobble		m (2.5"-10")	30	Muck-Mud	black, very fine organic		
Gravel		n (0.1"-2.5")	25		(FPOM)		
Sand		nm (gritty)	20	Maul			
Silt		0.06 mm	5	Marl	grey, shell fragments		
Clay < 0.004 mm (slick) 5 Predominant Sur Forest Forest Agricultural Other: Canopy Cover Partly open Shaded			t Surrounding Lan <u>v</u> Commer ture <u>v</u> Industrial al <u>v</u> Resident er	cial ial aded	Floodplain Width	s ceous rate 15-30ft	
AQUATIC VE	GETATION	Indicate the c Rooted er Floating a	mergent	d record the d Rooted subme Attached algae	° <u> </u>	ingFree floating	
							
MACROINVEI OR OTHER WILDLIFE OBSERVED/C OBSERVATIC NOTES	THER	OHWM could	terial could not be of not be accurately of , frogs, fish, snakes	determined			
		-					

STREAM ID S-BB4			STREAM NA	STREAM NAME Bunola Run				
LAT 40.23785	276 LON	IG -79.946872	252 DATE 07/08/	DATE 07/08/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EQT EEP				
INVESTIGATO	DRS AL,SC,T	⁻C,JA						
FLOW REGIN	1E		WATER TY	PE ,				
Perennial -	 Intermitte. 	nt Ephemo	eral TNW	RPW 🖌	NRPW			
		Top of Ban Top of Ban	0		Stream Erosion <u>V</u> NoneModerate Artificial, Modified or Char			
		LB <u>4.0</u>	ft RB <u>2.0</u>	ft	Yes <u>√</u> No			
CHANNEL FE	ATURES		th: <u>12.00 in</u>		Dam Present Yes	<u>∕_</u> No		
			· Mark: <u>18.0 in</u>		Sinuosity Low	Medium High		
		Flow Direct	_			i ngi i		
						Severe		
			<u></u>		(0.5/100 ft (2 ft/100 ft)	(10 ft/100 ft)		
FLOW		Stream b	r, stream bed dry oed moist g water		Proportion of Reach Repre Morphology Types Riffle 80 % Run 10 Pool 10 %	-		
CHARACTERISTICS		<u>✓</u> Flowing Velocity Fast Slow	water ✓ Moderate		Turbidity ✓ ClearSlightly turbidTurbid OpaqueStained Other			
INOR		STRATE CO add up to 100		_	RGANIC SUBSTRATE CON does not necessarily add u			
Substrate Type	Diame	-	% Composition in Sampling Reach			% Composition in Sampling Area		
Bedrock				Detritus	sticks, wood, coarse			
Boulder		mm (10")	15	2001100	plant materials (CPOM)	30		
Cobble		m (2.5"-10")	30	Muck-Mud	black, very fine organic			
Gravel		n (0.1"-2.5")	25		(FPOM)	+		
Sand Silt		nm (gritty) 0.06 mm	20	Marl	grey, shell fragments			
Clay		mm (slick)	5		groy, shell hayments			
WATERSHED FEATURES		Predominant Surrounding Landuse ✓ Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Partly open Partly shaded			Indicate the dominant type (Check one) ✓ Trees Shrubs Grasses Herbaceous Floodplain Width Wide > 30ft ✓ Moderate 15-30ft Narrow <16ft			
<u>√</u> Shaded			Open		Wetland PresentYes Wetland ID	_✓_No		
AQUATIC VEGETATION Rooted eme			l emergent	d record the d Rooted subme Attached alga	· _	tingFree floating		
MACROINVEF OR OTHER WILDLIFE OBSERVED/O OBSERVATIO NOTES	THER	;						

STREAM ID S	-BB6			STREAM NAME UNT to Bunola Run				
LAT 40.23883	0 LON	G -79.943779)	DATE 07/08/2015				
CLIENT EQT				PROJECT NAME EQT EEP				
INVESTIGATO	INVESTIGATORS AL,SC,TC,JA							
FLOW REGIN Perennial		nt <u>— Epheme</u>	eral <u> </u>	WATER TY TNW	RPW 🖌	NRPW —		
CHANNEL FEATURES		Estimate Measurements Top of Bank Width: <u>3.0 ft</u> Top of Bank Height: LB <u>1.0 ft</u> RB <u>2.0 ft</u> Water Depth: <u>7.00 in</u>			<u>ít</u>	Stream Erosion ✓ None Moderate Artificial, Modified or Char Yes ✓ No Dam Present Yes	nnelized	
		Water Width: <u>1.0 ft</u> High Water Mark: <u>5.0 in</u> Flow Direction: <u>North</u>				Sinuosity ✓ Low Medium High Gradient ✓ Moderate Severe (0.5/100 ft (2 ft/100 ft) (10 ft/100 ft)		
FLOW - CHARACTERISTICS		Stream b Standing Flowing v Velocity	r, strean bed mois g water			Proportion of Reach Repre Morphology Types Riffle 70 % Run 30 Pool % Turbidity	%	
INOR		STRATE COI		ENTS	-	RGANIC SUBSTRATE CON does not necessarily add u		
Substrate Type	Diame			omposition in npling Reach	Substrate Type	1	% Composition in Sampling Area	
Bedrock						sticks, wood, coarse		
Boulder	> 256	mm (10")			Detritus	plant materials (CPOM)	10	
Cobble		m (2.5"-10")	7	0	Muck-Mud	black, very fine organic		
Gravel		n (0.1"-2.5")				(FPOM)		
Sand		nm (gritty)					0	
Silt		0.06 mm	1	0	Marl	grey, shell fragments		
Clay		mm (slick)			duce	Indicate the dominant turn		
WATERSHED FEATURES WATERSHED FEATURES WATERSHED FEATURES Predominant Forest Field/Past Other: Canopy Covu Partly ope Shaded		asture ural over pen	l <u>✓</u> Residential		Indicate the dominant type (Check one) Trees ✓ Shrubs Grasses Herbaceous Floodplain Width Moderate 15-30ft Narrow <16ft			
AQUATIC VE	GETATION	Indicate the <u> </u> Rooted Floating	emerg	ent	d record the of Rooted submo Attached alga	• <u> </u>	ingFree floating	
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES		Skimmers,		, drains into ri ugs, crawfish				

STREAM ID S	-BB3			STREAM NAME Kelly Run			
LAT 40.22828	5 LON	G -79.932636	6 DATE 07/0	DATE 07/08/2015			
CLIENT EQT			PROJECT	NAME EQT EE	P		
INVESTIGATO	ORS AL,SC,T	C,JA	<u>_</u>				
FLOW REGIN			WATER T				
Perenniai -		nt Epheme	eral TNW		NRPW		
CHANNEL FEATURES		Top of Bank Top of Bank LB <u>4.0 f</u> Water Dept Water Width High Water	ft RB <u>2.0</u> h: <u>18.00 in</u>	ft	Stream Erosion ✓ None Moderate Artificial, Modified or Char Yes ✓ No Dam Present Yes Sinuosity Low ✓	nnelized	
		1 IOW DIRECT			Gradient		
FLOW CHARACTERISTICS			r, stream bed dry bed moist g water		(0.5/100 ft (2 ft/100 ft) Proportion of Reach Representation Morphology Types Riffle 80 % Run 10 Pool 10 % Turbidity Slightly Opaque Stained Other	esented by Stream % turbidTurbid	
INORGANIC SUBSTRATE COMPONENTS ORGANIC SUBSTRATE COMPONENTS					IPONENTS		
(should add up to 100%)			0%)	(does not necessarily add u	p to 100%)	
Substrate Type	Diame	ter	% Composition i Sampling Reac		Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder		mm (10")			plant materials (CPOM)	30	
Cobble		m (2.5"-10")	60	Muck-Mud	black, very fine organic (FPOM)		
Gravel Sand		(0.1"-2.5")	20				
Sand		nm (gritty)).06 mm	10	 Marl	grey, shell fragments		
			10		grey, shell haginents		
WATERSHED FEATURES		Predomina ✓ Forest — Field/Pa — Agriculta — Other: Canopy Co	redominant Surrounding Landuse ForestCommercial Field/PastureIndustrial AgriculturalResidential Other: anopy Cover Partly openPartly shaded		Indicate the dominant type (Check one) ✓ TreesShrubs GrassesHerbaceous Floodplain Width Wide > 30ftModerate 15-30ft Narrow <16ft Wetland PresentYesNo Wetland ID		
AQUATIC VEC	GETATION	Indicate the <u> </u> Rooted Floating	emergent	nd record the o Rooted submo Attached alga	• <u> </u>	tingFree floating	
			rs, frogs, mayflies,	water bugs, skir	nmers		

STREAM ID S	-N1		STREAM NA	STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.91821		G -80.128345	DATE 06/09/	DATE 06/09/2015				
CLIENT EQT			PROJECT N	AME MVP				
INVESTIGATO	INVESTIGATORS JH, LM, JK							
FLOW REGIN	IE Intermitter	nt 🖌 Enhomo	ral TNW					
CHANNEL FEATURES		Top of Bank Top of Bank LB <u>20.0 ir</u>	n RB <u>72.0</u>	in	Stream Erosion NoneModerate Artificial, Modified or Char YesNo			
		Water Depth			Dam PresentYes	✓ No		
		Water Width						
		-	Mark: <u>5.0 in</u>		Sinuosity 🖌 Low	Medium High		
		Flow Direction	on: <u>South</u>		Gradient Flat <u>✓</u> Moderate (0.5/100 ft (2 ft/100 ft)			
FLOW CHARACTERISTICS		Water Prese ✓ No water, Stream be Standing Flowing w	stream bed dry ed moist water		Proportion of Reach Representation Morphology Types Riffle % Run 0 Pool 0 % Run 0	-		
		Velocity FastModerate Slow			Turbidity Clear Slightly turbid Turbid Opaque Stained ✓ Other No water			
INORGANIC SUBSTRATE COMPON (should add up to 100%)				-	RGANIC SUBSTRATE CON loes not necessarily add u			
Substrate Type	Diame		% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock			0	Detritus	sticks, wood, coarse			
Boulder		mm (10")	0	Detilitus	plant materials (CPOM)	5		
Cobble		m (2.5"-10")	10	Muck-Mud	black, very fine organic	20		
Gravel		(0.1"-2.5")	25		(FPOM)	20		
Sand		nm (gritty)	65			0		
Silt).06 mm	0	Marl	grey, shell fragments	Ŭ		
Clay		Forest Field/Pa		rcial I	Indicate the dominant type (Check one) TreesShrubs GrassesHerbaceous			
WATERSHED FEATURES		Agricultu Other:		tial	Floodplain Width Wide > 30ft Moderate 15-30ft			
		Canopy Cor Partly op Shaded		aded	✓ Narrow <16ft Wetland PresentYes ✓ No Wetland ID			
AQUATIC VEC	GETATION		emergent	d record the d Rooted subme Attached algae	° <u> </u>	ingFree floating		
MACROINVEF OR OTHER WILDLIFE OBSERVED/C OBSERVATIO NOTES	THER		l to direct water arou	nd existing fer	nced facility			

STREAM ID S	-N2		STREAM NA	STREAM NAME UNT to South Fork Tenmile Creek			
LAT 39.91756		G -80.130835	DATE 06/09/	DATE 06/09/2015			
CLIENT EQT			PROJECT N	AME MVP			
INVESTIGATO	ors JH, LM,	JK					
FLOW REGIN		nt🖌 Epheme	eral TNW	RPW 🖌	NRPW —		
Perenniai -		nt <u> </u>		RPW <u></u>	NRPW —		
		Top of Bank	easurements Width: <u>2.0 ft</u>		Stream Erosion None _∠_Moderate	Heavy	
		Top of Bank	Ū.	r.	Artificial, Modified or Char	nnelized	
			t RB <u>1.0 1</u>	<u></u>	Yes 🖌 No		
CHANNEL FE	ATURES	Water Depth			Dam Present Yes	No	
		Water Width			Sinuccity of Low	— Modium High	
		, i i i i i i i i i i i i i i i i i i i	Mark: <u>2.0 in</u>		Sinuosity 🖌 Low		
		Flow Directi	on: Southwest		Gradient Flat <u>✓</u> Moderate (0.5/100 ft (2 ft/100 ft)		
		Water Pres			Proportion of Reach Repre		
			, stream bed dry		Morphology Types Riffle 0 % Run 0	%	
		Stream b Standing			Pool 0 %	70	
FLOW CHARACTER	ISTICS	Flowing v			v		
CHARACTERISTICS					Turbidity ClearSlightly turbidTur		
		Velocity Fast	Moderate		OpaqueStained		
Slow			_		✓ Other No water		
INORGANIC SUBSTRATE COMPON (should add up to 100%)				-	RGANIC SUBSTRATE CON loes not necessarily add u		
Substrate			% Composition in			% Composition in	
Туре	Diame	ter	Sampling Reach	Туре	Characteristic	Sampling Area	
Bedrock			0	Detritus	sticks, wood, coarse	_	
Boulder		mm (10")	0		plant materials (CPOM)	5	
Cobble		m (2.5"-10")	10	Muck-Mud	black, very fine organic (FPOM)	5	
Gravel Sand		n (0.1"-2.5") nm (gritty)	20				
Silt		0.06 mm	50 20	Marl	grey, shell fragments	0	
Clay		mm (slick)	0		groy, onon nagmonto		
		· /	nt Surrounding Lan	duse	Indicate the dominant type	(Check one)	
		Forest	Commer	cial	Trees Shrub	s	
		Field/Pa			Grasses Herba	ceous	
WATERSHED		Other:		liai	Floodplain Width		
FEATURES		_			Wide > 30ftMode ✓ Narrow <16ft	rate 15-30ft	
		Canopy Co Partly or		aded			
		Shaded	<u>✓</u> Open		Wetland Present <u>v</u> Yes Wetland ID W-N1	No	
					ominant species present		
AQUATIC VE	GETATION	Rooted Floating	· —	Rooted subme Attached algae	• <u> </u>	ingFree floating	
					5		
		S-N3 foods	into S-N2. Connected	d with W-N1			
		U-IND IEEUS					
MACROINVER	RTEBRATES						
OR OTHER WILDLIFE							
OBSERVED/C OBSERVATIO							
NOTES							

STREAM ID S	-N3		STREAM NA	STREAM NAME UNT to South Fork Tenmile Creek			
LAT 39.91807	B LON	G -80.1302	DATE 06/09/	DATE 06/09/2015			
CLIENT EQT			PROJECT N	AME MVP			
INVESTIGATO	ors JH, LM,	JK					
FLOW REGIN	IE Intermitter	nt 🖌 Epheme			NRPW —		
CHANNEL FEATURES		Estimate Measurements Top of Bank Width: <u>3.0 ft</u> Top of Bank Height: LB <u>6.0 in</u> RB <u>6.0 in</u> Water Depth: <u>0.00 in</u> Water Width: <u>0.0 ft</u>			Stream Erosion None ✓ Moderate Artificial, Modified or Char Yes ✓ No Dam Present _Yes	nelized	
		High Water Mark: <u>6.0 in</u> Flow Direction: <u>Southwest</u>			Sinuosity ✓ Low Medium High Gradient		
FLOW			, stream bed dry ed moist water		Proportion of Reach Representation of Reach Reach Representation of Reach Representation of Reach Repr	%	
INORGANIC SUBSTRATE COMPOR (should add up to 100%)				-	RGANIC SUBSTRATE CON does not necessarily add u		
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock			0	Detritus	sticks, wood, coarse		
Boulder		mm (10")	10	Detritus	plant materials (CPOM)	0	
Cobble		m (2.5"-10")	5	Muck-Mud	black, very fine organic	10	
Gravel		(0.1"-2.5")	0		(FPOM)	10	
Sand		nm (gritty)	50			0	
Silt).06 mm	35	Marl	grey, shell fragments		
Clay		nm (slick)	0	duce	Indicate the dominant type	(Chaolaona)	
WATERSHED FEATURES WATERSHED FEATURES WATERSHED FEATURES Partly op Shaded		sture <u>r</u> Industrial	cial ial	TreesShrub GrassesHerba Floodplain Width	s ceous rate 15-30ft		
AQUATIC VEC	GETATION		emergent	d record the c Rooted subme Attached algae	• <u> </u>	ingFree floating	
MACROINVEF OR OTHER WILDLIFE OBSERVED/O OBSERVATIO NOTES	THER		a culvert and conver	ges with S-N2	through another culvert		

STREAM ID S	-AA1		STRFAM NA	STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.91687		G -80.124933		DATE 07/08/2015				
CLIENT EQT				PROJECT NAME EQT EEP				
	INVESTIGATORS JH, LM, LS, CL							
FLOW REGIM	IE		WATER TY					
Perennial -	/_ Intermitter	nt Epheme	eral TNW	RPW 🖌	NRPW			
CHANNEL FEATURES Estimate Measur Top of Bank Width Top of Bank Heigh LB 16.0 in Water Depth: 3.0 Water Width: 81.0 High Water Mark: Flow Direction: S			k Width: <u>10.0 ft</u> k Height: in RB <u>15.0</u> h: <u>3.00 in</u> h: <u>81.0 in</u> Mark: <u>10.0 in</u>	<u>in</u>	Stream Erosion Moderate Heavy Artificial, Modified or Channelized			
FLOW CHARACTERISTICS		r, stream bed dry bed moist g water		Proportion of Reach Representations Morphology Types Riffle 60 % Run 20 Pool 20 % Turbidity ClearSlightly OpaqueStained Other	% turbid <u>Turbid</u>			
INORGANIC SUBSTRATE COMPONENTS ORGANIC SUBSTRATE COMPONENTS								
Substrate	(should add up to 100%)		% Composition in	Substrate	does not necessarily add u	% Composition in		
Туре	Diame	ter	Sampling Reach		Characteristic	Sampling Area		
Bedrock			10	Detritus	sticks, wood, coarse			
Boulder		mm (10")	20	Doundo	plant materials (CPOM)	10		
Cobble		m (2.5"-10")	50	Muck-Mud	black, very fine organic	15		
Gravel		(0.1"-2.5")	20		(FPOM)			
Sand		nm (gritty)	0	Mort	arou, chall frogmente	0		
Silt		0.06 mm mm (slick)	0	Marl	grey, shell fragments			
Clay	< 0.004 r	()	0	duce	Indicate the dominant type			
- WATERSHED - FEATURES -		Predominant Surrounding Landuse Forest Commercial Field/Pasture ✓Industrial Agricultural Residential Other: Canopy Cover Partly shaded Shaded Open		Indicate the dominant type TreesShrub GrassesHerba Floodplain Width Wide > 30ft Mode Narrow <16ft Wetland PresentYes Wetland ID	aceous rate 15-30ft			
AQUATIC VEC	AQUATIC VEGETATION			d record the of Rooted subm Attached alga	<u> </u>	tingFree floating		
		Channoliza	d under highway thro	ugh comont o	ulvert 5 foot waterfall			
Channelized u MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES			a ander nighway (110	agn cement C	avert. 9 foot wateriali			

STREAM ID S	-AA2			STREAM NAME UNT to South Fork Tenmile Creek			
LAT 39.91569	8 LON	G -80.131299	DATE 07/08	DATE 07/08/2015			
CLIENT EQT			PROJECT N	AME EQT EE	P		
INVESTIGATO	ORS JH, LM,	LS, CL					
FLOW REGIM			WATER TY	PE			
Perennial -	Intermittei	nt <u> Ephem</u> e	eral 🚣 🛛 I NVV 📖	RPW	NRPW <u></u>		
Estimate Measur Top of Bank Width Top of Bank Height LB 6.0 in Water Depth: 0.50 Water Width: 1.0 High Water Mark: Flow Direction: S			k Width: <u>1.5 ft</u> k Height: in RB <u>6.0</u> th: <u>0.50 in</u> h: <u>1.0 ft</u> Mark: <u>2.0 in</u>	<u>in</u>		nnelized	
FLOW ✓ Stream bed model CHARACTERISTICS ✓ Standing water Velocity Flow ✓ Store ✓ Store			r, stream bed dry bed moist g water water		Proportion of Reach Repre Morphology Types Riffle 0 % Run 0 Pool 100 % Turbidity ClearSlightly OpaqueStained Other	% turbid <u> </u> Turbid	
INOR	INORGANIC SUBSTRATE COMPON (should add up to 100%)			_	RGANIC SUBSTRATE CON does not necessarily add u		
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock			0	Detritus	sticks, wood, coarse		
Boulder		mm (10")	0		plant materials (CPOM)	80	
Cobble		m (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	10	
Gravel		(0.1"-2.5")	0			-	
Sand Silt		nm (gritty)).06 mm	10	Marl	grey, shell fragments	0	
Clay		nm (slick)	80 10	Man	groy, shen nagmento		
WATERSHED FEATURES		Predominant Surrounding Landuse ✓ Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Other: Partly open Partly shaded ✓ Shaded Open		rcial I tial	Indicate the dominant type (Check one) TreesShrubs Grasses ✓ Herbaceous Floodplain Width Wide > 30ft ✓ Moderate 15-30ft Narrow <16ft Wetland Present ✓ YesNo Wetland ID W-A1		
AQUATIC VEGETATION		emergent	d record the o Rooted submo Attached alga		ingFree floating		
		Adjacont to	WLAA1 The read or	aatae a dam w	hich creates the wetland		
MACROINVEF OR OTHER WILDLIFE OBSERVED/O OBSERVATIO NOTES	THER			Saiss a Uairi W			

F								
STREAM ID S	-AA5			STREAM NAME South Fork Tenmile Creek				
LAT 39.91246	121 LON	G -80.127812	246 DATE 07/10	DATE 07/10/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EQT EEP				
INVESTIGATO	ORS JH, LM,	LS, CL						
FLOW REGIM			WATER TY	PE				
Perennial -	<u>Intermitter</u>	nt Epheme	eral TNW 🗹	RPW	NRPW			
CHANNEL FEATURES		Top of Banl Top of Banl LB <u>13.0</u> Water Dept Water Widtl High Water	ft RB <u>15.0</u> h: <u>4.00 ft</u>	<u>ft</u>	Stream Erosion None ✓ Moderate Heavy Artificial, Modified or Channelized Yes ✓ No Dam Present Yes ✓ No Sinuosity ✓ Low Medium High Gradient ✓ Flat Moderate Severe (0.5/100 ft (2 ft/100 ft) (10 ft/100 ft)			
FLOW CHARACTERISTICS ✓		No water, stream bed dry Stream bed moist Standing water Flowing water			Proportion of Reach Representation Morphology Types Riffle 10 % Run 90 Pool 0 % Turbidity < Clear	esented by Stream % turbid <u>√</u> Turbid		
INOR	INORGANIC SUBSTRATE COMPO (should add up to 100%)			-	RGANIC SUBSTRATE COM			
Substrate Type	Diame	-	% Composition in Sampling Reach	•	1	% Composition in Sampling Area		
Bedrock				Detritus	sticks, wood, coarse			
Boulder		mm (10")		Doundo	plant materials (CPOM)			
Cobble		m (2.5"-10")		Muck-Mud	black, very fine organic			
Gravel		(0.1"-2.5")			(FPOM)			
Sand		nm (gritty)		Mari	ana a a ll fra ana anta			
Silt).06 mm		Marl	grey, shell fragments			
Clay < 0.004		mm (slick)		Indicate the dominant type (Check one) ✓ TreesShrubs GrassesHerbaceous Floodplain Width Wide > 30ftModerate 15-30ft Narrow <16ft Wetland PresentYesNo Wetland ID				
AQUATIC VEC			emergent	d record the o Rooted submo Attached alga		tingFree floating		
		Investigator	s cannot see bottom	of stream				
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES				u sucall.				

STREAM ID S	-AA7		STREAM N	STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.91337	453 LON	G -80.127368	329 DATE 07/10	DATE 07/10/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EQT EEP				
INVESTIGATO	ORS JH, LM,	LS, CL						
FLOW REGIN			WATER TY	PE	NRPW 🖌			
Perenniai -		nt <u> Epheme</u>	eral 🖌 🛛 TNW 📖	. RPW				
Estimate Measur Top of Bank Width Top of Bank Heigh LB 2.0 ft Water Depth: 4.0 Water Width: 5.0 High Water Mark: Flow Direction: M			k Width: <u>8.0 ft</u> k Height: <u>ft RB 2.5</u> th: <u>4.00 in</u> h: <u>5.0 ft</u> Mark: <u>10.0 in</u> tion: <u>West</u>	<u>ft</u>	Stream Erosion None ✓ Moderate Artificial, Modified or Char ✓ Yes No Dam Present Yes Sinuosity ✓ Low Gradient ✓ Flat ✓ Job flat Moderate	No Medium High Severe (10 ft/100 ft)		
FLOW CHARACTERISTICS			r, stream bed dry bed moist g water		Proportion of Reach Representation of Reach Reach Representation of Reach Reach Reach Reach Reach Reach Reach Reach Reach Reac	%		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)								
Substrate Type	Diame	-	% Composition in Sampling Reach	Substrate		% Composition in Sampling Area		
Bedrock			0		sticks, wood, coarse			
Boulder	> 256 ı	mm (10")	20	Detritus	plant materials (CPOM)	5		
Cobble	64-256 m	m (2.5"-10")	50	Muck-Mud	black, very fine organic	0		
Gravel		(0.1"-2.5")	20		(FPOM)	0		
Sand		nm (gritty)	5			0		
Silt		0.06 mm	5	Marl	grey, shell fragments	0		
Clay		mm (slick)	0					
WATERSHED FEATURES WATERSHED FEATURES WATERSHED FEATURES Canopy Cov Partly op ✓ Shaded		asture <u>✓</u> Industria ural Resider	rcial al itial	Indicate the dominant type ✓ TreesShrub GrassesHerba Floodplain Width Wide > 30ftModes ✓ Narrow <16ft Wetland PresentYes Wetland ID	s ceous rate 15-30ft			
AQUATIC VEC	AQUATIC VEGETATION AQUATIC VEGETATION Floating algae			d record the c Rooted subm Attached alga	<u> </u>	ingFree floating		
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES								

STREAM ID S	-AA3		STREAM N	STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.91623	4 LON	G -80.126083	B DATE 07/08	DATE 07/08/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EQT EEP				
INVESTIGATO	INVESTIGATORS JH, LM, LS, CL							
FLOW REGIM			WATER TY	PE				
Perennial	Intermitter	nt Epheme	eral 🖌 🛛 TNW 🔔	RPW —	NRPW			
Estimate Measur Top of Bank Width Top of Bank Height LB 10.0 in Water Depth: 0.0 Water Width: 0.0 High Water Mark: Flow Direction: S			k Width: <u>4.0 ft</u> k Height: in RB <u>14.0</u> h: <u>0.00 in</u> h: <u>0.0 ft</u> Mark: <u>5.0 in</u>	<u>in</u>	Stream Erosion None ✓ Moderate Heavy Artificial, Modified or Channelized Yes ✓ No Dam Present _Yes ✓ No Sinuosity ✓ Low Medium High Gradient Severe Severe Severe (0.5/100 ft _(2 ft/100 ft) Severe Severe			
FLOW Stream bed me CHARACTERISTICS Standing water Velocity Velocity			r, stream bed dry bed moist g water		Proportion of Reach Repre Morphology Types Riffle 0 % Run 0 Pool 0 % Turbidity ClearSlightly OpaqueStained Other_No water	% turbid <u> </u> Turbid		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)								
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock			0	Detritus	sticks, wood, coarse			
Boulder		nm (10")	0		plant materials (CPOM)	40		
Cobble Gravel		m (2.5"-10") (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	0		
Sand		(0.1 -2.3) nm (gritty)	<u> </u>					
Silt).06 mm	0	Marl	grey, shell fragments	0		
Clay		nm (slick)	0		g.cy, enen nagmente			
		Predominant Surrounding Landuse ✓ Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Canopy Cover Partly open Partly shaded ✓ Shaded Open		Indicate the dominant type (Check one) ✓ TreesShrubs GrassesHerbaceous Floodplain Width Wide > 30ftModerate 15-30ft Narrow <16ft Wetland PresentYesNo Wetland ID W-AA2				
AQUATIC VEGETATION Rooted emer Floating alga			emergent	d record the o Rooted submo Attached alga	· _	tingFree floating		
MACROINVEF OR OTHER WILDLIFE OBSERVED/O OBSERVATIO NOTES	THER	Adjacent to	W-AA2					

STREAM ID S	STREAM ID S-AA4			STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.91687	3 LON	G -80.124933	DATE 07/09/	DATE 07/09/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EQT EEP				
INVESTIGATORS JH, LM, LS, CL								
FLOW REGIN			WATER TY					
Perennial -		nt <u> Epheme</u>	ral TNW	KPW 📕	NRPW			
			easurements Width: <u>5.0 ft</u>		Stream Erosion None _✓ Moderate			
		LB <u>16.0</u> ir	0	n	Artificial, Modified or Char Yes _✓_No	nnelized		
CHANNEL FEATURES		Water Depth		_				
CHANNEL FE	AIURES	Water Width			Dam Present Yes	∕_No		
		High Water	Mark: <u>7.0 in</u>		Sinuosity 🖌 Low	Medium High		
		Flow Direction	on: South		Gradient			
					FlatModerate			
FLOW		Water Present No water, stream bed dry Stream bed moist Standing water Flowing water			Proportion of Reach Representation Morphology Types Riffle 50 % Run 20 Pool 30 %	esented by Stream		
CHARACTERI	51105	Velocity ✓ Fast Moderate Slow			Turbidity ✓ Clear Slightly turbid Opaque Stained Other Stained			
INOR	INORGANIC SUBSTRATE COMPO (should add up to 100%)			-	RGANIC SUBSTRATE CON does not necessarily add u			
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type		% Composition in Sampling Area		
Bedrock			0	Detritus	sticks, wood, coarse			
Boulder		mm (10")	0		plant materials (CPOM)	30		
Cobble Gravel		m (2.5"-10") (0.1"-2.5")	30	Muck-Mud	black, very fine organic (FPOM)	10		
Sand		(0.1 -2.5) nm (gritty)	20 50					
Silt).06 mm	0	Marl	grey, shell fragments	0		
Clay		mm (slick)	0					
		✓ Forest Field/Pa		cial	Indicate the dominant type TreesShrub GrassesHerba	s		
WATERSHED FEATURES		AgriculturalResidential Other: Canopy Cover			Floodplain Width Wide > 30ft Moderate 15-30ft Narrow <16ft			
		Partly op	Open		Wetland ID W-AA3	No		
AQUATIC VEC	AQUATIC VEGETATION			d record the of Rooted submo Attached alga	· _	ingFree floating		
Adjacent to W MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES			W-AA3					

STREAM ID S	-AA8		STREAM NA	STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.91667	051 LON	G -80.115254	436 DATE 07/10/	DATE 07/10/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EQT EEP				
INVESTIGATORS JH, LM, LS, CL								
FLOW REGIN			WATER TY	PE				
Perennial -		nt Epheme	eral 🖌 TNW	RPW	NRPW <u>✓</u>			
CHANNEL FEATURES Estimate Measur Top of Bank Width Top of Bank Heigh LB 1.5 ft Water Depth: 1.0 Water Width: 0.5 High Water Mark: Flow Direction: S		k Width: <u>3.0 ft</u> k Height: f <u>t</u> RB <u>1.5</u> th: <u>1.00 in</u> h: <u>0.5 ft</u> Mark: <u>0.5 ft</u>	<u>ft</u>	Stream Erosion ✓ None Moderate Heavy Artificial, Modified or Channelized Yes ✓ No Dam Present Yes ✓ No Sinuosity ✓ Low Medium High Gradient ✓ Flat Moderate Severe				
FLOW CHARACTERISTICS ↓ Flowing was Velocity		r, stream bed dry bed moist g water		(0.5/100 ft (2 ft/100 ft) Proportion of Reach Represent Morphology Types Riffle 0 % Run 20 Pool 80 % Turbidity ClearSlightly OpaqueStained Other	esented by Stream %			
					RGANIC SUBSTRATE CON does not necessarily add u			
Substrate Type	Diame	-	% Composition in Sampling Reach	Substrate Type		% Composition in Sampling Area		
Bedrock			0	Detritus	sticks, wood, coarse			
Boulder		mm (10")	0	Detilitus	plant materials (CPOM)	50		
Cobble		m (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	10		
Gravel		(0.1"-2.5")	0		(FPOM)			
Sand		nm (gritty)).06 mm	0	Mari	ana an all fea ann anta	0		
Silt			50	Marl	grey, shell fragments			
Clay < 0.004 WATERSHED FEATURES		mm (slick) 50		Indicate the dominant type (Check one) Trees Shrubs Grasses ↓ Herbaceous Floodplain Width Wide > 30ft ↓ Moderate 15-30ft Narrow <16ft Wetland Present ↓ Yes No Wetland ID WAA4				
AQUATIC VEC	AQUATIC VEGETATION			d record the c Rooted subme Attached alga	• <u> </u>	ingFree floating		
Runs through W-AA MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES			gh W-AA4					

					Courth Fords Tors with Ore 1	
STREAM ID S		- 00 11 100			South Fork Tenmile Creek	
LAT 39.91708		G -80.11402				
CLIENT EQT			PROJECT N	AME EQT EE	Р	
INVESTIGATO		LS, CL				
FLOW REGIN		nt Ephem	eral 🖌 WATER TY	PE RPW	NRPW 🖌	
			leasurements		Stream Erosion	
			k Width: <u>4.0 ft</u>		✓ NoneModerate	<u> </u>
		Top of Ban	0		Artificial, Modified or Char	nnelized
		LB <u>18.0</u>		in	Yes 🖌 No	
CHANNEL FE	ATURES		th: <u>1.00 in</u>		Dam Present Yes	/ No
		Water Widt	h: <u>3.0 in</u>			
		-	Mark: 0.5 ft		Sinuosity Low 🗸	Medium High
		Flow Direct	tion: Southwest		Gradient	
						Severe (10 ft/100 ft)
		Water Pres	sent		Proportion of Reach Repre	
			r, stream bed dry		Morphology Types	-
			ped moist		Riffle 100 % Run Pool %	%
FLOW		Standing water Flowing water			Pool %	
CHARACTERISTICS			Water		Turbidity	
		Velocity Fast	✓ Moderate		✓ ClearSlightly OpaqueStained	
	Slow				Other	
INOR	GANIC SUB	STRATE CO	MPONENTS	0	RGANIC SUBSTRATE COM	PONENTS
		add up to 10		-	does not necessarily add u	
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock				Турс	sticks, wood, coarse	Camping Area
Boulder	> 256	mm (10")	0	Detritus	plant materials (CPOM)	20
Cobble		m (2.5"-10")	0		black, very fine organic	
Gravel	2-64 mm	(0.1"-2.5")	0	Muck-Mud	(FPOM)	25
Sand	0.06-2n	nm (gritty)	0			
Silt	0.004-0	0.06 mm	50	Marl	grey, shell fragments	0
Clay	< 0.004	mm (slick)	50			
			ant Surrounding Lan		Indicate the dominant type	
		Forest ✓ Field/Pa	Commer asture Industrial			
		Agricult				
WATERSHED FEATURES		Other:			Floodplain Width Wide > 30ft ✓ Mode	rate 15-30ft
		Canopy Co	over		Narrow <16ft	
		✓ Partly c		aded	Wetland Present (Voc	No
		Shadeo	IOpen		Wetland ID W-AA7	
		Indicate th			dominant species present	
AQUATIC VEGETATION _ Rooted em			· —	Rooted subm	· _	ing Free floating
		Floatin	y aigae	Attached alga	e	
		0.0				
		Stream end	ls at W-AA7			
MACROINVERTEBRATES						
OR OTHER WILDLIFE						
OBSERVED/C						
OBSERVATIO NOTES	INS AND					

STREAM ID S	STREAM ID S-AA10			STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.91742		G -80.110582	282 DATE 07/10	DATE 07/10/2015				
CLIENT EQT			PROJECT N	AME EQT EE	P			
INVESTIGATO	DRS JH, LM,	LS, CL						
FLOW REGIN	IE Intermitter	nt 🖌 Epheme	WATER TY		NRPW 🖌			
i cremiai _								
Top of Bank Width Top of Bank Heigl			k Height: <u>ft</u> RB <u>2.0</u> th: <u>3.00 in</u> h: <u>10.0 in</u> • Mark: <u>15.0 ft</u>	<u>ft</u>	Stream Erosion None ✓ Moderate Heavy Artificial, Modified or Channelized ✓ Yes No Dam Present Yes ✓ No Sinuosity ✓ Low Medium High Gradient Yes ✓ Severe (0.5/100 ft (2 ft/100 ft) ✓ Severe			
FLOW CHARACTERISTICS ↓ Flowing water ↓ Velocity			r, stream bed dry bed moist g water		Proportion of Reach Representation of Reach Rea	%		
INOR		STRATE CO add up to 100		-	RGANIC SUBSTRATE COM does not necessarily add u			
Substrate Type	Diame	ter	% Composition ir Sampling Reach		Characteristic	% Composition in Sampling Area		
Bedrock			25	Detritus	sticks, wood, coarse	50		
Boulder		mm (10")	50		plant materials (CPOM)	50		
Cobble		m (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	0		
Gravel Sand		(0.1"-2.5") nm (gritty)	10					
Silt).06 mm	5 10	Marl	grey, shell fragments	0		
Clay		mm (slick)	0		groy, onon nagmonio			
WATERSHED FEATURES		Predominant Surrounding Landuse Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Canopy Cover Partly open Partly shaded ✓ Shaded Open		ercial al ntial	Indicate the dominant type (Check one) Trees Shrubs Grasses ✓ Herbaceous Floodplain Width Moderate 15-30ft ✓ Narrow <16ft Wetland PresentYes ✓ No Wetland ID			
AQUATIC VEGETATION Rooted eme			emergent	nd record the o _Rooted submo _Attached alga	· _	ingFree floating		
		Completely	shaded, hard to find	d. Runs through	culvert under road			
MACROINVEF OR OTHER WILDLIFE OBSERVED/O OBSERVATIO NOTES	THER							

STREAM ID S	STREAM ID S-AA11			STREAM NAME UNT to Ruff Creek			
LAT 39.91747	678 LON	G -80.106983	305	DATE 07/10/	/2015		
CLIENT EQT				PROJECT N	AME EQT EE	Р	
INVESTIGATO	ORS JH, LM,	LS, CL					
FLOW REGIM		t Enham				NRPW 🖌	
Perenniai _	_ Intermitter	ii <u> </u>			KPW —		
Estimate Measure Top of Bank Width Top of Bank Heigh LB 61.0 in Water Depth: 0.00 Water Width: 0.0 High Water Mark: Flow Direction: Set			n: <u>6.5 ft</u> nt: RB <u>60.0</u> <u>0 in</u> <u>ft</u> <u>40.0 ft</u>	<u>in</u>	Stream Erosion None Moderate Artificial, Modified or Char Yes ✓ No Dam Present Yes Sinuosity ✓ Low Gradient Flat Moderate (0.5/100 ft (2 ft/100 ft)	Medium High	
FLOW No water, streat CHARACTERISTICS Stream bed model Velocity Fast Fast Model Slow Model			r, stream bed mo g water water	ist		Proportion of Reach Representations of Reach	% turbid <u> </u> Turbid
INORGANIC SUBSTRATE COMPONEI (should add up to 100%)				ENTS		RGANIC SUBSTRATE CON does not necessarily add u	
Substrate Type	Diame	eter % C		Composition in mpling Reach	Substrate Type	1	% Composition in Sampling Area
Bedrock)	Detritue	sticks, wood, coarse	
Boulder	> 256 r	mm (10")	1	10	Detritus	plant materials (CPOM)	10
Cobble		m (2.5"-10")		0	Muck-Mud	black, very fine organic	10
Gravel		(0.1"-2.5")	((FPOM)	10
Sand		nm (gritty)	5				0
Silt).06 mm		20	Marl	grey, shell fragments	, , , , , , , , , , , , , , , , , , ,
Clay		nm (slick)		55			
WATERSHED FEATURES WATERSHED FEATURES WATERSHED FEATURES Partly open Shaded		asture ural over pen	Commercial		Indicate the dominant type (Check one) Trees Shrubs Grasses ✓ Herbaceous Floodplain Width Wide > 30ft Moderate 15-30ft ✓ Narrow <16ft Wetland PresentYes ✓ No Wetland ID		
AQUATIC VEC	AQUATIC VEGETATION			gent	d record the of Rooted subm Attached alga	• <u> </u>	ingFree floating
Heavy e MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES			ion				

r								
STREAM ID S	-AA12			STREAM NAME Ruff Creek				
LAT 39.91742	494 LON	G -80.105685	22 DATE 07/10/	DATE 07/10/2015				
CLIENT EQT			PROJECT N/	AME EQT EE	P			
INVESTIGATO	ORS JH, LM,	LS, CL						
FLOW REGIN			WATER TY					
Perennial -		nt <u> Epheme</u>	eral TNW 🖌	RPW —	NRPW			
T T CHANNEL FEATURES		Top of Bank Width: <u>75.0 ft</u> Top of Bank Height: LB <u>12.0 ft</u> RB <u>8.0 ft</u> Water Depth: <u>26.00 in</u> Water Width: <u>34.0 ft</u> High Water Mark: <u>7.0 ft</u> Flow Direction: <u>South</u>			Stream Erosion None Moderate Artificial, Modified or Char Yes ✓ No Dam Present _Yes Sinuosity Low ✓ Gradient ✓ Flat Moderate	nnelized ∕_No MediumHigh		
					(0.5/100 ft (2 ft/100 ft)			
FLOW CHARACTERISTICS ↓ Flowing Velocity			, stream bed dry ed moist water		Proportion of Reach Repre Morphology Types Riffle 75 % Run 25 Pool 0 % Turbidity ClearSlightly OpaqueStained Other	esented by Stream % turbid <u>√</u> Turbid		
INOR		STRATE COM add up to 100			RGANIC SUBSTRATE COM			
Substrate Type	Diame	-	% Composition in Sampling Reach	Substrate Type		% Composition in Sampling Area		
Bedrock				Datelture	sticks, wood, coarse			
Boulder	> 256 ı	mm (10")		Detritus	plant materials (CPOM)			
Cobble	64-256 m	m (2.5"-10")		Muck-Mud	black, very fine organic	<u>CE</u>		
Gravel	2-64 mm	(0.1"-2.5")			(FPOM)	65		
Sand		nm (gritty)						
Silt).06 mm		Marl	grey, shell fragments			
Clay	< 0.004 r	nm (slick)		-				
WATERSHED FEATURES		Predominant Surrounding Landuse ✓ Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Other: ✓ Partly open ✓ Partly shaded Shaded Open		cial	Indicate the dominant type (Check one) ✓ TreesShrubs GrassesHerbaceous Floodplain Width Wide > 30ftModerate 15-30ft Narrow <16ft Wetland PresentYesNo Wetland ID			
AQUATIC VEGETATION		emergent	d record the o Rooted submo Attached alga		tingFree floating			
		1						
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES				om of the stre	am due to turbidity. Water lev	vel is high due to		

STREAM ID S				STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.91252		G -80.094654						
CLIENT EQT			PROJECT N	AME EQT EE	P			
INVESTIGATO	ORS JH, LM,	LS, CL						
FLOW REGIN		nt Epheme	eral ✓ WATER TY	PE	NRPW 🖌			
Felelilliai -		nt <u> </u>						
			0	in	Stream Erosion None Moderate Artificial, Modified or Char			
					Yes _∕_No			
CHANNEL FEATURES		Water Dept Water Widt	th: <u>0.50 in</u> h: <u>15.0 in</u>		Dam PresentYes	<u>/</u> No		
		High Water	Mark: <u>8.0</u> in		Sinuosity Low	Medium High		
		Flow Direct	tion: South		Gradient	_		
						Severe (10 ft/100 ft)		
FLOW CHARACTERISTICS		Water Present No water, stream bed dry Stream bed moist ✓ Standing water Flowing water			Proportion of Reach RepresentationMorphology TypesRiffle%RunPool100%	, ,		
		Velocity Fast Moderate _∕_Slow			Turbidity ✓ ClearSlightly OpaqueStained Other			
INOR		STRATE CO add up to 10		-	RGANIC SUBSTRATE CON does not necessarily add u			
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type		% Composition in Sampling Area		
Bedrock			0	Detritus	sticks, wood, coarse			
Boulder	> 256 I	mm (10")	5	Detilitus	plant materials (CPOM)	40		
Cobble		m (2.5"-10")	10	Muck-Mud	black, very fine organic	15		
Gravel		(0.1"-2.5")	20		(FPOM)	15		
Sand		nm (gritty)	30	Maril	and the life and the	0		
Silt).06 mm	5	Marl	grey, shell fragments	-		
Clay	< 0.004 f	mm (slick) Predomina <u>✓</u> Forest Field/Pa	30 ant Surrounding Lan Commer asture Industrial	cial	Indicate the dominant type ✓ TreesShrub GrassesHerba			
WATERSHED FEATURES		AgriculturalResidential Residential Residential Residential Residentia Residentia Residentia Residentia ResidentiARRSIGENTER ResidentiARRSIGENTER ResidentiARRSIGE			Floodplain Width Wide > 30ft Moderate 15-30ft Narrow <16ft			
		✓ Partly o Shaded	· ·	aded	Wetland PresentYes Wetland ID	<u>√</u> No		
AQUATIC VEC	AQUATIC VEGETATION			d record the of Rooted submo Attached alga	· _	ingFree floating		
		Tributary to	S A A 1 A					
MACROINVEF OR OTHER WILDLIFE OBSERVED/C OBSERVATIO NOTES	THER							

STREAM ID S	-AA14		STREAM NA	STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.91245		G -80.09437	11 DATE 07/11/	2015				
CLIENT EQT			PROJECT N	AME EQT EE	P			
INVESTIGATO		LS, CL						
FLOW REGIM		nt Ephem	eral ✓ WATER TY	PE RPW	NRPW 🖌			
		Top of Bank Width: <u>3.0 ft</u> Top of Bank Height:			Stream Erosion None ✓ Moderate Artificial, Modified or Char Yes ✓ No			
CHANNEL FEATURES		Water Widt			Dam PresentYes	<u>/</u> No		
					Sinuosity Low	Medium High		
		High Water Mark: <u>4.0 in</u> Flow Direction: <u>Southwest</u>			Gradient FlatModerate			
						(10 ft/100 ft)		
FLOW CHARACTERISTICS		No water, stream bed dry ✓ Stream bed moist Standing water Flowing water			Proportion of Reach Repre Morphology Types Riffle % Run Pool % Turbidity ClearSlightly	%		
		Velocity FastModerate Slow			Clear Slightly Opaque Stained			
INOR		STRATE CO add up to 10	MPONENTS 0%)	-	RGANIC SUBSTRATE COM does not necessarily add u			
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock			0	Detritus	sticks, wood, coarse			
Boulder		mm (10")	0		plant materials (CPOM)	30		
Cobble Gravel		m (2.5"-10") (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	0		
Sand		(0.1 -2.3) nm (gritty)	25					
Silt).06 mm	0	Marl	grey, shell fragments	0		
Clay	< 0.004 r	nm (slick)	75					
		Predomina √ Forest	ant Surrounding Lar Commer	cial	Indicate the dominant type ✓ Trees Shrub Grasses Herba	s		
WATERSHED FEATURES		Field/PastureIndustrial AgriculturalResidential Other: Canopy Cover Partly openPartly shaded ShadedOpen		tial	Grasses Herbaceous Floodplain Width Wide > 30ft Moderate 15-30ft Narrow <16ft Wetland PresentYesNo Wetland ID			
AQUATIC VEC	AQUATIC VEGETATION			d record the o Rooted submo Attached alga		ingFree floating		
		Stream turr	ns into much wider str	eam outside c	of corridor			
MACROINVEF OR OTHER WILDLIFE OBSERVED/O OBSERVATIO NOTES	THER							

STREAM ID S	STREAM ID S-AA15			STREAM NAME South Fork Tenmile Creek				
LAT 39.90982		G -80.092293						
CLIENT EQT		•	PROJECT N/		P			
INVESTIGATO	DRS JH, LM,	LS, CL						
FLOW REGIN			WATER TYP	È.				
Perennial		nt <u>Epheme</u>	ral TNW	RPW 🖌	NRPW			
CHANNEL FEATURES		Top of Bank Top of Bank LB <u>17.0</u> ft Water Depth Water Width	ft RB <u>12.0 ft</u> h: <u>3.00 ft</u> h: <u>25.0 ft</u> Mark: <u>6.0 ft</u>		Stream Erosion			
FLOW CHARACTERISTICS			, stream bed dry ed moist water		(0.5/100 ft (2 ft/100 ft) Proportion of Reach Representation of Reach Representatio of Reach Representatio of Reach Representation of Reach	esented by Stream 0 % turbid <u>√</u> Turbid		
INOR		STRATE COM			RGANIC SUBSTRATE COM			
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock				Detritus	sticks, wood, coarse			
Boulder		mm (10")			plant materials (CPOM)			
Cobble		m (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)			
Gravel Sand		(0.1"-2.5") nm (gritty)						
Silt).06 mm		Marl	grey, shell fragments			
Clay		nm (slick)		man	groy, onon nagmonio			
		mm (SICK)			Indicate the dominant type (Check one) ✓ Trees			
AQUATIC VEC	AQUATIC VEGETATION			d record the of Rooted subme Attached alga	· _	tingFree floating		
MACROINVEF OR OTHER WILDLIFE OBSERVED/C OBSERVATIO NOTES	THER	Investigators		ss the north si	am to evaluate substrate cor de of the bank to delineate th ailroad.			

STREAM ID S	STREAM ID S-AA24			STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.90753	66 LON	G -80.091290	D6 DATE 07/12	DATE 07/12/2015				
CLIENT EQT			PROJECT N	AME EQT EE	P			
INVESTIGATO	ORS JH, LM,	LS, CL						
FLOW REGIN	1E	1	WATER TY	PE /				
Perennial _	Intermitte	nt <u> Ephemology</u>	eral TNW	RPW 🖌	NRPW			
			leasurements k Width: <u>6.0 ft</u> k Height:		Stream Erosion NoneModerate Artificial, Modified or Char			
		LB_2.0	ft RB <u>2.0</u>	ft	Yes ✓ No	inenzea		
CHANNEL FE	ATUDES	Water Dept	th: 1.00 in					
CHANNEL FE	ATURES	Water Widt	h: <u>20.0 in</u>		Dam PresentYes	<u>/</u> No		
		High Water	Mark: <u>10.0 in</u>		Sinuosity Low	Medium High		
		Flow Direct	tion: Southeast		Gradient			
					FlatModerate	Severe		
						(10 ft/100 ft)		
		Water Pres No wate	sent r, stream bed dry		Proportion of Reach Repre Morphology Types	esented by Stream		
		Stream b	ped moist		Riffle 40 % Run 10	%		
FLOW		Standing water			Pool 50 %			
CHARACTERISTICS		Flowing	water		Turbidity			
		Velocity			ClearSlightly			
		Fast ✓ Slow	Moderate		OpaqueStained Other			
INCO			MPONENTS		RGANIC SUBSTRATE CON			
INOR		add up to 10		_	does not necessarily add u			
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock			15	Detritus	sticks, wood, coarse			
Boulder		mm (10")	0		plant materials (CPOM)	20		
Cobble Gravel		m (2.5"-10") (0.1"-2.5")	20 10	Muck-Mud	black, very fine organic (FPOM)	50		
Sand		nm (gritty)	0					
Silt).06 mm	45	Marl	grey, shell fragments	0		
Clay		mm (slick)	10	1				
			ant Surrounding Lar		Indicate the dominant type			
		✓ Forest Field/Pa	Commer asture Industria		✓ Trees Shrub Grasses Herba	s ceous		
		Agricult						
WATERSHED FEATURES		Other:			Floodplain Width Wide > 30ft Mode	rate 15-30ft		
		Canopy Co	wer		✓ Narrow <16ft			
		Partly o		aded				
		✓ Shaded	Den Open		Wetland PresentYes Wetland ID	✓ No		
					dominant species present			
AQUATIC VEGETATION		Rooted	emergent	Rooted submo	ergentRooted float	ingFree floating		
Floating alg			y algae	Attached alga	e			
		0.4400						
S-AA23 is a tributary to t				am				
MACROINVER	RTEBRATES							
OR OTHER WILDLIFE								
OBSERVED/C OBSERVATIO NOTES	OTHER ONS AND							

STREAM ID S	STREAM ID S-AA23				STREAM NAME UNT to South Fork Tenmile Creek			
LAT 39.90722	013 LON	G -80.091183	362 [DATE 07/12/	/2015			
CLIENT EQT			Р	ROJECT N	AME EQT EE	P		
INVESTIGATO	INVESTIGATORS JH, LM, LS, CL							
FLOW REGIN		ot Enhan				NRPW 🖌		
	_ Intermitter							
		Estimate M Top of Ban Top of Ban LB 3.0	k Width: _ k Height:	9.0 ft	ft	Stream Erosion None Moderate Artificial, Modified or Char Yes ✓ No		
CHANNEL FE	ATURES	Water Dept	_		_		(N-	
		Water Width: 0.0 ft				Dam Present Yes		
		High Water				Sinuosity <u>√</u> Low	Medium High	
		Flow Direct	tion: <u>Last</u>	[Gradient		
						FlatModerate	Severe (10 ft/100 ft)	
FLOW CHARACTERISTICS		Water Pres No wate ✓ Stream b Standing	r, stream l bed moist g water			Proportion of Reach Representation of Reach Reac	esented by Stream %	
		Velocity FastModerate Slow				Turbidity ClearSlightlyOpaqueStainedOther	turbid <u> </u> Turbid	
INORGANIC SUBSTRATE COMPON (should add up to 100%)				ITS		RGANIC SUBSTRATE CON		
Substrate	Substrate % (nposition in		does not necessarily add u	% Composition in	
Туре	Diamet			ling Reach	Туре	Characteristic	Sampling Area	
Bedrock	050	(4.011)	0		Detritus	sticks, wood, coarse plant materials (CPOM)	40	
Boulder Cobble		mm (10") m (2.5"-10")	70			, ,	40	
Gravel		(0.1"-2.5")	0 15		Muck-Mud	black, very fine organic (FPOM)	0	
Sand		nm (gritty)	15					
Silt		0.06 mm	0		Marl	grey, shell fragments	0	
Clay		nm (slick)	0					
WATERSHED FEATURES		Predominant Surrounding Landuse ✓ Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Canopy Cover			i Cial	Floodplain Width		
		Partly o Shaded	: -	Partly sh		Wetland PresentYes _✓_No Wetland ID		
AQUATIC VEC	GETATION		l emerger	nt	d record the o Rooted submo Attached alga	· _	tingFree floating	
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES		Tributary to	9 3- AAZ4					

STREAM ID S				STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.90707		IG -80.091148	B41 DATE 07/12/	/2015				
CLIENT EQT	-		PROJECT N	AME EQTEE	Р			
INVESTIGAT	ORS JH, LM,	LS, CL						
FLOW REGIN Perennial -		nt Ephem	eral ✓ WATER TY	PE RPW	NRPW 🖌			
r		Estimato N	leasurements		Stream Erosion			
			k Width: <u>7.0 ft</u>		None∕_Moderate	Heavy		
		Top of Ban						
		LB 2.0	-	ft	Artificial, Modified or Chan Yes _✓_No	inelized		
			th: <u>0.50 in</u>	_				
CHANNEL FE	ATURES	Water Widt			Dam PresentYes	∕_No		
			Mark: <u>10.0 in</u>		Sinuosity 🖌 Low	Medium High		
		Ŭ				g.		
		Flow Direct			Gradient Flat _✓_Moderate	Severe		
						(10 ft/100 ft)		
		Water Pres			Proportion of Reach Repre	esented by Stream		
		No water, stream bed dry			Morphology Types Riffle 50 % Run 10	%		
		Stream bed moist Standing water			Rime 50 % Run 10 % Pool 40 %			
FLOW CHARACTER	ISTICS	✓ Flowing						
		Malaalta			Turbidity ClearSlightly t	turbid <u> </u> Turbid		
		Velocity Fast	Moderate		OpaqueStained			
Slow					Other			
INOR	GANIC SUB	STRATE CO	MPONENTS		RGANIC SUBSTRATE COM			
(should add up to 100%)			,	-	does not necessarily add u			
Substrate Type	Diame	eter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock			0	Type	sticks, wood, coarse	Cumping / reu		
Boulder	> 256	mm (10")	0	Detritus	plant materials (CPOM)	50		
Cobble		m (2.5"-10")	0		black, very fine organic			
Gravel	2-64 mm	n (0.1"-2.5")	20	Muck-Mud	(FPOM)	30		
Sand	0.06-2r	nm (gritty)	30					
Silt	0.004-0	0.06 mm	20	Marl	grey, shell fragments	0		
Clay	< 0.004	mm (slick)	30					
			ant Surrounding Lan		Indicate the dominant type			
		✓ Forest Field/Pa	Commer asture Industrial		✓ TreesShrub GrassesHerba			
		Agricult						
WATERSHED FEATURES		Other:			Floodplain Width Wide > 30ft Moder	rate 15-30ft		
		Canopy Co	2Vor		✓ Narrow <16ft			
		Partly c		aded		<i>.</i>		
<u>√</u> Shaded					Wetland PresentYes Wetland ID	<u>√</u> No		
		Indicate th	e dominant type and	d record the	dominant species present			
AQUATIC VEGETATION		Rooted	emergent	Rooted subm	ergentRooted float	ingFree floating		
Floating			g algae	Attached alga	e			
MACROINVER OR OTHER	RTEBRATES	·						

OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

STREAM ID S	STREAM ID S-AA21			STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.90661	814 LON	G -80.090890	011 DATE 07/1	DATE 07/12/2015				
CLIENT EQT			PROJECT	NAME EQT EE	P			
INVESTIGATO	ORS JH, LM,	LS, CL						
FLOW REGIM	IE		WATER T	YPE				
Perennial -	Intermittei	nt 🖌 Epheme	eral NVV –	RPW 🗸	NRPW			
Top of Bank Hei			K Width: 4.0 ft K Height: ft RB 4.0 ft RB 4.0 in h: 1.00 in in h: 1.0 ft Mark: 2.0 ft	<u>ft</u>	Stream Erosion None Moderate ✓ Heavy Artificial, Modified or Channelized Yes ✓ No Dam Present Yes ✓ No Sinuosity Low ✓ Medium High Gradient Severe			
FLOW Mater Present CHARACTERISTICS No water, streat Stream bed mode Standing water ✓ Flowing water Velocity Fast Mode ✓ Slow Slow			r, stream bed dry bed moist g water water		Proportion of Reach Representation Morphology Types Riffle 60 % Run 10 Pool 30 % Turbidity Clear ✓ Slightly Opaque Stained Other	% turbid <u> </u> Turbid		
INOR		STRATE COI add up to 100		-	DRGANIC SUBSTRATE COM does not necessarily add u			
Substrate Type	Diame	-	% Composition Sampling Reac	in Substrate		% Composition in Sampling Area		
Bedrock			0	Detritus	sticks, wood, coarse			
Boulder		mm (10")	0		plant materials (CPOM)	25		
Cobble		m (2.5"-10")	5	Muck-Mud	black, very fine organic (FPOM)	15		
Gravel		(0.1"-2.5")	15		(FFOW)	-		
Sand Silt		nm (gritty)).06 mm	15	Marl	grey, shell fragments	0		
Clay		nm (slick)	<u> </u>	Man	grey, shell hagments			
WATERSHED FEATURES		Imm (slick) 35 Predominant Surrounding Landuse ✓ Forest Commercial Forest Industrial Agricultural Residential Other: Partly open Partly open Shaded		nercial rial ential	Indicate the dominant type (Check one) ✓ TreesShrubs GrassesHerbaceous Floodplain Width Moderate 15-30ft ✓ Narrow <16ft Wetland PresentYes _✓_No Wetland ID			
AQUATIC VEGETATION AQUATIC VEGETATION Floating algae			emergent _	and record the Rooted subm Attached alga	<u> </u>	tingFree floating		
		Two trock r	ade running paras	andicular to stree	am. Debris litter in stream			
Two trac OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES								

STREAM ID S	STREAM ID S-AA20			STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.904523		IG -80.090198	B49 DATE 07/12	DATE 07/12/2015				
CLIENT EQT			PROJECT N	AME EQT EE	Р			
INVESTIGATO	ORS JH, LM,	LS, CL						
FLOW REGIM			WATER TY	PE /				
Perennial 🛥	Intermitte	nt Epheme	eral TNW	RPW 🖌	NRPW			
			-	ft	Stream Erosion ✓ None Moderate Artificial, Modified or Char Yes ✓ No			
CHANNEL FEATURES		Water Dept Water Widt	th: <u>1.00 in</u> th: <u>6.0 in</u>	_	Dam Present Yes			
		High Water Flow Direct	r Mark: <u>3.0 in</u> tion: <u>East</u>		Sinuosity <u>√</u> Low Gradient	ivieaium High		
					✓ FlatModerate _	Severe (10 ft/100 ft)		
FLOW CHARACTERISTICS					Proportion of Reach Repre Morphology Types Riffle 45 % Run 15 Pool 75 % Turbidity	-		
		Velocity Fast _✓_ Moderate Slow			Clear Slightly turbid Turbid Opaque Stained Other			
INOR		STRATE CO add up to 100		-	RGANIC SUBSTRATE CON does not necessarily add u			
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock			_	Detritus	sticks, wood, coarse	40		
Boulder		mm (10")		+	plant materials (CPOM)	10		
Cobble Gravel		m (2.5"-10") n (0.1"-2.5")		Muck-Mud	black, very fine organic (FPOM)	0		
Sand		nm (gritty)	30	+				
Silt		0.06 mm	60	Marl	grey, shell fragments	0		
Clay		mm (slick)	10	1				
		✓ Forest	ant Surrounding Lar Comme	rcial	Indicate the dominant type Trees Shrub	S		
		Field/Pa			Grasses V Herba	iceous		
WATERSHED FEATURES		Agricultural Residential Other: Canopy Cover Partly open Partly shaded			Floodplain Width Wide > 30ft Moderate 15-30ft Narrow <16ft			
		Shaded	Open		Wetland PresentYes Wetland ID w-AA10	_✓_No		
	AQUATIC VEGETATION		l emergent	d record the c Rooted subme Attached alga		tingFree floating		
MACROINVER OR OTHER WILDLIFE OBSERVED/O OBSERVATIO NOTES	THER							

STREAM ID S-AA17			STREAM NA	STREAM NAME UNT to South Fork Tenmile Creek			
LAT 39.90295128 LONG -80.08927605			605 DATE 07/12/	DATE 07/12/2015			
CLIENT EQT			PROJECT N	AME EQT EE	P		
INVESTIGATO	ORS JH, LM,	LS, CL					
FLOW REGIN							
Perennial -		nt Epheme	eral TNW	RPW 🖌	NRPW		
CHANNEL FEATURES		Top of Bank Width: <u>12.0 ft</u> Top of Bank Height: B <u>5.0 ft</u> RB <u>7.0 ft</u> Vater Depth: <u>22.00 in</u> Vater Width: <u>4.0 ft</u> High Water Mark: <u>2.0 ft</u> Flow Direction: <u>East</u>		Stream Erosion NoderateHeavy Artificial, Modified or Channelized Yes ✓No Dam Present Yes _✓No Sinuosity Low _✓MediumHigh Gradient Flat ✓ModerateSevere (0.5/100 ft (10 ft) (10 ft/100 ft)			
FLOW CHARACTERISTICS		Water Present No water, stream bed dry Stream bed moist Standing water Flowing water Velocity Fast Moderate Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 60 % Run 10 % Pool 30 % Turbidity Clear Slightly turbid Turbid Opaque Stained Other			
INORGANIC SUBSTRATE COMPON (should add up to 100%)					RGANIC SUBSTRATE COM does not necessarily add u		
Substrate Type	Diame	-	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock			5	Detritus	sticks, wood, coarse		
Boulder		mm (10")	30		plant materials (CPOM)	15	
Cobble		m (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	20	
Gravel Sand		nm (gritty)	20				
Sano		0.06 mm	10 5	Marl	grey, shell fragments	0	
Clay		mm (slick)	0	IVIAII	9.0,, onon nagmonto		
WATERSHED FEATURES		Predominant Surrounding Landuse ✓ Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Canopy Cover Partly shaded Shaded Open		Indicate the dominant type (Check one) ✓ TreesShrubs GrassesHerbaceous Floodplain Width Wide > 30ftModerate 15-30ft Narrow <16ft Wetland PresentYesNo Wetland ID			
AQUATIC VEGETATION			emergent	d record the of Rooted subme Attached alga	· _	tingFree floating	
S-AA18 and S-AA1 MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES			d S-AA19 are both tril	outaries to this	s stream		

STREAM ID S-AA18			STREAM NA	STREAM NAME UNT to South Fork Tenmile Creek			
LAT 39.90281892 LONG -80.08921583			583 DATE 07/12	DATE 07/12/2015			
CLIENT EQT			PROJECT N	PROJECT NAME EQT EEP			
INVESTIGATO	INVESTIGATORS JH, LM, LS, CL						
FLOW REGIN	IE		WATER TY	PE			
Perennial _	Intermitter	nt 🖌 Ephemo	eral TNW	RPW 🖌	NRPW		
CHANNEL FEATURES		Top of Bank Width: <u>2.0 ft</u> Top of Bank Height: LB <u>6.0 in</u> RB <u>6.0 in</u> Water Depth: <u>0.50 in</u> Water Width: <u>4.0 in</u> High Water Mark: <u>2.0 in</u> Flow Direction: <u>Northeast</u>		Stream Erosion Moderate Heavy Artificial, Modified or Channelized Mo Yes ✓No Dam Present Yes ✓No Sinuosity Low ✓Medium High Gradient (2 ft/100 ft) Severe			
FLOW CHARACTERISTICS		Stream to Standing	r, stream bed dry bed moist g water		Proportion of Reach Repres Morphology Types Riffle 75 % Run 0 Pool 25 % Turbidity ✓ ClearSlightly — OpaqueStained — Other	% turbid <u> </u> Turbid	
INORGANIC SUBSTRATE COMPON (should add up to 100%)					RGANIC SUBSTRATE CON does not necessarily add u		
Substrate Type	Diame	-	% Composition in Sampling Reach	Substrate Type	1	% Composition in Sampling Area	
Bedrock			0		sticks, wood, coarse		
Boulder	> 256 ı	mm (10")	0	Detritus	plant materials (CPOM)	15	
Cobble		m (2.5"-10")	0	Muck-Mud	black, very fine organic	15	
Gravel		n (0.1"-2.5")	10		(FPOM)		
Sand		nm (gritty)	20	Meril	analy also il for some of	0	
Silt		0.06 mm mm (slick)	50 20	Marl	grey, shell fragments		
WATERSHED FEATURES		Predomina ✓ Forest Field/Pa _ Agricult _ Other: Canopy Co _ Partly o	Predominant Surrounding Landuse ✓ Forest Commercial Field/Pasture Industrial Agricultural Residential		Indicate the dominant type (Check one) ✓ TreesShrubs GrassesHerbaceous Floodplain Width Wide > 30ftModerate 15-30ft Narrow <16ft Wetland PresentYesNo Wetland ID		
AQUATIC VEGETATION Rooted emer Floating algae		l emergent	d record the o Rooted submo Attached alga	· _	ingFree floating		
MACROINVEF OR OTHER WILDLIFE OBSERVED/O OBSERVATIO NOTES	THER	Tributary to	S-AA17				

STREAM ID S-AA19			STREAM N	STREAM NAME UNT to South Fork Tenmile Creek				
LAT 39.90280125 LONG -80.08931079			079 DATE 07/12	DATE 07/12/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EQT EEP				
INVESTIGATO	DRS JH, LM,	LS, CL						
FLOW REGIN	IE Internetit	nt <mark>√</mark> Epheme	WATER TY					
Perennial _		nt <u></u> ⊢pheme	eral TNW	RPW 🖌	NRPW			
CHANNEL FEATURES		Estimate Measurements Top of Bank Width: <u>2.0 ft</u> Top of Bank Height: LB <u>3.0 ft</u> RB <u>3.0 ft</u> Water Depth: <u>0.50 in</u> Water Width: <u>6.0 in</u> High Water Mark: <u>1.0 ft</u>		<u>ft</u>	Stream Erosion None ✓ Moderate Artificial, Modified or Char Yes ✓ No Dam Present _Yes Sinuosity Low ✓	nnelized		
		-	tion: Northeast		Gradient FlatModerate (0.5/100 ft (2 ft/100 ft)	Severe		
FLOW CHARACTERISTICS		Stream to Stream to Standing Standing Flowing Velocity Fast	r, stream bed dry oed moist g water		Proportion of Reach Repre Morphology Types Riffle % Run Pool 100 % Turbidity ClearSlightly OpaqueStained Other	esented by Stream %		
✓ Slow			MPONENTS	0	Other RGANIC SUBSTRATE CON	IPONENTS		
(should add up to 100%)					does not necessarily add u			
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock			0	Detritus	sticks, wood, coarse			
Boulder		mm (10")	0	2.541400	plant materials (CPOM)	15		
Cobble		m (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	10		
Gravel		(0.1"-2.5")	0					
Sand Silt		nm (gritty)).06 mm	20	Marl	grey, shell fragments	0		
Clay		nm (slick)	50 30		groy, onen nagmente			
WATERSHED Predo FEATURES Canop <		Predomina √ Forest	inant Surrounding Landuse stCommercial I/PastureIndustrial culturalResidential er: Cover y openPartly shaded		Indicate the dominant type (Check one) ✓ TreesShrubs GrassesHerbaceous Floodplain Width Wide > 30ftModerate 15-30ft Narrow <16ft Wetland PresentYesNo Wetland ID			
AQUATIC VEGETATION			l emergent	d record the o Rooted subm Attached alga	· _	ingFree floating		
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES		Tributary to	S-AA18					

STREAM ID S-AA16			STREAM NA	STREAM NAME UNT to South Fork Tenmile Creek			
LAT 39.90186278 LONG -80.08527456			456 DATE 07/12/	DATE 07/12/2015			
CLIENT EQT			PROJECT N	AME EQT EE	P		
INVESTIGATO	INVESTIGATORS JH, LM, LS, CL						
FLOW REGIN		nt Epheme	eral TNW		NRPW		
i cremiai _				KI W			
			leasurements		Stream Erosion		
		Top of Bank Width: <u>11.0 ft</u>			✓ NoneModerate	<u> </u>	
					Artificial, Modified or Char	nnelized	
		LB <u>57.0</u>		In	✓ Yes No		
CHANNEL FE	ATURES		h: <u>7.00 in</u>		Dam PresentYes	/ No	
		Water Widt					
		Ũ	Mark: <u>22.0 in</u>				
		Flow Direct	ion: <u>Northwest</u>		Gradient ✓ FlatModerate	Sovoro	
					(0.5/100 ft (2 ft/100 ft)		
		Water Pres			Proportion of Reach Repre	esented by Stream	
			r, stream bed dry bed moist		Morphology TypesRiffle%Run 10	0 %	
		Standing			Pool %	0 ,0	
FLOW CHARACTERI	STICS	Flowing water			Truckiditer		
		Velocity			Turbidity <u>√</u> ClearSlightly	turbid <u> </u> Turbid	
		Fast	Moderate		OpaqueStained		
		✓ Slow			Other		
INORGANIC SUBSTRATE COMPON (should add up to 100%)				-	RGANIC SUBSTRATE CON does not necessarily add u		
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock			0	Detritus	sticks, wood, coarse		
Boulder		mm (10")	20		plant materials (CPOM)	15	
Cobble Gravel		m (2.5"-10")	70	Muck-Mud	black, very fine organic (FPOM)	0	
Sand		n (0.1"-2.5") nm (gritty)	10 0				
Silt		0.06 mm	0	Marl	grey, shell fragments	0	
Clay		mm (slick)	0		groy, onon nagmonic		
		Predomina	ant Surrounding Lan	duse	Indicate the dominant type	(Check one)	
		Forest Field/Pa	Commer		TreesShrub		
		✓ Agricult			GrassesHerba	ceous	
WATERSHED FEATURES		Other:			Floodplain Width Wide > 30ft _✓ Mode	rate 15-30ft	
LATOREO		Canopy Co	Wor		Narrow <16ft		
		Partly o		aded		<i>.</i>	
_ <u>√</u> Shaded		I Open		Wetland PresentYes _✓ No Wetland ID			
					dominant species present		
AQUATIC VEGETATION		•	Rooted submer	· _	ingFree floating		
		Flows throu	igh culvert under acco	ess road. Laro	e PEM wetland surrounding	stream. All of	
			undary is outside corr				
MACROINVER OR OTHER	TEBRATES	;					
WILDLIFE	THEP						
OBSERVED/O OBSERVATIO	NS AND						
NOTES		1					

STREAM ID S-M1			STREAM NA	STREAM NAME UNT to Muddy Creek			
LAT 39.90179 LONG -80.08954			DATE 10/08	DATE 10/08/2015			
CLIENT EQT			PROJECT N	AME EEP			
INVESTIGATORS J. McGuirk, A. Mengel							
	FLOW REGIME Perennial Intermittent Ephemeral ✓ TNW RPW NRPW ✓						
Perenniai-		III Epneme	eral <u> </u>	KPW —			
CHANNEL FEATURES		LB _4.0 ft RB _4.0 ft Water Depth: 0.00 in Water Width: 0.0 ft			Stream Erosion None ✓ Moderate Artificial, Modified or Char Yes ✓ No Dam Present _Yes Sinuosity ✓ Low Gradient	nnelized	
					Flat _/ Moderate _		
FLOW CHARACTERISTICS		Water Present ✓ No water, stream bed dry Stream bed moist Standing water Flowing water Velocity Fast Moderate Slow			(0.5/100 ft (2 ft/100 ft) Proportion of Reach Repre- Morphology Types Riffle % Run Pool % Turbidity ClearSlightly OpaqueStained Other	esented by Stream % turbidTurbid	
INORGANIC SUBSTRATE COMPON (should add up to 100%)					RGANIC SUBSTRATE CON does not necessarily add u		
Substrate Type	Diame	-	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder		mm (10")			plant materials (CPOM)	90	
Cobble Gravel		m (2.5"-10") (0.1"-2.5")	20	Muck-Mud	black, very fine organic (FPOM)		
Sand		(0.1 -2.3) nm (gritty)	10		· · · · · · · · · · · · · · · · · · ·		
Silt).06 mm	30	Marl	grey, shell fragments		
Clay	< 0.004 r	nm (slick)	40				
WATERSHED FEATURES		Predominant Surrounding Landuse Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Canopy Cover Partly shaded Shaded Open		Indicate the dominant type (Check one) Trees ✓ Shrubs Grasses Herbaceous Floodplain Width Moderate 15-30ft Narrow <16ft			
AQUATIC VEGETATION		emergent	d record the o Rooted subme Attached algae		tingFree floating		
		No Maara	abaaniad				
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES			ubservea.				

STREAM ID S-Z1			STREAM NA	STREAM NAME Mobley Run				
LAT 39.562907 LONG -80.543684			4 DATE 10/21	DATE 10/21/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EEP				
INVESTIGATORS SAZ, CS								
WATER TYPE FLOW REGIME TNW RPW NRPW Perennial Intermittent								
		Estimate N	leasurements		Stream Erosion			
			k Width: <u>15.0 ft</u>		None 🗸 Moderate	Heavy		
		Top of Ban	k Height:		Artificial, Modified or Char	analizad		
		LB <u>3.5</u>	ft RB <u>3.5</u> f	<u>ít</u>	Yes <u>√</u> No	menzeu		
		Water Dept	th: <u>1.00 in</u>					
CHANNEL FE	AIURES	Water Widt			Dam PresentYes	∕_No		
			igh Water Mark (Widtl	h):6.0 in	Sinuosity _✓ Low	Medium High		
		· ·	igh Water Mark (Heig	,	Credient			
		-	ion: South		Gradient √ FlatModerate	Severe		
		TIOW DIRCCI			(0.5/100 ft (2 ft/100 ft)	(10 ft/100 ft)		
		Water Pres			Proportion of Reach Represented by Stream			
		No water, stream bed dry Stream bed moist			Morphology Types Riffle 75 % Run %			
		Standing water			Pool 25 %			
FLOW CHARACTER	ISTICS	✓ Flowing	water		Track follow			
		Volocity			Turbidity ✓ ClearSlightly	turbid Turbid		
		Velocity Fast	Moderate		Opaque Stained			
	✓ Slow				Other			
INOR		STRATE CO add up to 10		-	RGANIC SUBSTRATE CON does not necessarily add u			
Substrate	Diame	-	% Composition in	Substrate		% Composition in		
Туре	Diame		Sampling Reach	Туре	Characteristic	Sampling Area		
Bedrock				Detritus	sticks, wood, coarse	10		
Boulder		mm (10")			plant materials (CPOM)	10		
Cobble		m (2.5"-10")	40	Muck-Mud	black, very fine organic (FPOM)			
Gravel		n (0.1"-2.5")	40					
Sand Silt		nm (gritty)		Mari	ana a al franciscata			
Clay		0.06 mm mm (slick)	20	Marl	grey, shell fragments			
Clay	< 0.004		ant Surrounding Lan	duse	Indicate the dominant type	<u> </u>		
		<u>√</u> Forest	Commer	cial	Trees Shrub			
		✓ Field/Pa			GrassesHerba	ceous		
WATERSHED	1	Agricult Other:	uralResident	tial	Floodplain Width			
FEATURES		Other.			Wide > 30ftMode	rate 15-30ft		
		Canopy Co			- Narrow <16ft			
		Open	Partly sh	aded	Wetland PresentYes	_∕_No		
		Shadeo	1		Wetland ID			
	05747:01				dominant species present			
AQUATIC VE	GETATION	Rooted	-	Rooted subm Attached alga		ting Free floating		
			<u> </u>	,aunou aiya				
·		Water peer						

	Water pennys
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	

STREAM ID S-J63			STREAM NA	STREAM NAME UNT to Mobley Run				
LAT 39.562554 LONG -80.543564				DATE 10/21/2015				
CLIENT EQT				PROJECT NAME EEP				
INVESTIGAT		s						
WATER TYPE			FLOW REG					
			Perennial		ent Ephemeral			
		Estimate N	leasurements		Stream Erosion			
			k Width: 7.0 ft		NoneModerateHeavy			
		Top of Ban	k Height:		Artificial Madified or Char	analizad		
		LB_3.5	-	ít	Artificial, Modified or Char Yes ✓ No	inelized		
			th: <u>2.00 in</u>	_				
CHANNEL FE	AIURES	Water Widt			Dam Present Yes	<u>/_</u> No		
			igh Water Mark (Widt	h) 3.5 ft	Sinuosity _✓ Low	Medium High		
			igh Water Mark (Heig	,				
		-	ion: West		Gradient ✓ FlatModerate	Severe		
		TIOW DIRCCI				(10 ft/100 ft)		
		Water Pres			Proportion of Reach Represented by Stream			
		No water, stream bed dry Stream bed moist Standing water			Morphology Types Riffle 60 % Run 40 % Pool 0 %			
FLOW CHARACTER	ISTICS	✓ Flowing			Track follow			
		Valasitu			TurbidityClear✓ Slightly	turbid Turbid		
		Velocity Fast	Moderate		OpaqueStained			
		✓ Slow			Other			
INOR		STRATE CO		-	RGANIC SUBSTRATE CON			
	(should a	add up to 10	,		does not necessarily add u	. ,		
Substrate Type	Diame	eter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock			Camping roadin		sticks, wood, coarse			
Boulder	> 256	mm (10")		Detritus	plant materials (CPOM)	15		
Cobble	64-256 m	m (2.5"-10")	30		black, very fine organic			
Gravel	2-64 mm	n (0.1"-2.5")	10	Muck-Mud	(FPOM)			
Sand	0.06-2r	nm (gritty)						
Silt	0.004-	0.06 mm	60	Marl	grey, shell fragments			
Clay	< 0.004	mm (slick)						
			ant Surrounding Lan	duse	Indicate the dominant type			
		Forest ✓ Field/Pa	Commer astureIndustrial		Trees Shrub ✓ Grasses Herba	ns Iceous		
		Agricult				Ceous		
WATERSHED FEATURES	1	Other:			Floodplain Width Wide > 30ft ✓ Mode	rate 15-30ft		
FEATORES					— Narrow <16ft	Tale 15-301		
<u>.</u> ✓_Open		Canopy Co	Partly sh	aded				
		Shaded			Wetland PresentYes _✓ No Wetland ID			
					dominant species present			
AQUATIC VE	GETATION		-	Rooted subm		tingFree floating		
		Floating		Attached alga				
·								

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

STREAM ID S				STREAM NAME UNT to North Fork Fishing Creek				
LAT 39.552673 LONG -80.544944			4 DATE 10/21	DATE 10/21/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EEP				
INVESTIGATORS SAZ, CS								
WATER TYPE	RPW		FLOW REG	IME Intermitte	ent Ephemeral			
			leasurements		Stream Erosion			
		Top of Ban	k Width: <u>12.0 ft</u>		None 🗸 Moderate	Heavy		
		Top of Ban	k Height:		Artificial, Modified or Char	nnelized		
CHANNEL FEATURES		LB <u>4.0</u> 1	<u>t</u> RB <u>4.0</u> f	<u>ít</u>	Yes 🖌 No			
		Water Dept	h: <u>2.00 in</u>		Dem Dresent Voc			
		Water Widt	h: <u>3.0 ft</u>		Dam PresentYes	<u>/ 100</u>		
		Ordinary Hi	gh Water Mark (Widt	h): <u>4.0 ft</u>	Sinuosity _✓ Low	Medium High		
		Ordinary Hi	gh Water Mark (Heig	ht): <u>1.0 ft</u>	Gradient			
		Flow Direct	ion: North		✓ FlatModerate	Severe		
					,	· · · · ·		
		Water Pres	sent r, stream bed dry		Proportion of Reach Repre Morphology Types	esented by Stream		
		Stream bed moist			Riffle 75 % Run %			
FLOW		Standing water			Pool 25 %			
CHARACTER	ISTICS	Flowing	water		Turbidity			
		Velocity			ClearSlightly	turbidTurbid		
			Moderate		Opaque Stained			
		✓ Slow		r	Other			
INOR		STRATE CO add up to 100		-	RGANIC SUBSTRATE CON does not necessarily add u	p to 100%)		
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock				Detritus	sticks, wood, coarse			
Boulder		mm (10")			plant materials (CPOM)			
Cobble		m (2.5"-10")	50	Muck-Mud	black, very fine organic			
Gravel		n (0.1"-2.5")	20		(FPOM)			
Sand		nm (gritty)		Maril				
Silt		0.06 mm	30	Marl	grey, shell fragments			
Clay	< 0.004	mm (slick)	Int Surrounding Lan	duse	Indicate the dominant type			
		Forest	Commer	rcial	Trees Shrub			
		✓ Field/Pa	asture <u>Industrial</u>	l		iceous		
WATERCHER			ural 🖌 Resident	tial	Floodplain Width			
WATERSHED FEATURES		Other:			Floodplain Width Wide > 30ft Moderate 15-30ft			
)	Other:			Wide > 30ftMode	rate 15-30ft		
)	Canopy Co	over			rate 15-30ft		
		Canopy Co Open	over Partly sh	aded	Wide > 30ftMode			
		Canopy Co	over Partly sh	aded	Wide > 30ftMode Narrow <16ft			
FEATURES		Canopy Co ✓ Open Shaded Indicate th	Partly sh	d record the o	Wide > 30ftMode Narrow <16ft Wetland PresentYes Wetland ID W-Z2 & W-Z3 dominant species present	No		
		Canopy Co ✓ Open Shaded Indicate th	Partly sh	d record the o	Wide > 30ftMode Narrow <16ft Wetland PresentYes Wetland ID W-Z2 & W-Z3 dominant species present ergentRooted float			
FEATURES		Canopy Co ✓ Open Shaded Indicate th	Partly sh	d record the o	Wide > 30ftMode Narrow <16ft Wetland PresentYes Wetland ID W-Z2 & W-Z3 dominant species present ergentRooted float	No		
FEATURES		Canopy Co ✓ Open Shaded Indicate th — Rooted — Floating	Partly sh	d record the o Rooted subm Attached alga	Wide > 30ftModeNarrow <16ft Wetland PresentYes Wetland ID W-Z2 & W-Z3 dominant species present ergentRooted float e	No		

STREAM ID S-A3a			STREAM NA	STREAM NAME UNT to North Fork Fishing Creek				
LAT 39.55189	93 LON	G -80.54509	D DATE 10/21	/2015				
CLIENT EQT			PROJECT N	PROJECT NAME EEP				
INVESTIGATO	ORS SAZ, CS	S						
WATER TYPE		NRPW	FLOW REG	IME Intermitt	ent Ephemeral 🗸			
		Estimate Measurements Top of Bank Width: 5.0 ft			Stream Erosion ✓ NoneModerateHeavy			
		Top of Ban LB 1.5	-	ft	Artificial, Modified or Char	nnelized		
			th: <u>0.00 in</u>		Yes _✓ No			
CHANNEL FE	ATURES	Water Dept			Dam Present Yes	∕_No		
			igh Water Mark (Widt	,	Sinuosity 🗸 Low	Medium High		
		Ordinary High Water Mark (Height): <u>6.0 ft</u> Flow Direction: <u>East</u>			Gradient FlatModerate	Severe (10 ft/100 ft)		
FLOW ✓ No wate CHARACTERISTICS Stream		✓ No wate Stream b Standing Flowing	✓ No water, stream bed dry Stream bed moist Standing water Flowing water		Proportion of Reach Representations of Reach R	% turbidTurbid		
		Fast Slow	Moderate		Other			
INOR		STRATE CO add up to 10		-	RGANIC SUBSTRATE CON does not necessarily add u			
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock				Detritus	sticks, wood, coarse			
Boulder	> 256	mm (10")		Dotintuo	plant materials (CPOM)	20		
Cobble		m (2.5"-10")	40	Muck-Mud	black, very fine organic			
Gravel		n (0.1"-2.5")	40		(FPOM)			
Sand		nm (gritty)	20					
Silt		0.06 mm		Marl	grey, shell fragments			
Clay	< 0.004	mm (slick)	nt Surrounding Lan	duso	Indicate the dominant type			
WATERSHED FEATURES		Predominant Surrounding Landuse Forest Commercial ✓ Field/Pasture Industrial Agricultural ✓ Residential Other: Canopy Cover		Trees Shrubs Grasses Herbaceous Floodplain Width Wide > 30ft Moderate 15-30ft Narrow <16ft				
Open Shaded			_ √ Partly sh		Wetland PresentYes Wetland ID	<u>√</u> No		
AQUATIC VEC	GETATION		emergent	d record the of Rooted subm Attached alga	—	tingFree floating		

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES APPENDIX B WETLAND PHOTOGRAPHS



Photograph Number:1Feature Name:W-BB1Date:07/08/2015Direction:NEPlant Community:PEMRemarks:N/A



Photograph Number:2Feature Name:W-BB3Date:07/09/2015Direction:SEPlant Community:PEMRemarks:N/A



Photograph Number:3Feature Name:W-BB2Date:07/08/2015Direction:WPlant Community:PEMRemarks:N/A



Photograph Number:4Feature Name:W-BB9Date:07/11/2015Direction:SEPlant Community:PFORemarks:N/A



Photograph Number:5Feature Name:W-BB8Date:07/11/2015Direction:NPlant Community:PFORemarks:N/A



Photograph Number:6Feature Name:W-BB7Date:07/11/2015Direction:SEPlant Community:PEMRemarks:N/A



Photograph Number:7Feature Name:W-BB6Date:07/11/2015Direction:NWPlant Community:PEMRemarks:N/A



Photograph Number:8Feature Name:W-BB12Date:07/13/2015Direction:NEPlant Community:PFORemarks:N/A



Photograph Number:9Feature Name:W-N1Date:06/09/2015Direction:SWPlant Community:PEMRemarks:N/A



Photograph Number:10Feature Name:W-AA1Date:07/08/2015Direction:SWPlant Community:PEMRemarks:N/A



Photograph Number:11Feature Name:W-AA5Date:07/10/2015Direction:NEPlant Community:PEMRemarks:N/A



Photograph Number:12Feature Name:W-AA6Date:07/10/2015Direction:SWPlant Community:PEMRemarks:N/A



Photograph Number:13Feature Name:W-AA2Date:07/08/2015Direction:SPlant Community:PEMRemarks:N/A



Photograph Number:14Feature Name:W-AA3Date:07/09/2015Direction:SPlant Community:PEMRemarks:N/A



Photograph Number:15Feature Name:W-AA4Date:07/10/2015Direction:SPlant Community:PEMRemarks:N/A



Photograph Number:16Feature Name:W-AA7Date:07/10/2015Direction:SWPlant Community:PEMRemarks:N/A



Photograph Number:17Feature Name:W-AA8Date:07/11/2015Direction:WPlant Community:PEMRemarks:N/A



Photograph Number:18Feature Name:W-M1Date:10/08/2015Direction:NPlant Community:PEMRemarks:N/A



Photograph Number:19Feature Name:W-AA9Date:07/11/2015Direction:EPlant Community:PEMRemarks:N/A



Photograph Number:20Feature Name:W-AA10Date:07/10/2015Direction:EPlant Community:PEMRemarks:N/A



Photograph Number:21Feature Name:W-M3Date:10/08/2015Direction:NWPlant Community:PEMRemarks:N/A



Photograph Number:22Feature Name:W-M4Date:10/08/2015Direction:SWPlant Community:PEMRemarks:N/A



Photograph Number:23Feature Name:W-M2Date:10/08/2015Direction:EPlant Community:PEMRemarks:N/A



Photograph Number:24Feature Name:W-M5Date:10/08/2015Direction:EPlant Community:PEMRemarks:N/A



Photograph Number:25Feature Name:W-M6Date:10/08/2015Direction:EPlant Community:PEMRemarks:N/A



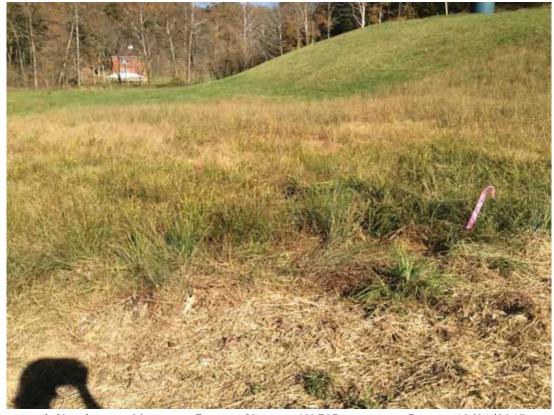
Photograph Number:26Feature Name:W-Z1Date:10/21/2015Direction:SPlant Community:PEMRemarks:N/A



Photograph Number:27Feature Name:W-Z2Date:10/21/2015Direction:NPlant Community:PEMRemarks:N/A



Photograph Number:28Feature Name:W-Z3ADate:10/21/2015Direction:SPlant Community:PEMRemarks:N/A



Photograph Number:29Feature Name:W-Z3BDate:10/21/2015Direction:NEPlant Community:PEMRemarks:N/A

APPENDIX C STREAM PHOTOGRAPHS



Photograph Number:26Feature Name:S-BB1Date:07/08/2015Direction:W, UpstreamFlow Regime:IntermittentRemarks:N/A



Photograph Number:27Feature Name:S-BB2Date:07/08/2015Direction:S, UpstreamFlow Regime:EphemeralRemarks:N/A



Photograph Number:28Feature Name:S-BB3Date:07/08/2015Direction:N,Flow Regime:PerennialRemarks:Kelly RunDownstreamDownstreamDownstreamDownstreamDownstream



Photograph Number:29Feature Name:S-N1Date:06/09/2015Direction:S, DownstreamFlow Regime:IntermittentRemarks:N/A



Photograph Number:30Feature Name:S-N2Date:06/09/2015Direction:SW,Flow Regime:IntermittentRemarks:N/ADownstream



Photograph Number:31Feature Name:S-N3Date:06/09/2015Direction:E, UpstreamFlow Regime:IntermittentRemarks:N/A



Photograph Number:32Feature Name:S-AA1Date:07/08/2015Direction:SE,Flow Regime:PerennialRemarks:N/ADownstream



Photograph Number:33Feature Name:S-AA2Date:07/08/2015Direction:SE, DownstreamFlow Regime:EphemeralRemarks:N/A



 Photograph Number:
 35
 Feature Name:
 S-AA5
 Date:
 07/10/2014

 Direction:
 S, Across
 Flow Regime:
 Perennial
 Remarks:
 South Fork Tenmile

 Creek
 Creek
 Creek
 Creek
 Comparison of the comparison of th



Photograph Number:36Feature Name:S-AA7Date:07/10/2015Direction:NW,Flow Regime:EphemeralRemarks:N/ADownstreamDownstreamN/AN/A



Photograph I	Number:	37	Feature Name:	S-AA3	Date:	07/08/2015
Direction:	S, Downstr	eam	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number:38Feature Name:S-AA4Date:07/09/2015Direction:S, DownstreamFlow Regime:PerennialRemarks:N/A



Photograph Number:39Feature Name:S-AA8Date:07/10/2015Direction:SE, DownstreamFlow Regime:EphemeralRemarks:N/A



Photograph Number:40Feature Name:S-AA9Date:07/10/2015Direction:NE, UpstreamFlow Regime:EphermeralRemarks:N/A



Photograph Number:41Feature Name:S-AA10Date:07/10/2015Direction:S, DownstreamFlow Regime:IntermittentRemarks:N/A



Photograph Number:42Feature Name:S-AA11Date:07/10/2015Direction:SE,Flow Regime:EphemeralRemarks:N/ADownstream



Photograph Number:43Feature Name:S-AA12Date:07/16/2015Direction:E, AcrossFlow Regime:PerennialRemarks:Ruff Creek



Photograph Number:44Feature Name:S-AA13Date:07/11/2015Direction:NE, UpstreamFlow Regime:EphemeralRemarks:N/A



Photograph Number:45Feature Name:S-AA14Date:07/12/2015Direction:SW,Flow Regime:IntermittentRemarks:N/ADownstream



Photograph Number:46Feature Name:S-AA15Date:07/11/2015Direction:SE, DownstreamFlow Regime:PerennialRemarks:South Fork Tenmile
Creek



Photograph Number:47Feature Name:S-AA24Date:07/12/2015Direction:NW, UpstreamFlow Regime:IntermittentRemarks:N/A



Photograph Number:48Feature Name:S-AA23Date:07/12/2015Direction:NE,Flow Regime:EphemeralRemarks:N/ADownstreamDownstreamDownstreamN/A



Photograph Number:49Feature Name:S-AA22Date:07/12/2015Direction:NW, UpstreamFlow Regime:EphemeralRemarks:N/A



Photograph Number:50Feature Name:S-AA21Date:07/12/2015Direction:E, DownstreamFlow Regime:IntermittentRemarks:N/A



Photograph Number:51Feature Name:S-AA20Date:07/12/2015Direction:W, UpstreamFlow Regime:PerennialRemarks:N/A



Photograph Number:52Feature Name:S-AA17Date:07/12/2015Direction:SW, UpstreamFlow Regime:PerennialRemarks:N/A



Photograph Number:53Feature Name:S-AA18Date:07/12/2015Direction:NE,Flow Regime:PerennialRemarks:N/ADownstream



Photograph Number:54Feature Name:S-AA19Date:07/12/2015Direction:S, UpstreamFlow Regime:EphemeralRemarks:N/A



Photograph Number:55Feature Name:S-AA16Date:03/18/2014Direction:SE, UpstreamFlow Regime:PerennialRemarks:N/A



Photograph Number:56Feature Name:S-M1Date:10/08/2015Direction:S, UpstreamFlow Regime:EphemeralRemarks:N/A



Photograph	Number:	57	Feature Name:	S-Z1	Date:	10/21/2015
Direction:	N, Upstrea	m	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:58Feature Name:S-J63Date:10/21/2015Direction:W, UpstreamFlow Regime:PerennialRemarks:N/A



Photograph Number:59Feature Name:S-A2aDate:10/21/2015Direction:N, UpstreamFlow Regime:PerennialRemarks:N/A



Photograph Number:60Feature Name:S-A3aDate:10/21/2015Direction:E, DownstreamFlow Regime:EphemeralRemarks:N/A

APPENDIX D HYDRIC SOILS LIST

Hydric Soils List Allegheny County, Pennsylvania

Map Unit Symbol	Map Unit Name	Component Name and Phase	Landforms
At	Atkins silt loam	Atkins	flood plains
BrB	Brinkerton silt loam, 2 to 8 percent slopes	Brinkerton	draws
BrC	Brinkerton silt loam, 8 to 15 percent slopes	Brinkerton	
BrC	Brinkerton silt loam, 8 to 15 percent slopes	Atkins	flood plains
CaB	Cavode silt loam, 2 to 8 percent slopes	Brinkerton	draws
CaC	Cavode silt loam, 8 to 15 percent slopes	Brinkerton	draws
CeB	Caneadea silt loam, 3 to 8 percent slopes	Canadice	lakebeds (relict)
CeB	Caneadea silt loam, 3 to 8 percent slopes	Mill	ground moraines
CoD	Cookport loam, 15 to 25 percent slopes	Andover	mountain slopes
Du	Dumps, coal wastes	Wet spots	depressions
Dw	Dumps, industrial wastes	Wet spots	draws
ErB	Ernest silt loam, 2 to 8 percent slopes	Brinkerton	hills

Hydric Soil List – Allegheny County, Pennsylvania

ErC	Ernest silt loam, 8 to 15 percent slopes	Brinkerton	hills
EvB	Ernest-Vandergrift silt loams, 3 to 8 percent slopes	Brinkerton	hillslopes
EvC	Ernest-Vandergrift silt loams, 8 to 15 percent slopes	Brinkerton	hillslopes
EvD	Ernest-Vandergrift silt loams, 15 to 25 percent slopes	Brinkerton	hillslopes
GvB	Guernsey-Vandergrift silt loams, 3 to 8 percent slopes	Brinkerton	hills
GVC	Guernsey-Vandergrift silt loams, 8 to 15 percent slopes	Brinkerton	hills
GvD	Guernsey-Vandergrift silt loams, 15 to 25 percent slopes	Brinkerton	hills
Gx	Gullied land	Brinkerton	draws
Hu	Huntington silt loam	Atkins	flood plains
Ln	Lindside silt loam	Melvin	flood plains
Ne	Newark silt loam	Brinkerton	depressions
Ne	Newark silt loam	Atkins	flood plains
Ph	Philo silt loam	Atkins	flood plains
TaB	Tilsit silt loam, 3 to 8 percent slopes	Brinkerton	hills
UGB	Urban land-Guernsey complex, gently sloping	Thorndale	draws
URB	Urban land-Rainsboro complex, gently sloping	Ginat	terraces
UWB	Urban land-Wharton complex, gently sloping	Armagh	hills

Hydric Soil List – Allegheny County, Pennsylvania

(
VcB	Vandergrift-Cavode silt loams, 3 to 8 percent slopes	Brinkerton	hillslopes
VcC	Vandergrift-Cavode silt loams, 8 to 15 percent slopes	Brinkerton	
VcD	Vandergrift-Cavode silt loams, 15 to 25 percent slopes	Brinkerton	
WhB	Wharton silt loam, 3 to 8 percent slopes	Cavode	hills
WhB	Wharton silt loam, 3 to 8 percent slopes	Brinkerton	depressions

Greene and Washington Counties, Pennsylvania Hydric Soils List

	o		
Map Unit Symbol	Map Unit Name	Component Name and Phase	Landforms
Du	Dumps, mine	Wet spots	depressions
Fa	Fluvaquents, loamy	Melvin	flood plains
GdA	Glenford silt loam, 0 to 3 percent slopes	Purdy	terraces
GdB	Glenford silt loam, 3 to 8 percent slopes	Purdy	terraces
GdC	Glenford silt loam, 8 to 15 percent slopes	Purdy	terraces
Hu	Huntington silt loam	Atkins	flood plains
LbA	Library silty clay loam, 0 to 3 percent slopes	Purdy	terraces
Nw	Newark silt loam	Atkins, Brinkerton	flood plains, depressions
Py	Purdy silt loam	Purdy	terraces
Š	Skidmore gravelly loam	Melvin	flood plains
UdB	Udorthents, smoothed, gently sloping	Wet spots	depressions
UdD	Udorthents, smoothed, moderately steep	Wet spots	depressions
Modified from Hyc	Modified from Hydric Soils of the United States (NRCS 2014)		

Hydric Soils List Wetzel County, West Virginia

Map Unit Symbol	Map Unit Name	Component Name and Phase	Component Percent	Landforms
EkB	Elk silt loam, 3 to 8 percent slopes	Melvin	3	Flood plains
GsB	Glenford silt loam, 3 to 8 percent slopes	Melvin	2	Flood plains
Hn	Huntington silt loam	Melvin	2	Flood plains
No	Nolin Ioam	Melvin	5	Flood plains
SК	Skidmore gravelly loam	Melvin	3	Flood plains
Modified from Hyd	Modified from Hydric Soils of the United States (NRCS 2014)	014)		

APPENDIX E RESUMES

John Heule

Biologist/Environmental Planner



Mr. Heule's experience as a Biologist and Environmental Planner includes a background in jurisdictional wetlands and other Waters of the United States delineations, Federal Endangered Species Act (ESA), state and local endangered and threatened species, Bald and Golden Eagle Protection Act (BGEPA), and state-listed noxious weeds. Mr. Heule has conducted biological resource field studies in 7 states, and has conducted desktop housing assessments for communities in North Dakota and Wyoming. Additionally, Mr. Heule is a licensed (Backcountry) Emergency Medical Technician, with more than 3 years of experience with patient care, public safety, and emergency response coordination. He has been recognized for his commitment to safety through Tetra Tech's monthly safety awards twice. Mr. Heule is currently enrolled in Graduate-level studies at the University of Colorado Denver, where he is studying Geographic Information Systems (GIS. These studies include an emphasis on ArcGIS, an Environmental Systems Research Institute (Esri) supported software useful for application in environmental planning with mapmaking, geospatial analytic, and data visualization capabilities.

Education

BA, Ecology and Evolutionary Biology, University of Colorado–Boulder, 2014 At-sea reinforced coursework (semester) with field practicum in 13 countries in Africa, Asia, and Central America, University of Virginia, 2011

Registrations/Certifications

Graduate Certificate in GIS, University of Colorado, Denver, in process

Corporation Project Experience

Wetland Scientist, April-August 2015

Equitrans, Mountain Valley Pipeline Project, West Virginia, Virginia, and Pennsylvania

Mr. Heule led field reconnaissance in teams of three wetland delineators for a proposed 42-inch natural gas pipeline project. Mr. Heule's specific tasks included providing skills identifying hydric soils and hydrophytic vegetation to delineate jurisdictional wetlands and other waters of the U.S. In addition, Mr. Heule was in charge of safety and well-being, quality of work, and overall progress for the team. Wetlands and other Waters of the U.S. were mapped using Trimble® software. Mr. Heule has over 8 weeks experience delineating wetlands and other Waters of the U.S. in the Northern Piedmont Region. This project will run through the summer of 2016.

Biologist, March 2015

NextEra Energy Resources, LLC Wind Energy Center, Taylor, ND

Mr. Heule assisted in field reconnaissance to microsite wind turbines to avoid wetlands and other waters of the United States. If impacts to wetlands and waters cannot be avoided, follow-on desk analysis of wetland and surface water resources, field reconnaissance of these resources, and wetland delineations and Section 404 permitting as necessary.

Environmental Planner, March 2015–Present

Housing and Socioeconomic Study, Mercer and Emmons Counties, ND; Platt County, WY

Mr. Heule analyzed population and economic data to support housing and economic studies for rural communities in North Dakota and Wyoming. Large energy projects bring both benefits and challenges to small, rural communities. Challenges include increasing populations, increases in crime, and impacts to roads and infrastructure and services such as schools and healthcare. Mr. Heule's specific tasks included the analysis of community daycare service capabilities, community member interviews, census data analysis, and housing market analysis. The goal of the housing studies is to predict future housing

Biologist/Environmental Planner

trends and determine the needs of the local workforce from an economic perspective. These studies will continue through December of 2015.

Biologist, May 2015–Present

Xcel Energy, West Main Natural Gas Pipeline, Boulder County, CO

Mr. Heule conducted tree inventories and weed surveys to make recommendations to Excel Energy for the purpose of creating an integrated noxious weed management plan and tree preservation plan as mandated by Boulder County. Tasks have included desktop analysis, independent field reconnaissance, and reporting findings and recommendations. This project will be completed in the fall of 2016.

Biologist, August 2015

Public Service Company of Colorado (PSCo), Sterling Ranch Natural Gas Pipeline, Douglas County, CO Mr. Heule conducted desktop analysis, field reconnaissance, and report writing to provide recommendations to avoid protected biological resources in the Backcountry Wilderness Area of Highlands Ranch. Mr. Heule identified the need for burrowing owl surveys, wetland and other Waters of the U.S. delineation, and raptor surveys within the project area. Mr. Heule completed the report that describes Tetra Tech's recommendations.

Wetland Scientist, August 2015–Present

NextEra and Norvento Energy, Ninnescah and Bloom Wind Farms, Platt and Ford Counties, KS Mr. Heule conducted micrositing, desktop analysis, and wetland delineation efforts for a proposed windfarm infrastructure that included turbines, access roads, and transmission lines. Specific tasks included plant and soil identification in the Great Plains region, playa wetland jurisdictional determination, and micrositing turbines to avoid water resources on-the-fly. These projects will end in 2016.

Biologist, February 2015

NextEra Energy, Dickenson Wind Farm, ND

Mr. Heule conducted desktop analysis, field reconnaissance, and reporting to provide recommendations to NextEra Energy to avoid Clean Water Act Section 404 permitting for a proposed wind farm in North Dakota. Mr. Heule used his knowledge and understanding of the U.S. Army Corps of Engineers jurisdiction over wetlands and other Waters of the U.S. to map avoidance areas for NextEra.

Biologist, May 2015

Mora Transmission Line, LLC, Mora Transmission Line Project, Mora County, NM

Mr. Heule provided recommendations to avoid biological resources for a proposed replacement to a transmission line in Mora County, New Mexico. Mr. Heule completed a desktop analysis and field reconnaissance to identify biological resources protected under the federal Endangered Species Act (ESA), Bald and Golden Eagle Protection Act (BGEPA), Clean Water Act (CWA), and local-level environmental protection legislation. Mr. Heule completed the report that describes Tetra Tech's recommendations.

Previous Experience

Clinical Service Technician, 2014 Apria Healthcare Provided care to geriatric and pediatric patients by developing a plan for domestic respiratory therapy.

Intern--CO-Labs, 2014

Teacher--Outdoor Labs

Taught environmental science lessons to middle school students on a volunteer basis.

John Heule

Biologist/Environmental Planner



Resident Advisor (RA) – University of Colorado at Boulder 2013-2014

Recognized by peers for outstanding leadership to colleagues with the Staff Leadership Award.

Emergency Medical Technician (EMT), 2012–2014

University of Colorado at Boulder EMS

Provided emergency care, improved event safety, and worked with other agencies to coordinate transport to local hospitals.

Discipline Codes

Biologist Urban/Regional Planning

Skill Sets

Biological Biological assessments Wetlands delineation

Social

Planning

Other

Geographic Information Systems (GIS)

Related Company Information

Payroll Number: 546590 Employment Status: Part-time Preferred First Name: John Office Location: Denver, CO Hire Date: 2/2/2015 Years with Other Firms: 3 Years with Current Firm: >1 Total Years of Experience: 3 Supervisor: Steve Yarbrough, Biologist Office Phone: (303) 291-6260 Cell Phone: (303) 253-1647 Fax: E-mail Address: john.heule@tetratech.com Other E-mail Address (if any): john.heule@gmail.com Resume Last Revised: 9/8/2015

EXPERIENCE SUMMARY

Mrs. Lands is an Environmental Scientist with over four years progressive experience in environmental management, research and consulting. She has considerable experience working with multiple teams of professionals to meet the needs of clients and the company.

She has performed and provided project level management for numerous Phase I/II Environmental Site Assessments. Mrs. Lands has supervised, coordinated and/or conducted field activities involving soil, soil gas, paint, water, and air sampling, stormwater and groundwater quality monitoring programs, full delineations, waste characterizations, and risk assessments of contaminated soil and/or groundwater, land use determination, comprehensive stream assessments, USACE regulated wetland delineations, field observation for underground storage tank (UST) removal projects, and site evaluations for Spill Prevention Control and Countermeasure Plans (SPCC). She is an experienced field supervisor who has managed soil and groundwater field investigations such as monitor well installation and excavations of soils impacted with chlorinated solvents and oil for the petroleum industry. Mrs. Lands has assisted with groundwater and soil subsurface environmental remediation investigations, and supervised regulatory interaction and reporting. Additionally, she is experienced with managing and maintaining comprehensive project documentation and employing detailed projects plans to monitor and track project progress and performance.

Mrs. Lands has extensive experience developing, preparing and executing various written deliverables such as environmental assessment reports, compliance reports, Health and Safety Standard Operating Procedures, risk assessment summaries, SPCC plans, delineation reports, and soil and water quality summaries for federal, state and local regulatory agencies, petroleum clients, and academia. In addition, Mrs. Lands has prepared field logs for soil borings and installation of monitoring wells, soil, paint, air, and water sampling logs, and has developed health and safety plans in compliance with company, state and federal regulations. Mrs. Lands has assisted with the development of various National Environmental Policy Act (NEPA) research, documentation and reporting projects.

Other qualifications include stormwater management, Texas Railroad Commission (RRC) and Texas Commission on Environmental Quality (TCEQ) regulatory compliance procedures for air, water, and petroleum. TCEQ compliance includes reviewing air permit applications, drafting Air Permits by Rule (PBR) applications and assisting with PBR registrations. RRC compliance includes assistance with permitting, production reporting, well completion, etc. of oil and gas wells, facilities and activities.

EDUCATION

B.A., Physical Geography, Environmental Science Specialization, 2010, Kennesaw State University

CERTIFICATIONS

US Army Corps of Engineers Wetland Delineation, certificate #7105, 12/2013

TRAINING

Stormwater Permitting and Management, TEEX, 5/2014

Project Management, PM Level 1, Tetra Tech, NUS, 2/2014

Heartsaver First Aid, CPR, AED, American Heart Association, 10/2013

OSHA 29 CFR 1910.1200 Hazard Communications, Tetra Tech, NUS, 10/2013

OSHA 29 CFR 1910.120 8-Hr Refresher, Tetra Tech, NUS, 10/2013

Confined Spaces, JJ Keller, 6/2013

Hydrogen Sulfide Training, QSSI, 12/2012

NEPA refresher, BLM, 11/2012

Air Permitting, TCEQ, 10/2012

Watershed Management, EPA, 10/2012

OFFICE

San Antonio, Texas

YEARS OF EXPERIENCE

4+

YEARS WITH TETRA TECH

2

RELEVANT EXPERIENCE

Environmental Analysis/Management

Environmental Scientist; HPIP Gonzales Holdings, LLC; Gonzales County, TX; May 2013 – January 2014. Served as a team member assisting with biological surveys, stream assessments, and identification and delineation of wetlands in and around a proposed 25 mile gas pipeline corridor.

Environmental Scientist; Rooney Engineering/Sunoco; Mitchell, Nolan, Taylor, Shackelford, Callahan, Stephens, Eastland, Erath, Somervell, Johnson, and Hill counties in North Texas; October 2013-April 2014. Served as a team member assisting with biological surveys, stream assessments, and identification and delineation of wetlands in and around 325 miles of proposed gas pipeline corridors.

Environmental Science student, KSU; City of Acworth, GA; Acworth, GA; October 2009. Served as team member responsible for the biological, ecological, hydrological assessment and delineation of wetlands of streams leading into Lake Acworth. Final report of findings was presented to the City of Acworth.

Sampling (Groundwater, Soil, Paint)

Environmental Scientist; Halliburton; Laredo, TX, May 2014. Obtained groundwater samples from three monitor wells using low flow pump method and prepared samples for laboratory analysis.

Environmental Scientist; **Breitburn Florida**, **LLC**; **LeHigh Acres**, **FL**; **March 2013-Present**. Conducts bi-annual groundwater monitoring at three tank batteries in the LeHigh Acres area. Obtain groundwater samples from 15 monitor wells by bailing/purging, low-flow, and/or submersible pump methods and prepares samples for laboratory analysis. Analytical results are reviewed and chronicled in water quality report format after each sampling event as a client deliverable.

Environmental Scientist; Gibsons Energy; Stockdale, TX; April-May 2014. Obtained soil samples from excavated areas around two plugged and abandoned oil wells to verify or refute the presence of hydrocarbon impacted soils. Samples were collected in jars using grab sample method and prepared for laboratory analysis. Screened samples for volatile organic vapors by way of head space analysis using a Photo Ionization Detector. Analytical results were reviewed and chronicled in report format as a client deliverable.

Environmental Scientist; Flint Hill Resources; Austin, Waco, San Antonio, TX; June 2013-Present. Obtains paint samples from crude oil storage tanks on an as needed basis to verify or refute lead content. Samples are collected using the cold scrape method then prepared for laboratory analysis. Analytical results were reviewed and chronicled in report format as a client deliverable after each sampling event.

Environmental Scientist; SM Energy; Beckham, Greer, Washita, Harmon, Roger Mills counties in Oklahoma, Wheeler and Collingsworth counties in Texas and Bossier Parish, Louisiana; December 2012-March 2013. Conducted pre-development sampling of soil and water in the vicinity of proposed drilling areas. Obtained surface water and groundwater samples by bailing/purging, low-flow, and/or submersible pump methods. Obtained soil samples in jars using grab sample method. All samples were prepared for laboratory analysis. Analytical results were reviewed and chronicled in report format as a client deliverable.

Environmental Scientist; Koch Pipeline, Sunfield Station; Starr County, TX; April 2013. Obtained samples of contaminated soil near a degraded pipeline. Samples were collected in jars using grab sample method and prepared for laboratory analysis.

Environmental Scientist; Tervita/Shell Pilanco; Catarina, TX; January 2013. Obtained samples of remediated soil on various oil pads on the property. Samples were collected in jars using grab sample and/or auger method and prepared for laboratory analysis.

Phase I/II Environmental Site Assessments

Environmental Scientist/Project Manager; Globe Energy Services, LLC; Kenedy, Daisetta, Carrizo Springs, TX; May 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable. Project Management duties included developing cost estimate, scope, work authorization, and task delegation.

Environmental Scientist; Gibsons Energy; Stockdale, TX; April 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. A limited phase II evaluation was conducted to determine if historical petroleum activities adversely affected the property. This included soil sampling, PID use, and field supervision of subcontractors using magnetometers to locate any anomalies. Produced final written report to serve as client deliverable.

Environmental Scientist/Project Manager; Enviro Vat, Denver City, TX; March 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-13 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable. Project Management duties included creating MSA, developing cost estimate, scope, work authorization, and task delegation.

Environmental Scientist; **Universal Pressure Pumping**, Inc., Atascosa County, TX; February 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-13 and 40 CFR Part 312 to include records review and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist/Project Manager; Globe Energy Services, LLC; Nixon, TX; January 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable. Project Management duties included developing cost estimate, scope, work authorization, and task delegation.

Environmental Scientist; HPIP Gonzales Holdings, LLC; Gonzales County, TX; May 2013. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist; D.R. Horton; Weld County, CO; May 2013. Conducted records review and report preparation for Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-00 and 40 CFR Part 312. Created report for use in final environmental site assessment.

Environmental Scientist; Pioneer Natural Resources Company; LaSalle County, TX; January 2013. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include records review and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist; McJunkin Red Man Corporation; Asherton, Crane, Midland, Odessa, Kermit, and San Angelo Texas; Carlsbad, Artesia, and Eunice New Mexico; November-December 2012. Conducted 10 Phase I Environmental Site Assessments in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include records review and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist; **Southern Company**; **Henderson County**, **TX**; **November**, **2012**. Conducted Phase I site reconnaissance in accordance with American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312. Created report for use in final environmental site assessment.

Environmental Scientist; Northeast Crossing Neighborhood Revitalization, LTD; San Antonio, TX; November 2012. Conducted Phase I site reconnaissance in accordance with American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312. Created report for use in final environmental site assessment.

✤ Air Quality

Environmental Scientist; Concho Operating, LLC; San Antonio and Houston, TX; October-November 2012. Assisted with details of TCEQ Permit By Rule (PBR) Applications, PBR registration (PI-7), and supporting documentation for PBR Claim Modification.

Oil and Gas

Environmental Scientist; Pyote Water Systems, LLC; Carrizo Springs, TX; June 2014. Conducted inspection of a Saltwater Disposal Facility for the development of the SPCC Plan. Activities included collection of all tank, pump, and containment information on the site, measuring dimensions of containments and secondary containments, and taking photographs of facility. Findings and photos were recorded for use in SPCC plan.

Environmental Scientist; Pioneer Natural Resources Company; various facilities in Eagle Ford Shale Play; January 2013-Present. Gathers details on oil storage locations, tanks, pumps, containments and other on-site equipment of point of delivery (POD) sites, saltwater disposal units, compressor stations, and other oil/gas facilities for creation or revisions of SPCC plans. Creates SPCC plans by reporting findings, along with preventive maintenance, safety inspections, emergency response procedures, training for workers involved with handling oil, inspections and maintenance schedules, and facility operations guidelines. Creates site maps, diagrams and figures using AutoCad and ArcGIS. Prepares final written SPCC plan to serve as client deliverable.

Environmental Scientist; Parsley Petroleum; Reagan and Upton Counties, TX; January-February 2014. Performed site assessments of injection wells, salt water disposal units, and production facilities for environmental audit purposes. Activities included collection of all tank, pump, and containment information on the site, measuring dimensions of containments and secondary containments, taking photographs of facility and conducting NORM Surveys.

✤ Geotechnical

Environmental Scientist; Halliburton; Laredo, TX; May 2014. Served as field supervisor for soil boring and drilling, installation, and completion of monitor well by drilling contractor. Collected groundwater samples prior to well completion. Screened soil borings for volatile organic vapors by way of head space analysis using a Photo Ionization Detector. Surveyed elevation at each monitor well relative to mean sea level using a TopCon Laser Level, measured groundwater depth at each well, and used the data for the development of a groundwater gradient map.

Remediation

Environmental Scientist; Occidental Petroleum Company (Oxy); Chaves County, NM; September-October 2013. Provided oversight of excavation, transportation and liner installation of assessment area. Conducted assessment and remediation of contaminated soils at abandoned oil and gas facility. Collected samples from excavated soil to delineate oil spill. Conducted field analysis to determine contamination levels. Prepared samples for further laboratory analysis, reported analytical findings and delineation details.

Environmental Scientist; Cimarex; Eddy County, NM; August 2013. Provided oversight of excavation, transportation and liner installation of assessment area. Conducted assessment and remediation of contaminated soils at an active oil and gas facility. Collected samples from excavated soil to delineate oil spill. Conducted field analysis to determine contamination levels. Prepared samples for further laboratory analysis, reported analytical findings and delineation details.

Environmental Compliance

Environmental Scientist; Forge Energy; San Antonio, TX; January 2014-Present. Supervises a regulatory compliance team conducting compliance reviews and regulatory audits. Team is also responsible for permitting, production, and completion reporting for the client's oil and gas facilities in southwest Texas.

✤ NEPA

Contract Specialist; **US Army Corps of Engineers**; **Mountain Pine, AR**; **2001-2004**. Assisted in the preparation of NEPA documents in accordance with the Council on Environmental Quality (CEQ) regulation 40 CFR 1500-1508. Documents included Environmental Information Documents, Environmental Assessments, Environmental Impact Statements, and Findings of No Significant Impact.

✤ Health and Safety

Environmental Scientist; Forge Energy, San Antonio, TX; May 2014. Provided assistance in the development of Standard Operating Procedures for Health and Safety. Topics included Benzene Awareness, Hydrogen Sulfide Awareness, Stop Work Initiative, Respiratory Protection, and Personal Protective Equipment.

CHRONOLOGICAL HISTORY

- Environmental Scientist, Tetra Tech, Inc., October 2012-present, San Antonio, TX.
- Contract Specialist, US Army Corps of Engineers, 2001-2007, Mountain Pine, AR; Cartersville, GA.
- Contract Closeout Administrator; US Army Corps of Engineers and US Agency for International Development, May 2004-January 2005, Baghdad, Iraq
- US Army, 1994-1996, Fort Carson, CO and Uijongbu, South Korea
- US Army Reserves, 1997-2000, Fort Belvoir, VA and New Boston, TX.

SCIENTIFIC/TECHNICAL PUBLICATIONS

N/A

MEMBERSHIPS

Geological Society of America National Groundwater Association Project Management Institute

AWARDS

- Global Engagement Certificate, Kennesaw State University, November 2010 Recognized achievements of valuable learning in areas of global perspectives, intercultural skills, environmental awareness and global citizenship.
- Commander's Award for Civilian Service, U.S. Department of the Army, November 2004 An honorary award presented by the Department of the Army to civilian employees for commendable service or achievement.
- Medal for Global War on Terrorism, U.S. Department of Defense, November 2004 Service medal awarded for direct support in service to the Global War on Terrorism.
- Various military awards, U.S. Army, January 1993-January 1996



Jason McGuirk Wetland/Environmental Scientist IV

EXPERIENCE SUMMARY

Mr. Jason McGuirk has six years of professional experience in wetland delineation, permitting, fisheries and wildlife, and stream assessments and classification in Pennsylvania, New York, Ohio, and Alaska. Mr. McGuirk has conducted hundreds of wetland delineations, stream evaluations as well as conducted and produced habitat assessments, and post monitoring impact statements and assessments on over 800 miles of proposed natural gas pipeline, and fifty plus proposed well pad sites. He has extensive knowledge in watercourse classification and assessment including the Rosgen method. In particular attention of his has been focused on fisheries habitat and macro-invertebrate work, with over fifty miles of stream classifications in Alaska. Mr. McGuirk's educational background is in Fisheries and Aquaculture with a minor focus in Marine Biology and Wildlife management.

RELEVANT EXPERIENCE

Environmental Scientist III; Sunoco Logistics; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects, Reptilia Engendered Species Surveys: (Glyptemys muhlenbergii), Plantae (Ellisia nyctelea); Pennsylvania. Segments 1, 2, and 3 wetlands field lead, and crew leader. Responsibilities include organizing and conducting all field work operations for multiple wetlands crews, wetland delineations and stream assessments for the proposed 450 mile Pennsylvania Pipeline Project. Additional work included proposing potential reroute on an environmental basis.

Environmental Scientist III; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Pennsylvania. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southwestern Pennsylvania. Specific tasks included field survey, report preparation, and wetland functional assessments.

Environmental Scientist III; MarkWest Ohio Gathering Company, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in eastern Ohio. Specific tasks included field survey, report preparation, and completion of Ohio EPA specific wetland and stream assessments.

EDUCATION

B.T. Fisheries and Aquaculture, SUNY Cobleskill, 2011T

REGISTRATIONS

Wild Plant Management Permit, PA, 2014, Permit # 14-651

AREA OF EXPERTISE

Wetland Delineation and Stream Identification, Fisheries, and Botanical Surveys

TRAINING/CERTIFICATIONS

Winter Vegetation ID, Rutgers University, 2012

Amtrak Contractor Certification, 2014

Certified Wetland Assessment Delineator, NY, 2009

OFFICE

Pittsburgh, PA

YEARS OF EXPERIENCE

6+

YEARS WITH TETRA TECH

2+

Environmental Scientist III; Gulfport Energy Corporation; Wetland Delineations for Miscellaneous Natural Gas Well Pad Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural well pads southeastern Ohio. Specific tasks included field survey, report preparation, PCN preparation, and completion of Ohio EPA specific wetland and stream assessments.

Environmental Scientist III; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineation and Engendered Species Survey (*Ranunculus flabellaris and Alopecurus aequalis*) for Vanport to Butler Gas Pipeline; Butler County, Pennsylvania. Responsible for performing and assisting with wetland delineation and endangered species survey along pipeline right-of-way. Specific tasks included field survey and report preparation.

Environmental Scientist III; Antero Resources Appalachian Corp.; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ritchie and Doddridge Counties, West Virginia. Responsible for performing and assisting with wetland delineations for various proposed natural gas well pads and access roads in northern West Virginia. Specific tasks included field survey and report preparation.

Wetland & Watercourse Biologist; Chesapeake Energy; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations for proposed pipe line routes and reroutes. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 30 miles of pipeline in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Southwest Energy L.P; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations on proposed Well pad and compressor sites. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 15 proposed well pad locations in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Southwest Energy L.P; Susquehanna County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations on proposed Well pad and compressor sites. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 20 proposed well pad locations in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Chesapeake Energy; Carroll, Jefferson County, OH; November 2011 to October 2012. Responsible for conducting wetland delineations for proposed pipe line routes and reroutes. Performed ORAM and QHEI Assessments, and preparation of wetland report for 30 miles of pipeline in Eastern Ohio.

Wetland & Watercourse Biologist; Shell Oil; Butler County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations for proposed pipe line routes and reroutes. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 40 miles of pipeline in Western Pennsylvania.

Wetland & Watercourse Biologist; Chesapeake Energy; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting Indiana Bat habitat surveys on multiple proposed natural gas pipelines in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Chesapeake Energy; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting post construction habitat monitoring and assessment of constructed natural gas pipelines in Northeastern Pennsylvania.

CHRONOLOGICAL HISTORY

Wetland Environmental Scientist IV; Tetra Tech, Inc.; Pittsburgh, PA, June 2014 - Present

Wetland Environmental Scientist III; Tetra Tech, Inc.; Pittsburgh, PA, February 2013 - June 2014

Wetland & Watercourse Biologist; Hanover Engineering & Associates; Towanda, PA, November 2011 - October 2012

Assistant Hatchery Manager; SUNY Cobleskill; Cobleskill, NY, September – May of 2009- 2011

Biological Fisheries Technician, US Forest Service; Thorne Bay, AK, May 2010 - August 2010

Fisheries Technician, Cook Inlet Aquaculture Association, Kenai, AK, May 2009 – August 2009

SCIENTIFIC/TECHNICAL PUBLICATIONS

 McGuirk, J, M, "Walleye (Sander vitreus) spawning movements and habitat utilization in Otsego Lake, NY, 2011

MEMBERSHIPS

• N/A

AWARDS

• David E. Moorehouse Award for Outstanding Junior in Fisheries and Aquaculture B.T.



EXPERIENCE SUMMARY

Cody R. Stoliker has approximately 1 year of professional experience in wetland delineation, permitting, and stream assessments and classification in Pennsylvania, New York, Ohio, and West Virginia. With 4 years of fisheries and wildlife management experience, specializing in large game conservation, Mr. Stoliker has technician experience working with bear, elk, moose, deer, and wolves in Wyoming, as well as biologist work with whitetail deer, red stag, feral hogs, and the endangered American Burying Beetle in Oklahoma along pipeline routes where he produced habitat assessments, post monitoring impact statements and performed population control. Mr. Stoliker is assisting Tetra Tech field leads and other environmental scientists to assess and delineate streams and wetlands along natural gas pipeline routes, access roads, right-ofways, and well pad sites. Cody R. Stoliker's educational background is in Wildlife Management with a minor focus in wetland assessment/delineation and fisheries.

RELEVANT EXPERIENCE

Environmental Scientist I; Sunoco Logistics; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects Pennsylvania. Responsible for performing and assisting with wetland delineations and stream assessments for the proposed Pennsylvania Pipeline Project. Other responsibilities included report preparation and wetland functional assessments.

Environmental Scientist I; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Pennsylvania. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southwestern Pennsylvania. Specific tasks included field survey, report preparation, and wetland functional assessments.

Environmental Scientist I; MarkWest Ohio Gathering Company, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in eastern Ohio. Specific tasks included field survey, report preparation, and completion of Ohio EPA specific wetland and stream assessments.

Cody R. Stoliker ENVIRONMENTAL SCIENTIST I

EDUCATION

Bachelor of Technology, Wildlife Management, 2013, State University of New York at Cobleskill

AREA OF EXPERTISE

Large Game Wildlife Management & Conservation, Wetland Assessment

REGISTRATIONS/ AFFILIATIONS

Ducks Unlimited 2012- Present

Rocky Mountain Elk Foundation 2013 – Present

National Wild Turkey Federation 2013 - Present

TRAINING/CERTIFICATIONS

Certified Wetland Assessment Delineator, NY, 2010

NYS Certified Class A Interior Firefighter

OFFICE

Tetra Tech OGA Pittsburgh, PA

YEARS OF EXPERIENCE

1

YEARS WITH TETRA TECH

1

N/A

CHRONOLOGICAL HISTORY

Environmental Scientist I, Tetra Tech, 2014-2015, Pittsburgh, PA

Wildlife Biologist/Ranch Manager, Oklahoma Trophy Ranch, 2013-2014, Allen, OK

Wildlife Management Technician, Rolling Thunder & Rim Ranches, Spring-Fall 2013, Bondurant, WY

Assistant Herdsman, Bison Island, 2012-2013, Sharon Springs, NY

Avian Survey Technician, NYS Dept. of Environmental Conservation, Winter 2011, Albany NY



Stephanie A. Zabowski Lieb Environmental Scientist III

EXPERIENCE SUMMARY

Ms. Stephanie Zabowski Lieb is a wetland/environmental scientist with 5+ years of experience in wetland delineation and stream evaluation, and rare, threatened & endangered botanical surveying and assessment, throughout Pennsylvania, Ohio, and West Virginia. This includes preparation of wetland delineation and stream evaluation reports, botanical reports, US Army Corps Joint and Nation Wide Permits, and PA Department of Environmental Protection General Permits. Stephanie has additional experience preforming geographic information systems (GIS) data processing and figure creation using ArcGIS10.1. She also has experience performing bat hibernaculum and summer roost tree habitat surveys in West Virginia.

RELEVANT EXPERIENCE

Wetland/Environmental Scientist III; Sunoco Logistics; OPP Natural Gas Pipeline Projects, Ohio and West Virginia; August 2015 to present. Responsibilities included aiding in wetland delineations and stream assessments for the proposed 70 miles of the Ohio Pipeline and West Virginia Pipeline Projects.

Wetland/Environmental Scientist III; MarkWest Liberty Midstream & Resources, LLC; Fox to Houston Natural Gas Pipeline Project, Washington County, PA; August 2015 to present. Responsible for conducting wetland delineations and stream assessments for the approximate 1 mile of proposed pipeline.

Environmental Scientist; Pittsburgh Botanic Garden; Kentucky Hollow Site, Allegheny County, PA; 2015. Responsible conducting wetland delineations and stream assessments for the approximate 40 acre area for proposed construction of trails and passive acid mine drainage treatment system. Prepared wetland delineation and stream assessment reports and associated GIS data processing and figure creation.

Environmental Scientist; EQT Gathering; NIMC S001 Pipeline Project, Allegheny & Washington Counties, PA; 2015. Responsible for conducting botanical survey for wild hyacinth (*Cammasia scilloides*) and snow trillium (*Trillium nivale*), PA statelisted species. Responsible for preparing a botanical survey report.

Environmental Scientist; Grace Baptist Church Additions; Grace Baptist Church, Allegheny County, PA; 2015. Responsible for compiling components of the NPDES permit package and GIS figure creation for church additions.

Environmental Scientist; NiSource Midstream Services, LLC; East Washington Gathering Pipeline Project, Washington County, PA; 2015. Assisted in the transplantation of Short's sedge

EDUCATION

B.S. Environmental Resource Management, The Pennsylvania State University, May 2009

Minors: Wildlife and Fisheries Science, May 2009; Watershed and Water Resources, May 2009

REGISTRATIONS

Wild Plant Management Permit, PA, 2015 Permit # 15-650

AREA OF EXPERTISE

Wetland Delineation and Stream Identification; RTE Botanical Surveys

TRAINING/CERTIFICATIONS

USFWS and WV DNR Sponsored Training for the Identification of the Federally Listed Running Buffalo Clover, Virginia Spirea, and Small Whorled Pogonia, May 2015.

2015 PA Plant Forum and Winter Woody ID workshop. Sponsored by the PA DCNR and Western Pennsylvania Conservancy, April 2015.

USACE 1987 Manual and Regional Supplement Wetland Delineation Training, Swamp School, 2013.

Ohio Rapid Assessment Method for Wetlands Training, Ohio EPA, 2013.

Grasses, Sedges and Rushes Identification Workshop. Taught by Sarah Chamberlain, 2013.

Sedge Identification Workshop. Taught by Dr. Timothy Block and Dr. Ann Rhoads, 2013.

OFFICE

Pittsburgh, PA

YEARS OF EXPERIENCE

5+

YEARS WITHIN FIRM

0

CONTACT

Stephanie.ZabowskiLieb@TetraTech.com

(*Carex shortiana*), a PA state-listed species, as part of mitigation request by PA DCNR. Responsible for associated GIS data processing and figure creation.

Environmental Scientist; West Newton Borough; 100 Pemberton Place Retaining Wall, Westmoreland County, PA; 2015. Responsible for compiling joint permit registration package and associated GIS figure creation for a 130 foot long retaining wall.

Environmental Scientist; Plum Borough School District; Regency Park Elementary School, Allegheny County, PA; 2015. Responsible for conducting wetland delineations and stream assessments for the approximate 5 acre school property. Prepared wetland delineation and stream assessment reports and associated GIS data processing and figure creation.

Environmental Scientist; Freeport Area School Athletic Field; Freeport Area School District, Butler County, PA; 2015. Responsibilities for compiling components of the NPDES permit package and associated GIS figure creation.

Environmental Scientist; EQT Corporation; Above Ground Storage Tank Inspection/Registration, various Counties, WV; 2014. Responsible for GIS data processing, shapefile creation, organization, progress tracking, and mapping of 1600+ above ground storage tanks.

Environmental Scientist; Sunoco Logistics; Pennsylvania Pipeline Project, Cambria County, PA; 2014. Responsible for conducting botanical survey for federally listed Northeastern Bulrush (*Scirpus ancistrochaetus*) along the 23 mile pipeline route in Cambria County, PA and associated data processing.

Environmental Scientist; Bethel Park Municipal Authority; Bethel Park Wastewater Treatment Plant Expansion, Allegheny County, PA; 2014. Responsible for compiling joint permit registration package and associated GIS figure creation for wastewater treatment plant expansion.

Environmental Scientist; EQT Gathering; Yablonski Well Line Project, Washington & Greene Counties, PA; 2014. Responsible for conducting botanical survey for fringed bluets (*Houstonia canadensis*) and tall larkspur (*Delphinium exaltatum*), PA state-listed species, and preparing associated botanical report for 3 mile pipeline project.

Environmental Scientist; Y-Grade Pipeline Project; Hilcorp Energy Company, Columbiana County, OH; 2014. Responsible for conducting wetland delineations and stream assessments of access roads for proposed pipeline project. Prepared wetland delineation and stream assessment report. Assisted in erosion and sediment control monitoring during pipeline construction.

Environmental Scientist; various projects; Antero Resources, various counties, WV; 2014. Responsible for conducting wetland delineations and stream assessments for various proposed pipeline projects. Prepared wetland delineation and stream assessment reports.

Biologist II; NRG Homer City Services, LLC; Homer City Ash Landfill Expansion, Indiana County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 130 acre proposed ash landfill expansion Prepared wetland delineation and stream assessment reports and associated GIS data processing and figure creation.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Burg to Wack Pipeline, Butler County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 2.5 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Bame to Bluestone Pipeline, Butler County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 3 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Stebbins to McElhinney Pipeline, Butler County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 3 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; EQT Gathering, LLC; NIJU S026 Pipeline, Washington County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 2.5 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package. Assisted with archeology field work and GIS figure creation.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Lynn to Stebbins Pipeline, Butler County, PA; 2013. Responsible for conducting a wetland delineation and stream investigation, as well as a botanical survey for a PA state-listed species. Prepared a wetland delineation and stream identification report, botanical survey report, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; EQT Gathering, LLC; MOME S007 Pipeline, Harrison County, WV; 2012. Responsible for preparing nationwide permit package. Also assisted in Indiana Bat habitat assessment and report preparation.

Environmental Scientist; Williams; Huczko to Clark Pipeline Project, Westmoreland County, PA; 2012. Assisted in surveys for PA state-listed species including purple fringeless orchid (*Platanthera peramoena*), bushy bluestem (*Andropogon glomeratus*), shining ladies' tresses (*Spiranthes lucida*), and mountain bugbane (*Actea podocarpa*). Prepared reports for PA state regulatory agencies and associated GIS figure creation.

Environmental Scientist; Williams; Jury to 6-inch Pipeline Project, Westmoreland County, PA; 2011. Assisted in botanical surveys for PA state-listed species including purple rocket (*Iodanthus pinnatifidus*), scouring rush (*Equisetum x ferrissii*), and Torrey's sedge (*Juncus torreyi*) for a 4 mile natural gas pipeline project. Prepared reports for PA state regulatory agencies and associated GIS figure creation.

Environmental Scientist; XTO; North Discharge/Indiana Extension Pipeline Project, Westmoreland & Indiana Counties, PA; 2011. Assisted in a wetland delineation/stream survey and a survey for PA state-listed species including purple fringeless orchid (Platanthera peramoena), bushy bluestem (Andropogon glomeratus), shining ladies' tresses (*Spiranthes lucida*), leafcup (*Smallanthus uvedalius*), and eastern coneflower (*Rudbeckia fulgida*) for a 12 mile natural gas pipeline project. Prepared reports for PA state regulatory agencies and associated GIS figure creation.

Environmental Scientist; Williams; Gamelands to Jordan Pipeline Project, Greene County, PA; 2011. Assisted in surveys for state-listed species including shining ladies' tresses (Spiranthes ovalis), wild senna (*Senna marilandica*), leaf-cup (*Smallanthus uvedalius*), sourwood (*Oxydendron arboreum*), crested dwarf iris (*Iris cristata*), St. Andrew's cross (*Hypericum stragulum*), harbinger-of-spring (*Erigenia bulbosa*), lobed spleenwort (*Asplenium pinnatifidum*), puttyroot (*Aplectrum hyemale*), single-headed pussytoes (*Antennaria solitaria*), and blue monkshood (*Aconitum uncinatum*). Prepared reports for PA state regulatory agencies.

Environmental Scientist; Range Resources; Multiple Temporary and Permanent Water Pipelines; Washington County, Pennsylvania. 2010 to 2011. Responsible for wetland delineations and stream evaluations on dozens of temporary and permanent water pipelines linking frac water impoundments in the Washington County area. Also prepared wetland delineation and stream assessment reports.

CHRONOLOGICAL HISTORY

Wetland/Environmental Scientist III; Tetra Tech, Inc.; Pittsburgh, PA, August 2015 – Present.

Environmental Scientist – Part-time; Pennsylvania Soil and Rock, Inc. Monroeville, PA, March 2015 – August 2015

Environmental Scientist; Dawood Engineering Inc., Canonsburg, PA, February 2014 – January 2015

Biologist II; AECOM Technical Services, Inc.; Pittsburgh, PA, August 2012 – February 2014

Environmental Scientist; Pennsylvania Soil and Rock, Inc.; Monroeville, PA, April 2010 – August 2012

Black Fly Suppression Program Intern; Pennsylvania Department of Environmental Protection; Pittsburgh, PA, May 2008 – August 2008

SCIENTIFIC/TECHNICAL PUBLICATIONS

• N/A

MEMBERSHIPS

Botanical Society of Western Pennsylvania

AWARDS

• N/A

APPENDIX B

FEDERAL THREATENED AND ENDANGERED SPECIES LIST FOR WEST VIRGINIA

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
MAMMALS			
Cougar, eastern	Felis concolor cougar	ш	May occur throughout the entire state. However, this species may be extinct or extirpated and there have been no documented, verified occurrences in WV in over 100 years.
Bat, Indiana	Myotis sodalis	ш	May occur throughout the state. Known hibernacula (winter habitat) in Fayette, Greenbrier, Mercer, Monroe, Pendleton, Pocahontas, Preston, Randolph, and Tucker Counties. The Indiana bat may use abandoned mine portals (confirmed in the New River Gorge National River, Fayette County) or occupy summer habitat throughout the entire state. Maternity activity confirmed in Boone, Fayette, Ohio, Tucker, and Wetzel Counties. Critical habitat: Hellhole Cave, Pendleton County. Two Conservation Areas are located in Boone County.
Bat, Virginia big-eared	Corynorhinus (=Plecotus) townsendii virginianus	ш	Known summer or winter caves located in Grant, Pendleton, Randolph, Tucker and Counties. Also known to utilize abandoned mine portals in Fayette County. May also occur in mine portals and caves throughout the state, particularly in Hardy, Kanawha, Mercer, Monroe, Nicholas, Preston, Raleigh, Summers, and Wyoming Counties. Critical habitat: Hellhole Cave, Cave Mountain Cave, Hoffman School Cave, and Sinnitt/Thorn Mountain Cave, Pendleton County; Cave Hollow/Arbogast Cave, Tucker County.
AMPHIBIANS			
Cheat Mountain salamander	Plethodon nettingi	F	Grant, Pendleton, Pocahontas, Randolph, and Tucker Counties.
FISHES			
Diamond darter	Crystallaria cincotta	٩	Clay and Kanawha Counties - Elk River.
E = Endangered: T = Threatened: P = Pronosed	provide D - Dropood		Indated March 2013

CRUSTACEANS			
Madison Cave isopod	Antrolana lira	⊢	Known in Jefferson County and may potentially also occur in Berkeley County.
MOLLUSKS			
Mussel, clubshell	Pleurobema clava	ш	Braxton, Clay and Kanawha Counties – Elk River and the lower ½ mile of these tributaries: Birch River, Blue Creek, and Laurel Creek; <u>Harrison and Lewis Counties</u> – Hackers Creek; <u>Doddridge</u> <u>County</u> – Meathouse Fork and the lower ½ mile of these tributaries: Toms Fork; <u>Doddridge</u> , <u>Pleasants</u> , and Tyler Counties – Middle Island Creek and the lower ½ mile of these tributaries: Arnold Creek, Bluestone Creek, Buckeye Creek, Indian Creek, McKim Creek, Point Pleasant Creek, Sancho Creek; <u>Doddridge</u> , Ritchie, and Wirt Counties - South Fork Hughes River and the lower ½ mile of these tributaries: Creek, Slab Creek, and Spruce Creek.
Mussel, fanshell	Cyprogenia stegaria (=irrorata)	ш	Eayette, Kanawha, Mason and Putnam Counties - Kanawha River; <u>Cabell, Jackson, Mason, Pleasants, Tyler, Wayne, Wetzel, and Wood Counties</u> - Ohio River.
Mussel, James spiny	Pleurobema (=Canthyria) collina	ш	Monroe County – Cove Creek, South Fork of Potts Creek, and Potts Creek.
Mussel, pink mucket	Lampsilis abrupta (=orbiculata)	ш	<u>Braxton, Clay and Kanawha Counties</u> - Elk River and the lower ¼ mile of these tributaries: Birch River, Blue Creek, and Laurel Creek; <u>Fayette, Kanawha, Mason, and Putnam Countie</u> s - Kanawha River; <u>Cabell, Jackson, Mason, Pleasants, Tyler, Wayne, Wetzel, and Wood Counties</u> - Ohio River.
Mussel, northern riffleshell	Epioblasma torulosa rangiana	ш	Braxton, Clay and Kanawha Counties – Elk River and the lower $arkappa$ mile of these tributaries: Birch River, Blue Creek, and Laurel Creek.
Mussel, rayed bean	Villosa fabalis	ш	Braxton, Clay and Kanawha Counties – Elk River and the lower ¼ mile of these tributaries: Birch River, Blue Creek, and Laurel Creek; <u>Doddridge, Pleasants, and Tyler Counties</u> – Middle Island Creek and the lower ¼ mile of these tributaries: Arnold Creek, Bluestone Creek, Buckeye Creek, Indian Creek, McKim Creek, Point Pleasant Creek, and Sancho Creek.
- Endonance - Throng			2012 Anarch 2012

DISTRIBUTION

STATUS

SCIENTIFIC NAME

COMMON NAME

E = Endangered; T = Threatened; P = Proposed

Updated March 2013

DISTRIBUTION	Eayette and Kanawha, Mason and Putnam Counties - Kanawha River; Cabell, Jackson, Mason, Pleasants, Tyler, Wayne, Wetzel, and Wood Counties – Ohio River.	Fayette, Kanawha, Mason and Putnam Counties - Kanawha River.	Braxton County – Cedar Creek, Elk River, and Little Kanawha River; Cabell County – Ohio River; Calhoun County – Beech Fork, Henry's Fork, Steer Creek, and West Fork Little Kanawha River; Calhoun County – Beech Fork, Henry's Fork, Steer Creek, and West Fork Little Kanawha River; Clay County – Elk River; Doddridge County – Arnold Creek, McKim Creek, Bone Creek, Bone Creek, Buckeye Creek, Indian Creek, Leatherbark Creek, Noith Pleasant Creek, Sancho Creek, Matchine Island Creek, Ittle Kanawha River; Spruce Creek, and Toms Fork; <u>Gilmer County</u> – Cedar Creek, Fink Creek, Leading Creek, Little Kanawha River; and Steer Creek; <u>Harrison County</u> – West Fork River and Hackers Creek, Leading Creek, Ladarbar Scenk, Ladarbar Creek, Mason County – West Fork River mand Hackers Creek, Ladkers Creek, Ladarba County – Ohio River; <u>Marion</u> <u>County</u> - West Fork River; <u>Marshall County</u> – Fish Creek, <u>Mason County</u> – Ohio River; <u>Marion</u> <u>County</u> - West Fork River; Marshall County – Fish Creek, Mason County – Ohio River; <u>Marion</u> <u>County</u> - West Fork River; Marshall County – Arnold Creek, Bluestone Creek, Buckeye Creek, Indian Creek, Middle Island Creek, Bluestone Creek, River; <u>Monongalia County</u> – Dunkard Creek, Middle Island Creek, Noth River; <u>Marion</u> <u>County</u> - Arnold Creek, Ruckim Creek, Middle Island Creek, Leatherbark Creek, Otterslide Creek, Roedy Creek, Spring Creek, and West Fork Little Kanawha River; <u>Tyler</u> <u>County</u> – Arnold Creek, Bluestone Creek, Buckeye Creek, Indian Creek, Leatherbark Creek, McKim Creek, Gillespie Run, Hughes River, North Pleasant Creek, and South Fork Hughes River, <u>Tyler</u> <u>County</u> – Arnold Creek, Bluestone Creek, Bluestone Creek, and South Fork Hughes River, <u>Middle</u> Island Creek, Jedia Run, Bonds Creek, Buckeye Creek, Middle Island Creek, Spring Creek, Middle Island Creek, Spring Creek, Silespie Run, Boose Creek, Hughes River, Indian Creek, Leatherbark Creek, McKim <u>County</u> – Arnold Creek, Spring Creek, Buckeye Creek, Indian Creek, Leatherbark Creek, McKim <u>Creek, Gillespie Run</u> , Boose Creek, H	Fayette, Kanawha, Mason, and Putnam Counties - Kanawha River. May be extinct.	Monongalia and Preston Counties, including both sides of Cheat River Gorge.
STATUS	ш	ш	ш	ш	F
SCIENTIFIC NAME	Plethobasus cyphyus	Cumberlandia monodonta	Epioblasma triquetra	Epioblasma (=Dysnomia) torulosa torulosa	Triodopsis platysayoides
COMMON NAME	Mussel, sheepnose	Mussel, spectacle case	Mussel, snuffbox	Mussel, tubercled- blossom pearly	Snail, flat-spired three- toothed land

DISTRIBUTION		Berkeley County – Back Creek; Morgan County – Cacapon River, Potomac River, and Sleepy Creek.	Known in Berkeley and Hardy Counties and may potentially also occur in Hampshire, Mineral, Morgan, and Pendleton Counties.	Known in Barbour, Brooke, Fayette, Pocahontas, Randolph, Webster, and Tucker Counties. May potentially also occur in Monongalia and Preston Counties.	Greenbrier, Hardy, and Pendleton Counties.	Greenbrier County.	<u>Fayette County</u> – Gauley River, Meadow River, and New River; <u>Greenbrier County</u> – Greenbrier River and Meadow River; <u>Mercer County</u> – Bluestone River; <u>Nicholas County</u> - Gauley River, Meadow River; <u>Pocahontas County</u> - Greenbrier River; <u>Raleigh County</u> – Marsh Fork River, Dingess Branch, and Millers Camp Branch; and <u>Summers County</u> - Bluestone River. May also potentially occur in Upshur County.
STATUS		ш	ш	ш	ш	F	F
SCIENTIFIC NAME		Ptilimnium nodosum	Scirpus ancistrochaetus	Trifolium stoloniferum	Boechera (=Arabis) serotina	Isotria medeoloides	Spiraea virginiana
COMMON NAME	PLANTS	Harperella	Northeastern bulrush	Running buffalo clover	Shale barren rock cress	Small whorled pogonia	Virginia spiraea

APPENDIX C

USFWS COORDINATION LETTER

EQUITRANS

April 27, 2015

John Schmidt Project Leader USFWS, West Virginia Field Office 694 Beverly Pike Elkins, WV 26241

Subject: Equitrans Expansion Project, Green Allegheny and Washington Counties, Pennsylvania, and Wetzel County, West Virginia Docket No. PF15-22

Dear Mr. Schmidt,

Equitrans, L.P. (Equitrans) is hereby providing background information on the proposed Equitrans Expansion Project (Project) in Greene, Allegheny and Washington Counties, Pennsylvania. The Project will add up to 600,000 dekatherms per day (Dth/day) of north-to south firm capacity on the Equitrans system. The Project includes the replacement and expansion of the 4,800 horsepower Pratt Compressor Station with the 31,300 horsepower Redhook Compressor Station in Greene County, Pennsylvania; approximately four miles of 30-inch diameter pipeline between the proposed Redhook Compressor Station and the existing Equitrans H-302 pipeline in Greene County, Pennsylvania; approximately five miles of 24-inch diameter pipeline between the EQT Gathering, LLC Applegate Gathering System and Equitrans' existing H-148 pipeline in Allegheny and Washington Counties, Pennsylvania; and the new Webster interconnect to deliver natural gas volumes into Mountain Valley Pipeline, LLC's ("Mountain Valley") proposed pipeline in Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of Equitrans' system south to a future interconnection with Mountain Valley, as well as existing interconnects on the southern portion of Equitrans' system with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will provide shippers with the flexibility to transport additional natural gas produced in the central Appalachian Basin to meet the growing demand by local distribution companies, industrial users, and power generation facilities located in local, northeastern, Mid-Atlantic and southeastern regions of the United States. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

An overall Project location map and more specific Project component location maps have been included as attachments to this letter. To establish the pipeline corridor for the proposed Project, it will be necessary to clear forest land along the corridor. Equitrans has contracted with Tetra Tech, Inc. to conduct biological and cultural field surveys for the Project which are scheduled to commence in May 2015. Equitrans will coordinate the survey plans with appropriate agency staff for review and concurrence prior to initiating the field surveys.

Equitrans I 625 Liberty Avenue Suite 1700 I Pittsburgh, PA 15 2223111 T 412.553.5700 I F 412.553.5757 I www.eqt.com The Federal Energy Regulatory Commission (FERC) will serve as the lead agency for the Project. FERC granted Equitrans request in Docket No. PF15-22 to use the FERC's pre-filing process in late April 2015 and Equitrans anticipates filing a formal application with the FERC in the fourth quarter of 2015. The FERC will then prepare an Environmental Assessment or an Environmental Impact Statement to satisfy the National Environmental Policy Act (NEPA) process for the Project.

In order to assist Equitrans in preparing the FERC application and identifying possible issues to be addressed during the NEPA process, the purpose of this letter is initiate dialogue, request information and identify any potential concerns you may have regarding the Project.

The Equitrans team looks forward to working with you as we move forward with development of this Project. We appreciate your assistance and thank in you advance for your willingness to work with Equitrans.

If you have questions or would like additional information about the Project please go to equitransproject.com, contact me at 412-553-5798 (<u>SFrazier@eqt.com</u>), or Tricia Pellerin at 617-443-7556 (<u>tricia.pellerin@tetratech.com</u>).

Sincerely,

Stephanie Frazier Supervisor Permitting – Environmental, EQT Corporation

cc: J. Nathanial Manchin, EQT Tricia Pellerin, Tetra Tech Dave Richardson, Tetra Tech

Equitrans I 625 Liberty Avenue Suite 1700 I Pittsburgh, PA 15 2223111 T 412.553.5700 I F 412.553.5757 I www.eqt.com APPENDIX D

WV DNR COORDINATION

EQUITRANS

April 27, 2015

Barbara Sargent West Virginia Division of Natural Resources (WVDNR) Natural Heritage Program 67 Ward Road Elkins, WV 26241

Subject: Equitrans Expansion Project, Green Allegheny and Washington Counties, Pennsylvania, and Wetzel County, West Virginia Docket No. PF15-22

Dear Ms. Sargent,

Equitrans, L.P. (Equitrans) is hereby providing background information on the proposed Equitrans Expansion Project (Project) in Greene, Allegheny and Washington Counties, Pennsylvania. The Project will add up to 600,000 dekatherms per day (Dth/day) of north-to south firm capacity on the Equitrans system. The Project includes the replacement and expansion of the 4,800 horsepower Pratt Compressor Station with the 31,300 horsepower Redhook Compressor Station in Greene County, Pennsylvania; approximately four miles of 30-inch diameter pipeline between the proposed Redhook Compressor Station and the existing Equitrans H-302 pipeline in Greene County, Pennsylvania; approximately five miles of 24-inch diameter pipeline between the EQT Gathering, LLC Applegate Gathering System and Equitrans' existing H-148 pipeline in Allegheny and Washington Counties, Pennsylvania; and the new Webster interconnect to deliver natural gas volumes into Mountain Valley Pipeline, LLC's ("Mountain Valley") proposed pipeline in Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of Equitrans' system south to a future interconnection with Mountain Valley, as well as existing interconnects on the southern portion of Equitrans' system with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will provide shippers with the flexibility to transport additional natural gas produced in the central Appalachian Basin to meet the growing demand by local distribution companies, industrial users, and power generation facilities located in local, northeastern, Mid-Atlantic and southeastern regions of the United States. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

An overall Project location map and more specific Project component location maps have been included as attachments to this letter. To establish the pipeline corridor for the proposed Project, it will be necessary to clear forest land along the corridor. Equitrans has contracted with Tetra Tech, Inc. to conduct biological and cultural field surveys for the Project which are scheduled to commence in May 2015. Equitrans will coordinate the survey plans with appropriate agency staff for review and concurrence prior to initiating the field surveys.

Equitrans I 625 Liberty Avenue Suite 1700 I Pittsburgh, PA 15 2223111 T 412.553.5700 I F 412.553.5757 I www.eqt.com The Federal Energy Regulatory Commission (FERC) will serve as the lead agency for the Project. FERC granted Equitrans request in Docket No. PF15-22 to use the FERC's pre-filing process in late April 2015 and Equitrans anticipates filing a formal application with the FERC in the fourth quarter of 2015. The FERC will then prepare an Environmental Assessment or an Environmental Impact Statement to satisfy the National Environmental Policy Act (NEPA) process for the Project.

In order to assist Equitrans in preparing the FERC application and identifying possible issues to be addressed during the NEPA process, the purpose of this letter is initiate dialogue, request information and identify any potential concerns you may have regarding the Project.

The Equitrans team looks forward to working with you as we move forward with development of this Project. We appreciate your assistance and thank in you advance for your willingness to work with Equitrans.

If you have questions or would like additional information about the Project please go to equitransproject.com, contact me at 412-553-5798 (<u>SFrazier@eqt.com</u>), or Tricia Pellerin at 617-443-7556 (<u>tricia.pellerin@tetratech.com</u>).

Sincerely,

Stephanie Frazier Supervisor Permitting – Environmental, EQT Corporation

cc: J. Nathanial Manchin, EQT Tricia Pellerin, Tetra Tech Dave Richardson, Tetra Tech

Equitrans I 625 Liberty Avenue Suite 1700 I Pittsburgh, PA 15 2223111 T 412.553.5700 I F 412.553.5757 I www.eqt.com



DIVISION OF NATURAL RESOURCES Wildlife Resources Section Operations Center P.O. Box 67 Elkins, West Virginia 26241-3235 Telephone (304) 637-0245 Fax (304) 637-0250

Earl Ray Tomblin Governor

May 12, 2015

Ms. Stephanie Frazier Equitrans, LP 625 Liberty Avenue, Suite 1700 Pittsburgh, PA

Dear Ms. Frazier:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed Equitrans Expansion Project in Wetzel County, WV (Docket No. PF15-22).

We have no known records of any RTE species or sensitive habitats within the project area. The Wildlife Resources Section knows of no surveys that have been conducted in the area for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review.

The information provided above is the product of a database search and retrieval. This information does not satisfy other consultation or permitting requirements for disturbances to the natural resources of the state, and further consultation may be required. Additionally, any concurrence requirements for federally listed species must come from the US Fish and Wildlife Service.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, or barbara.d.sargent@wv.gov. Enclosed please find an invoice.

Sincerely,

Wildlife Diversity Unit

Barbara Sargent Environmental Resources Specialist

Robert A. Fala

Director

enclosure

S:\Monthly\Barb\Invoices\Equitrans.doc

INVOICE

West Virginia Division of Natural Resources

Wildlife Resources Section, P.O. Box 67, Elkins, WV 26241 Attention: Ms. Patty Fordyce

In Account With:	Equitrans, LP 625 Liberty Avenue, Suite 1700 Pittsburgh, PA 15222

Date: May 12, 2015

Attention: Ms. Stephanie Frazier

For the retrieval and compilation of information on rare, threatened and endangered species and sensitive habitats for the proposed Equitrans Expansion Project in Wetzel County, WV (Docket No. PF15-22).

AMOUNT DUE: \$75.00

Make check payable to WV Division of Natural Resources. **Please reference the invoice number on your check.** Mail to the above address and to the attention of Ms. Fordyce.

APPENDIX E

WV DIVISION OF CULTURE AND HISTORY COORDINATION LETTER



April 27, 2015

Susan Pierce Director, Deputy State Historic Preservation Officer West Virginia Division of Culture and History 1900 Kanawha Boulevard East Charleston, WV 25305

Subject: Equitrans Expansion Project, Green Allegheny and Washington Counties, Pennsylvania, and Wetzel County, West Virginia Docket No. PF15-22-000

Dear Ms. Pierce,

Equitrans, L.P. (Equitrans) is hereby providing background information on the proposed Equitrans Expansion Project (Project) in Greene, Allegheny and Washington Counties, Pennsylvania. The Project will add up to 600,000 dekatherms per day (Dth/day) of north-to south firm capacity on the Equitrans system. The Project includes the replacement and expansion of the 4,800 horsepower Pratt Compressor Station with the 31,300 horsepower Redhook Compressor Station in Greene County, Pennsylvania; approximately four miles of 30-inch diameter pipeline between the proposed Redhook Compressor Station and the existing Equitrans H-302 pipeline in Greene County, Pennsylvania; approximately five miles of 24-inch diameter pipeline between the EQT Gathering, LLC Applegate Gathering System and Equitrans' existing H-148 pipeline in Allegheny and Washington Counties, Pennsylvania; and the new Webster interconnect to deliver natural gas volumes into Mountain Valley Pipeline, LLC's ("Mountain Valley") proposed pipeline in Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of Equitrans' system south to a future interconnection with Mountain Valley, as well as existing interconnects on the southern portion of Equitrans' system with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will provide shippers with the flexibility to transport additional natural gas produced in the central Appalachian Basin to meet the growing demand by local distribution companies, industrial users, and power generation facilities located in local, northeastern, Mid-Atlantic and southeastern regions of the United States. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

An overall Project location map and more specific Project component location maps have been included as attachments to this letter. To establish the pipeline corridor for the proposed Project, it will be necessary to clear forest land along the corridor. Equitrans has contracted with Tetra Tech, Inc. to conduct biological and cultural field surveys for the Project which are scheduled to commence in May 2015. Equitrans anticipates the need to conduct surveys for terrestrial and aquatic protected species as well as protected bat species, and as appropriate, will commence the recommended bat surveys within the allowable windows for each state. They survey corridor includes ¼ mile on either side of the proposed pipeline route, for a total of ½ mile of survey width. Equitrans will coordinate the survey plan with the USFWS field offices for review and concurrence prior to initiating the field surveys.

The Federal Energy Regulatory Commission (FERC) will serve as the lead agency for the Project. FERC granted Equitrans request in Docket No. PF15-22-000 to use the FERC's pre-filing process in late April 2015 and Equitrans anticipates filing a formal application with the FERC in the fourth quarter of 2015. The FERC will then prepare an Environmental Assessment or an Environmental Impact Statement to satisfy the National Environmental Policy Act (NEPA) process for the Project.

In order to assist Equitrans in preparing the FERC application and identifying possible issues to be addressed during the NEPA process, the purpose of this letter is initiate dialogue with the U.S. Fish and Wildlife Service, and to request information and identify any potential concerns the U.S Fish and Wildlife Service may have regarding the Project.

The Equitrans team looks forward to working with you as we move forward with development of this Project. We appreciate your assistance and thank in you advance for your willingness to work with Equitrans.

If you have questions or would like additional information about the Project please go to equitransproject.com, contact me at 412-533-5798 (<u>SFrazier@eqt.com</u>), or Tricia Pellerin at 617-443-7556 (<u>tricia.pellerin@tetratech.com</u>).

Sincerely,

Stephanie Frazier Supervisor Permitting – Environmental, EQT Corporation

cc: J. Nathanial Manchin, EQT Tricia Pellerin, Tetra Tech Dave Richardson, Tetra Tech



The Culture Center 1900 Kanawha Blvd., E. Charleston, WV 25305-0300

Randall Reid-Smith, Commissioner

Phone 304,558.0220 • www.wvculture.org Fax 304.558.2779 • TDD 304.558.3562 EEO/AA Employer

Ms. Stephanie Frazier Supervisor Permitting -- Environmental Equitrans, L.P. 625 Liberty Avenue, Suite 1700 Pittsburgh, WV 15222-3111

RE: Equitrans Expansion Project; Docket No. PF15-22 FR#: 15-570-WZ

Dear Ms. Cannon:

We have reviewed the information submitted for the above mentioned project to determine its effects to cultural resources. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

According to the submitted information, Equitrans, L.P. is proposing an expansion project in Greene, Allegheny and Washington Counties, Pennsylvania and Wetzel County, West Virginia. Within West Virginia, the proposed project will involve the construction of the new Webster Interconnect to deliver natural gas into Mountain Valley Pipeline LLC's proposed pipeline. It is our understanding that the Federal Energy Regulatory Commission (FERC) will serve as the lead agency and that FERC has granted Equitrans' request to use its Pre-Filing Process. We also understand that Equitrans has retained Tetra Tech to conduct biological and cultural field surveys for the proposed project. At this time, we have no immediate concerns regarding historic properties that could potentially be affected by the proposed project within West Virginia. We look forward to continuing the Section 106 consultation process and reviewing the resulting cultural resource technical reports.

We appreciate the opportunity to be of service. If you have questions regarding our comments or the Section 106 process, please contact Lora A Lamarre-DeMott, Senior Archaeologist, or Jeffrey S. Smith, Structural Historian at (304) 558-0240.

Sincerely

Susan M. Pierce Deputy State Historic Preservation Officer

SMP/LLD