



TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC  
LEIDY SOUTH PROJECT

APPENDIX I  
COMPRESSOR STATION 610 WETLAND AND WATERCOURSE DELINEATION REPORT  
ORANGE TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA

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ORANGE TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA

## **1.0 INTRODUCTION**

WHM Consulting, Inc. (WHM) was retained by Transcontinental Gas Pipe Line Company, LLC (Transco) to conduct a delineation of wetland and water resources associated with the Compressor Station 610 (Project) located in Orange Township, Columbia County, Pennsylvania (Figure 1 – Project Location Map). The purpose of this investigation was to determine if regulated wetlands and waters exist within the subject project area in accordance with U.S. Army Corps of Engineers (USACE) guidelines which as regulated under Section 404 of the Clean Water Act (CWA) and Pa Code 25 Chapter 105. This report provides information on the desktop analysis, data collected, delineation field findings, and results pertaining to wetland and water resources identified in the study area. The delineation was performed in April 2019.

## **2.0 DESKTOP ANALYSIS**

Prior to conducting field investigations, a review of natural resource data associated with the investigation area was completed to help establish probable areas where wetlands and watercourses could be located before conducting the onsite field investigation. The following sections outlined specific data reviewed for the investigation area.

### **2.1 USGS TOPOGRAPHIC AND LIDAR DATA**

The 7.5 minute USGS quadrangle for Bloomsburg, Pennsylvania, was reviewed in the vicinity of the project area. For more detailed topographic information, PAMAP LiDAR (2-foot Intervals) were reviewed to determine slope breaks and microtopography that could result in wetlands and/or waterways.

### **2.2 AERIAL PHOTOGRAPHY**

Multiple sources of online accessible current and historical aerial imagery were reviewed. In particular, leaf-off aerial imagery was evaluated for saturation that may persist long enough into the growing season to create wetland conditions.

### **2.3 NATIONAL WETLAND INVENTORY**

The U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) mapping within and surrounding the project area is presented in Figure 2 - USDA-NRCS Soils and NWI Wetlands Map. According to NWI mapping there are no NWI wetlands located within the investigation area.

### **2.4 USDA/NRCS SOIL DESCRIPTIONS**

The soil associations onsite are identified through the soil map units mapped by the United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) in the Soil Survey of Columbia County, Pennsylvania. In addition, the hydric

soils list for Columbia County was reviewed to determine if these soils are Hydric Soils or contain Hydric Inclusion. There are 5 soil mapping units located within the investigation area. Each soil series and their hydric rating is provided in Table 2-1.

<b>Soil Mapping Unit</b>	<b>Map Unit Name</b>	<b>Slope (%)</b>	<b>Hydric Soil/ Hydric Inclusion</b>
AeB2	Allenwood silt loam	3 to 12	No
HhB2	Hartleton channery silt loam	3 to 12	No
HhC3	Hartleton channery silt loam	12 to 20	No
WbB2	Watson silt loam	3 to 8	Yes
WcC2	Weikert channery silt loam	12 to 20	Yes

Table 2-1: Soil Mapping Unit and Hydric Soils Listing

### **3.0 RESULTS**

After the completion of a desktop analysis, a formal wetland delineation was completed. Areas exhibiting the potential for regulated wetlands and waters were evaluated to determine whether they satisfied the USACE and/or PADEP requirements. There were no wetlands or streams identified during the delineation. Site specific information, including mapping, photographic documentation and data forms, is provided in Attachment A.

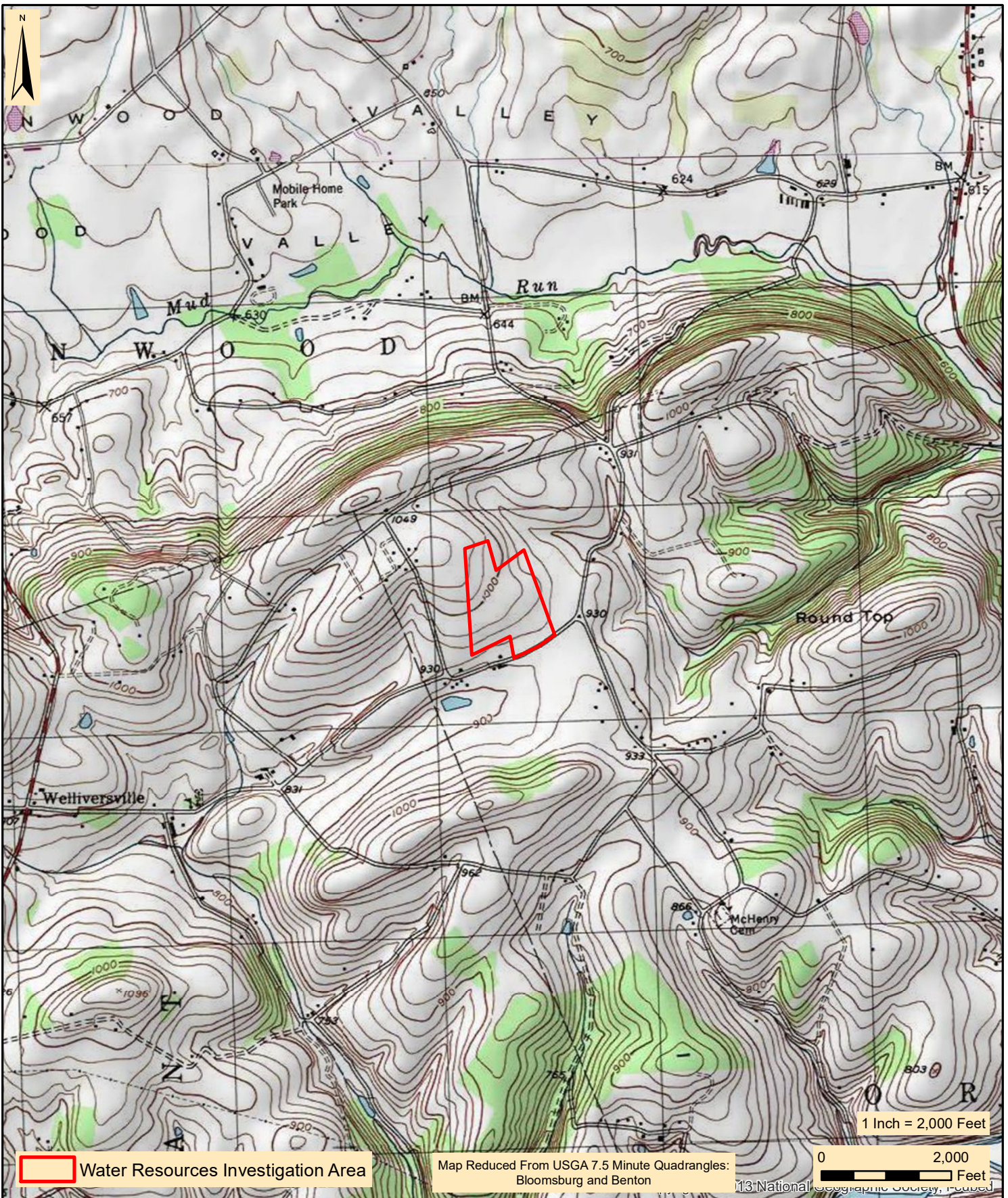
### **4.0 CONCLUSIONS**


No wetlands or streams were identified during the delineation within the investigation area. If the Project area is expanded upon, additional delineations would be required.

## 6.0 REFERENCES

- Cowardin, L. M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands deepwater habitats of the United States. U.S. Department of the Interior and the Fish and Wildlife Service, Washington, D.C.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Tech. Rep. Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, M.S.
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- Pennsylvania Code. 2019. Pennsylvania Code Title 25, Chapter 105 <http://www.pacode.com/secure/data/025/025toc.html>. Accessed December 3, 2018.
- U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
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- United State Department of Agriculture Soil Conservation Service. 2003. Soil Survey of Columbia & Lycoming County Pennsylvania
- United States Fish and Wildlife Service. National Wetland Inventory Map, 7.5 Minute Series, Bloomsburg, Pennsylvania.
- United States Geological Survey. Topographic Quadrangle 7.5-minute Series Quadrangles, Bloomsburg, Pennsylvania.
- U.S. Geological Survey. 2018. Hydrography: National Hydrography Dataset and Watershed Boundary Dataset. <http://nhd.usgs.gov/>. Accessed October 12, 2018.

## FIGURES



 Water Resources Investigation Area

Map Reduced From USGA 7.5 Minute Quadrangles:  
Bloomsburg and Benton

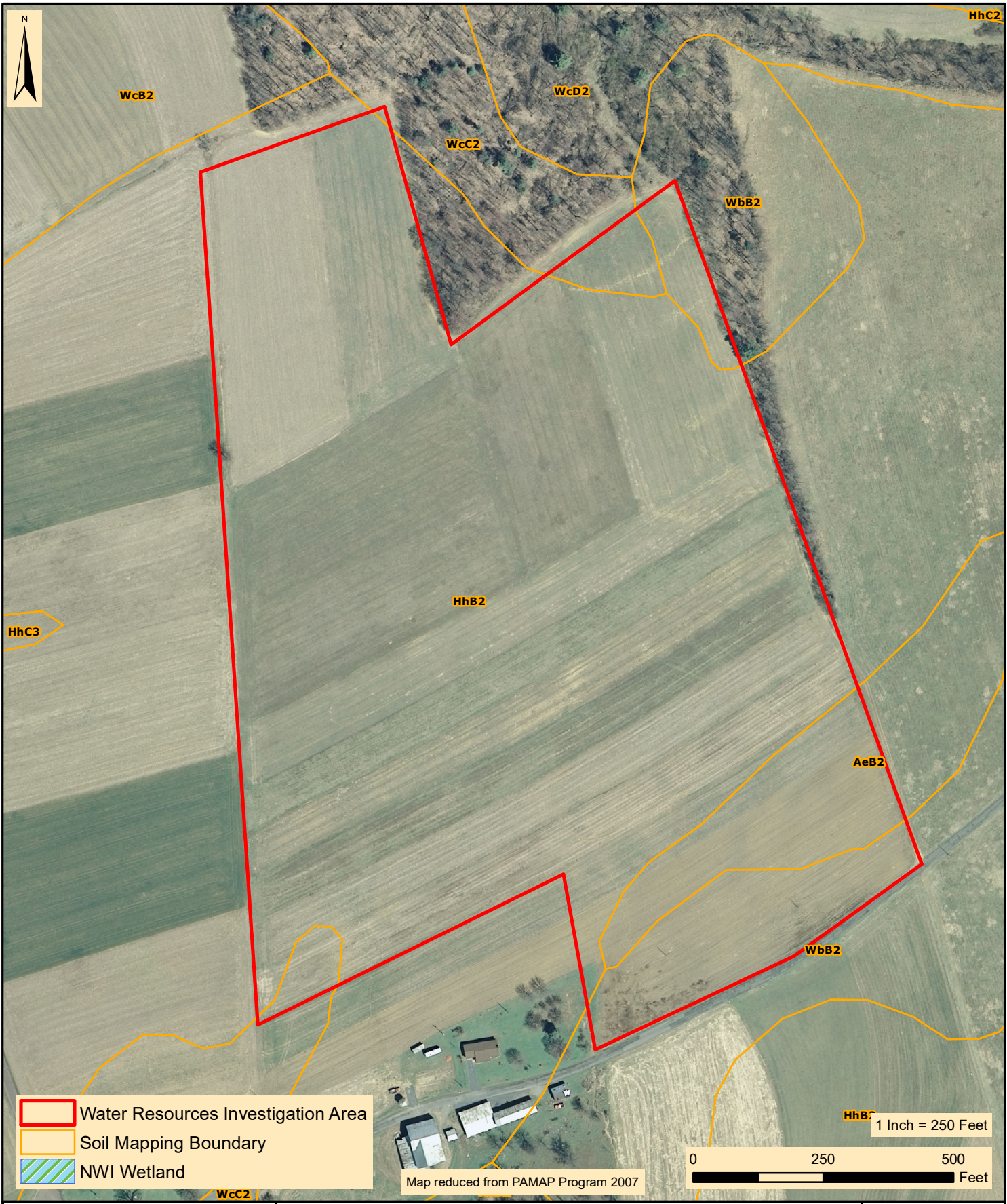
1 Inch = 2,000 Feet  
0 2,000 Feet  
© 2013 National Geographic Society, Inc.

**WHM**  
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2525 Green Tech Drive, Suite B,  
State College, PA 16803  
Tele: 814.689.1650 Fax: 814.689.1557

**TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC**  
**LEIDY SOUTH PROJECT**  
**COMPRESSOR STATION 610**  
**PROJECT LOCATION MAP**

ORANGE TOWNSHIP      COLUMBIA COUNTY      PENNSYLVANIA

Date: 07/10/2019  
WHM Drawing Number: WILLIAMS205A001  
Drawn By: FTN  
Figure Number: 1



- Water Resources Investigation Area
- Soil Mapping Boundary
- NWI Wetland

0                      250                      500  
 Feet

Map reduced from PAMAP Program 2007

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 State College, PA 16803  
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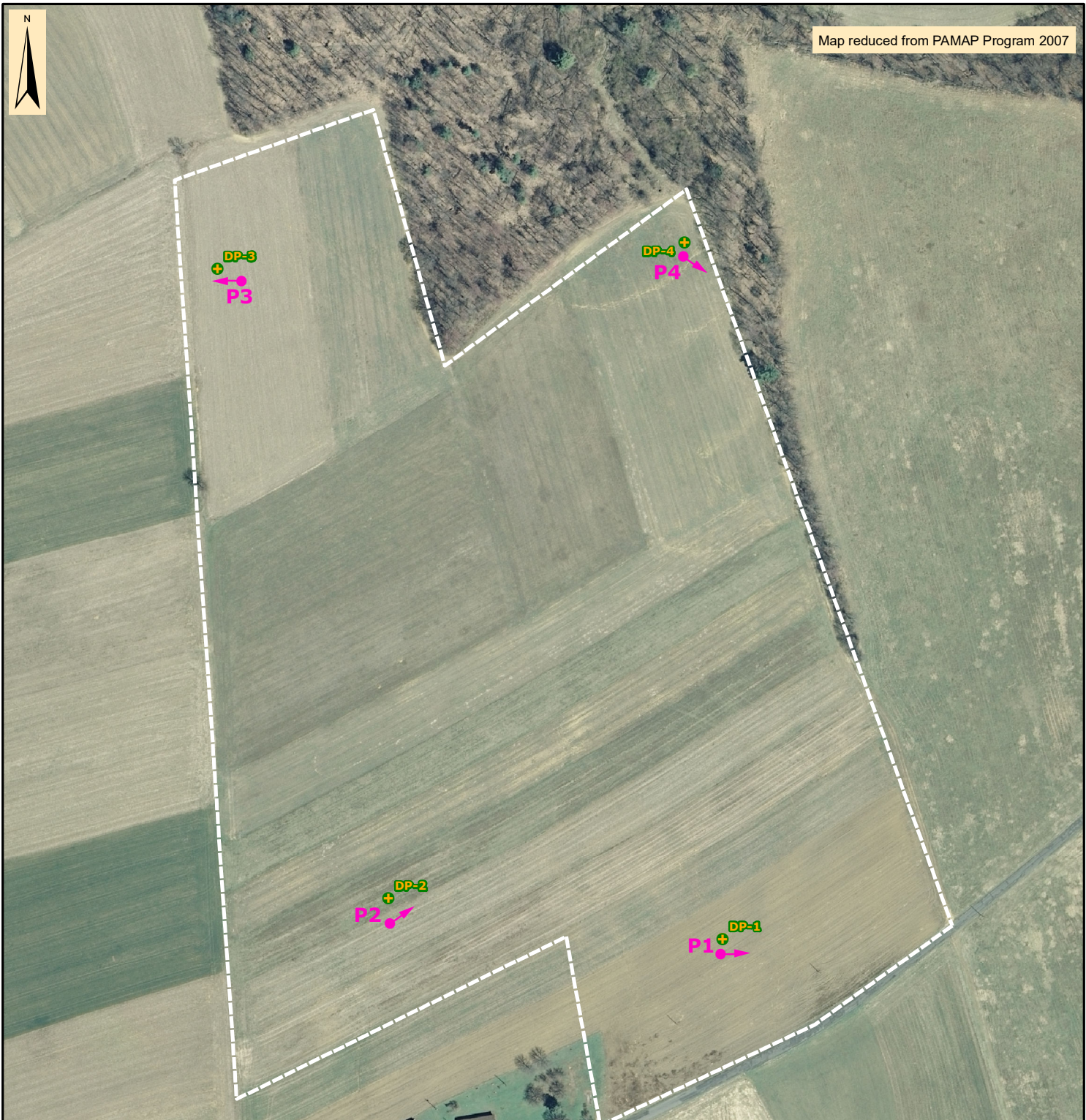
**TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC**  
**LEIDY SOUTH PROJECT**  
**COMPRESSOR STATION 610**  
**USDA-NRCS SOILS AND NWI WETLANDS MAP**





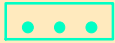



ORANGE TOWNSHIP                      COLUMBIA COUNTY                      PENNSYLVANIA

Date:	07/10/2019
WHM Drawing Number:	WILLIAMS205A002
Drawn By:	FTN
Figure Number:	2

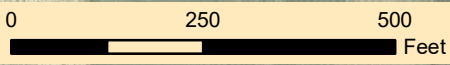
ATTACHMENT A  
WETLAND AND WATER RESOURCE DELINEATION DATA PACKAGE

## WATER RESOURCES DELINEATION MAP



	Water Resources Investigation Area		Data Point		Photo Location		Delineated Channel	<b>Delineated Wetland</b>		Palustrine Emergent		Palustrine Scrub Shrub		Palustrine Forested		Palustrine Open Water
--	------------------------------------	---	------------	---	----------------	--	--------------------	---------------------------	---	---------------------	---	------------------------	---	---------------------	---	-----------------------

1 Inch = 250 Feet




designs, permits, | resolutions  
**consulting, INC.**  
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State College, PA 16803  
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**TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC**  
LEIDY SOUTH PROJECT  
COMPRESSOR STATION 610  
**WATER RESOURCES DELINEATION MAP**

ORANGE TOWNSHIP      COLUMBIA COUNTY      PENNSYLVANIA

Date:	07/10/2019
WHM Drawing Number:	WILLIAMS205A003
Drawn By:	FTN
Figure Number:	3

## PHOTOGRAPHIC DOCUMENTATION



**ID:** Photo 1  
**Date:** 4/12/2019  
**Taken by:** JH  
**Comments:**  
This photo shows an eastern view of the DP 1, located in an upland hayfield.



**ID:** Photo 2  
**Date:** 4/12/2019  
**Taken by:** JH  
**Comments:**  
This photo shows a view northeastern view of DP 2, located in an upland fallow area of a field.



**ID:** Photo 3

**Date:** 4/12/2019

**Taken by:** JH

**Comments:**  
This photo shows a western view of DP 3. The area had been recently disturbed and hydroseeded.



**ID:** Photo 4

**Date:** 4/12/2019

**Taken by:** JH

**Comments:**  
This photo shows a southeastern view of DP 4, located within an upland hayfield.

WETLAND, UPLAND, AND WATERWAYS DATA FORMS

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Compressor Station 610 City/County: Columbia County Sampling Date: 04/12/2019  
 Applicant/Owner: Transcontinental Gas Pipe Line Company, LLC State: PA Sampling Point Up1-T1-CS610  
 Investigator(s): JH, CG Section, Township, Range: Orange Township  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): none Slope (%): 3-5%  
 Subregion (LRR or MLRA): LRR R Lat.: 41.104811 Long.: -76.447639 Datum: NAD 83  
 Soil Map Unit Name: Allenwood silt loam (AeB2) NWI Classification: None  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No        (If no, explain in remarks)  
 Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal circumstances" present? Yes X No         
 Are vegetation N, soil N, or hydrology N 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? <u>No</u> Hydric soil present? <u>No</u> Wetland hydrology present? <u>No</u>	<b>Is the sampled area within a wetland?</b> Yes <u>      </u> No <u>X</u>
Remarks:	

**HYDROLOGY**

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>      </u> No <u>X</u> Depth (inches): <u>      </u> Water table present? Yes <u>      </u> No <u>X</u> Depth (inches): <u>      </u> Saturation present? Yes <u>      </u> No <u>X</u> Depth (inches): <u>      </u> (includes capillary fringe)	<b>Wetland hydrology present?</b> Yes <u>      </u> No <u>X</u>
---	---

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION - Use scientific names of plants**

**Sampling Point:** Up1-T1-CS610

Tree Stratum (Plot Size: <u>30'</u> )			
	Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
	<u>0</u>	= Total Cover	

Sapling/Shrub Stratum (Plot Size: <u>15'</u> )			
	Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
	<u>0</u>	= Total Cover	

Herb Stratum (Plot Size: <u>5'</u> )			
	Absolute % Cover	Dominant Species	Indicator Staus
1	<u>75</u>	<u>Yes</u>	<u>FACU</u>
2	<u>15</u>	<u>No</u>	<u>UPL</u>
3	<u>5</u>	<u>No</u>	<u>FACU</u>
4	<u>5</u>	<u>No</u>	<u>FACU</u>
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____
	<u>100</u>	= Total Cover	

Woody Vine Stratum (Plot Size: <u>30'</u> )			
	Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
	<u>0</u>	= Total Cover	

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species 95 x 4 = 380

UPL species 5 x 5 = 25

Column totals 100 (A) 405 (B)

Prevalence Index = B/A = 4.05

**Hydrophytic Vegetation Indicators:**

- 1 - Rapid test for hydrophytic vegetation
- 2 - Dominance test is >50%
- 3 - Prevalence index is ≤3.0\*
- 4 - Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)
- 5 - Problematic hydrophytic vegetation\* (explain)

\*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** - All woody vines greater than 3.28 ft in height.

**Hydrophytic vegetation present?**

Yes \_\_\_\_\_ No X

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

**Sampling Point:** Up1-T1-CS610

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12"	10YR 4/4	100					silt	

\*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

**Indicators for Problematic Hydric Soils:**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Histisol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)                |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (TF2)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> Yes _____ No <input checked="" type="checkbox"/>
--	--

Remarks:

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Compressor Station 610 City/County: Columbia County Sampling Date: 04/12/2019  
 Applicant/Owner: Transcontinental Gas Pipe Line Company, LLC State: PA Sampling Point Up2-T1-CS610  
 Investigator(s): JH, CG Section, Township, Range: Orange Township  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Convex Slope (%): 5-10%  
 Subregion (LRR or MLRA): LRR R Lat.: 41.105032 Long.: -76.449796 Datum: NAD 83  
 Soil Map Unit Name: Hartleton channery silt loam (HhB2) NWI Classification: None  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No        (If no, explain in remarks)  
 Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal circumstances" present? Yes X No         
 Are vegetation N, soil N, or hydrology N 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? <u>No</u> Hydric soil present? <u>No</u> Wetland hydrology present? <u>No</u>	<b>Is the sampled area within a wetland?</b> Yes <u>      </u> No <u>X</u>
Remarks:	

**HYDROLOGY**

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
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<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>      </u> No <u>X</u> Depth (inches): <u>      </u> Water table present? Yes <u>      </u> No <u>X</u> Depth (inches): <u>      </u> Saturation present? Yes <u>      </u> No <u>X</u> Depth (inches): <u>      </u> (includes capillary fringe)	<b>Wetland hydrology present?</b> Yes <u>      </u> No <u>X</u>
---	---

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION** - Use scientific names of plants

**Sampling Point:** Up2-T1-CS610

<u>Tree Stratum</u> (Plot Size: _____ 30' _____)				<b>Dominance Test Worksheet</b>	
	Absolute % Cover	Dominant Species	Indicator Staus		
1 _____	_____	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC: _____	0 (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: _____	2 (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: _____	0.00% (A/B)
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
	0 =	Total Cover			
<u>Sapling/Shrub Stratum</u> (Plot Size: _____ 15' _____)				<b>Prevalence Index Worksheet</b>	
	Absolute % Cover	Dominant Species	Indicator Staus		
1 <i>Rubus sp.</i>	15	N/A	-	Total % Cover of:	
2 _____	_____	_____	_____	OBL species _____ x 1 = _____	
3 _____	_____	_____	_____	FACW species _____ x 2 = _____	
4 _____	_____	_____	_____	FAC species _____ x 3 = _____	60
5 _____	_____	_____	_____	FACU species _____ x 4 = _____	200
6 _____	_____	_____	_____	UPL species _____ x 5 = _____	150
7 _____	_____	_____	_____	Column totals _____ (A) _____ (B)	410 (B)
	15 =	Total Cover		Prevalence Index = B/A =	4.10
<u>Herb Stratum</u> (Plot Size: _____ 5' _____)				<b>Hydrophytic Vegetation Indicators:</b>	
	Absolute % Cover	Dominant Species	Indicator Staus		
1 <i>Dactylis glomerata</i>	35	Yes	FACU	_____ 1 - Rapid test for hydrophytic vegetation	
2 <i>Setaria italica</i>	30	Yes	UPL	_____ 2 - Dominance test is >50%	
3 <i>Trifolium pratense</i>	15	No	FACU	_____ 3 - Prevalence index is ≤3.0*	
4 <i>Rumex crispus</i>	10	No	FAC	_____ 4 - Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
5 <i>Lepidium latifolium</i>	10	No	FAC	_____ 5 - Problematic hydrophytic vegetation* (explain)	
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
	100 =	Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
<u>Woody Vine Stratum</u> (Plot Size: _____ 30' _____)				<b>Definitions of Vegetation Strata:</b>	
	Absolute % Cover	Dominant Species	Indicator Staus		
1 _____	_____	_____	_____	<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2 _____	_____	_____	_____	<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3 _____	_____	_____	_____	<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
4 _____	_____	_____	_____	<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
	0 =	Total Cover			
Remarks: (Include photo numbers here or on a separate sheet)				<b>Hydrophytic vegetation present?</b> Yes _____ No <u>X</u>	

**SOIL**

**Sampling Point:** Up2-T1-CS610

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12"	10YR 4/4	100					silt	

\*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

**Indicators for Problematic Hydric Soils:**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Histisol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)                |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (TF2)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> Yes _____ No <u>X</u>
--	---

Remarks:

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Compressor Station 610 City/County: Columbia County Sampling Date: 04/12/2019  
 Applicant/Owner: Transcontinental Gas Pipe Line Company, LLC State: PA Sampling Point Up3-T1-CS610  
 Investigator(s): JH, CG Section, Township, Range: Orange Township  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 3-5%  
 Subregion (LRR or MLRA): LRR R Lat.: 41.108123 Long.: -76.45084 Datum: NAD 83  
 Soil Map Unit Name: Hartleton channery silt loam (HhB2) NWI Classification: None  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No        (If no, explain in remarks)  
 Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal circumstances" present? Yes        No X  
 Are vegetation N, soil N, or hydrology N 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? <u>No</u> Hydric soil present? <u>No</u> Wetland hydrology present? <u>No</u>	<b>Is the sampled area within a wetland?</b> Yes <u>      </u> No <u>X</u>
Remarks:	

**HYDROLOGY**

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>      </u> No <u>X</u> Depth (inches): <u>      </u> Water table present? Yes <u>      </u> No <u>X</u> Depth (inches): <u>      </u> Saturation present? Yes <u>      </u> No <u>X</u> Depth (inches): <u>      </u> (includes capillary fringe)	<b>Wetland hydrology present?</b> Yes <u>      </u> No <u>X</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION** - Use scientific names of plants

**Sampling Point:** Up3-T1-CS610

<u>Tree Stratum</u> (Plot Size: _____ 30' _____)			
	Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
	<u>0</u> =	Total Cover	

<u>Sapling/Shrub Stratum</u> (Plot Size: _____ 15' _____)			
	Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
	<u>0</u> =	Total Cover	

<u>Herb Stratum</u> (Plot Size: _____ 5' _____)			
	Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____
	<u>0</u> =	Total Cover	

<u>Woody Vine Stratum</u> (Plot Size: _____ 30' _____)			
	Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
	<u>0</u> =	Total Cover	

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column totals \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

\_\_\_ 1 - Rapid test for hydrophytic vegetation

\_\_\_ 2 - Dominance test is >50%

\_\_\_ 3 - Prevalence index is ≤3.0\*

\_\_\_ 4 - Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)

\_\_\_ 5 - Problematic hydrophytic vegetation\* (explain)

\*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** - All woody vines greater than 3.28 ft in height.

**Hydrophytic vegetation present?** Yes \_\_\_\_\_ No X

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

**Sampling Point:** Up3-T1-CS610

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12"	10YR 4/3	100					gravelly silt	

\*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

**Indicators for Problematic Hydric Soils:**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Histisol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)                |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (TF2)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> Yes _____ No <u>X</u>
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Remarks:

**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site: Compressor Station 610 City/County: Columbia County Sampling Date: 04/12/2019  
 Applicant/Owner: Transcontinental Gas Pipe Line Company, LLC State: PA Sampling Point Up4-T1-CS610  
 Investigator(s): JH, CG Section, Township, Range: Orange Township  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Convex Slope (%): 5-10%  
 Subregion (LRR or MLRA): LRR R Lat.: 41.108216 Long.: -76.447816 Datum: NAD 83  
 Soil Map Unit Name: Watson silt loam (WbB2) NWI Classification: None  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No      (If no, explain in remarks)  
 Are vegetation N, soil N, or hydrology N significantly disturbed? Are "normal circumstances" present? Yes X No       
 Are vegetation N, soil N, or hydrology N 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? <u>No</u> Hydric soil present? <u>No</u> Wetland hydrology present? <u>No</u>	<b>Is the sampled area within a wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks:	

**HYDROLOGY**

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface water present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water table present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland hydrology present?</b> Yes <u>    </u> No <u>X</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION** - Use scientific names of plants

**Sampling Point:** Up4-T1-CS610

Tree Stratum (Plot Size: _____ 30' _____)		Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____
4	_____	_____	_____	_____
5	_____	_____	_____	_____
6	_____	_____	_____	_____
7	_____	_____	_____	_____
		<u>0</u>	= Total Cover	

Sapling/Shrub Stratum (Plot Size: _____ 15' _____)		Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____
4	_____	_____	_____	_____
5	_____	_____	_____	_____
6	_____	_____	_____	_____
7	_____	_____	_____	_____
		<u>0</u>	= Total Cover	

Herb Stratum (Plot Size: _____ 5' _____)		Absolute % Cover	Dominant Species	Indicator Staus
1	<i>Dactylis glomerata</i>	80	Yes	FACU
2	<i>Taraxacum officinale</i>	10	No	FACU
3	<i>Trifolium pratense</i>	5	No	FACU
4	<i>Plantago lanceolata</i>	5	No	UPL
5	_____	_____	_____	_____
6	_____	_____	_____	_____
7	_____	_____	_____	_____
8	_____	_____	_____	_____
		<u>100</u>	= Total Cover	

Woody Vine Stratum (Plot Size: _____ 30' _____)		Absolute % Cover	Dominant Species	Indicator Staus
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____
4	_____	_____	_____	_____
		<u>0</u>	= Total Cover	

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species 95 x 4 = 380

UPL species 5 x 5 = 25

Column totals 100 (A) 405 (B)

Prevalence Index = B/A = 4.05

**Hydrophytic Vegetation Indicators:**

- 1 - Rapid test for hydrophytic vegetation
- 2 - Dominance test is >50%
- 3 - Prevalence index is ≤3.0\*
- 4 - Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)
- 5 - Problematic hydrophytic vegetation\* (explain)

\*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** - All woody vines greater than 3.28 ft in height.

**Hydrophytic vegetation present?**

Yes \_\_\_\_\_ No X

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

**Sampling Point:** Up4-T1-CS610

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8"	10YR 4/4	100					silt	
8-12"	10YR 5/4	100					silt	

\*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

**Indicators for Problematic Hydric Soils:**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Histisol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)                |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (TF2)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> Yes _____ No <u>X</u>
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Remarks: