



**Photograph 57. Stream S021, Downstream, Facing North**



**Photograph 58. Stream S021, Upstream, Facing South**





**Photograph 59. Stream S022, Upstream, Facing Northeast**



**Photograph 60. Stream S022, Downstream, Facing Southwest**





**Photograph Stream 61. S023, Downstream, Facing South**



**Photograph 62. Stream S023, Upstream, Facing North**





**Photograph 63. Stream S024, Upstream, Facing Northwest**



**Photograph 64. Stream S024, Downstream, Facing Southeast**





**Photograph 65. Stream S025, Upstream, Facing Southwest**



**Photograph 66. Stream S025, Downstream, Facing Northeast**





**Photograph 67. Stream S026, Upstream, Facing West**



**Photograph 68. Stream S026, Downstream, Facing Southeast**





**Photograph 69. Stream S027, Upstream, Facing North**



**Photograph 70. Stream S027, Downstream, Facing South**





**Photograph 71. Stream S028, Upstream, Facing Northwest**



**Photograph 72. Stream S028, Downstream, Facing Southeast**





**Photograph 73. Stream S029, Upstream, Facing Northwest**



**Photograph 74. Stream S029, Downstream, Facing Southeast**



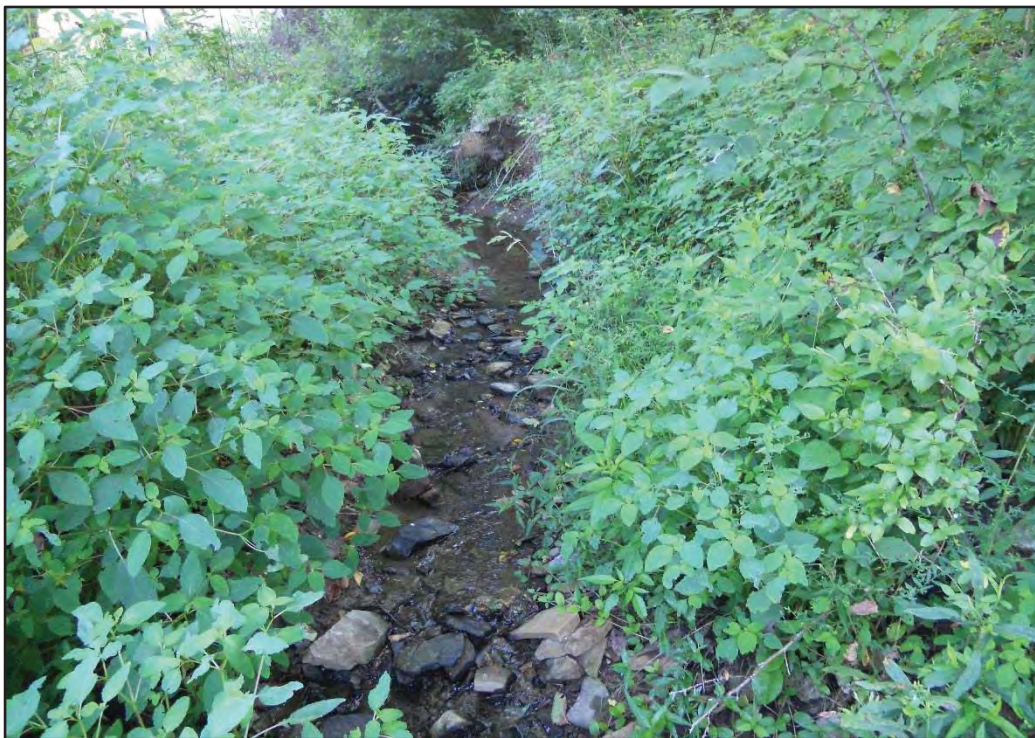


**Photograph 75. Stream S030, Upstream, Facing North**



**Photograph 76. Stream S030, Downstream, Facing South**





**Photograph 77. Stream S031, Upstream, Facing North**



**Photograph 78. Stream S031, Downstream, Facing South**





**Photograph 79. Stream S032, Upstream, Facing Northwest**



**Photograph 80. Stream S032, Downstream, Facing Southeast**





**Photograph 81. Stream S033, Upstream, Facing Northeast**



**Photograph 82. Stream S033, Downstream, Facing Southwest**





**Photograph 83. Stream S034, Upstream, Facing Northeast**



**Photograph 84. Stream S034, Downstream, Facing Southwest**





**Photograph 85. Stream S035, Upstream, Facing Northeast**



**Photograph 86. Stream S035, Downstream, Facing Southwest**





**Photograph 87. Stream S036, Upstream, Facing Northeast**



**Photograph 88. Stream S036, Downstream, Facing Southwest**





**Photograph 89. Stream S037, Upstream, Facing North**



**Photograph 90. Stream S037, Downstream, Facing South**





**Photograph 91. Representative upland habitat, Facing Southeast**



**Photograph 92. Representative upland habitat, Facing North**





**Photograph 93 Representative upland habitat, Facing Northwest**



**Photograph 94. Representative upland habitat, Facing Northwest**



## **APPENDIX B**

### **Wetland Determination Data Forms**



# WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Ross - Granger City/County: Ross Co. Sampling Date: 5/23/2017  
 Applicant/Owner: AEP State: OH Sampling Point: W001-PEM-CAT1  
 Investigator(s): KLV, RJM Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): Dip Local relief (concave, convex, none): concave Slope (%) 01  
 Subregion (LRR or MLRA): LRR Lat: 39.313390 Long: -82.875293 Datum: NAD 83  
 Soil Map Unit Name: RbB - Rainsboro silt loam, 2-6% 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 NO, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation NO, Soil Y, or Hydrology Y 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			

### Remarks:

Wetland Data point for W001-PEM-CAT1.  
 Data point taken in fenced pasture under transmission right-of-way.

## HYDROLOGY

### Wetland Hydrology Indicators:

#### Primary Indicators (minimum of one is required, check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Iron Deposits (B5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	

### Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Microtopographic Relief (D4)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

### Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

### Remarks:

Wetland hydrology Indicators are C3, D2, and D5.



Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
7.				
		<u>0</u>	= Total Cover	

Sapling/Shrub Stratum	(Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u>0</u>	= Total Cover	

Herb Stratum	(Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>		<u>5</u>	<u>y</u>	<u>Facw</u>
2. <u>Carex lurida</u>		<u>10</u>	<u>y</u>	<u>Obl</u>
3. <u>Pennisetum maculosa</u>		<u>3</u>	<u>y</u>	<u>Facw</u>
4. <u>Onoclea sensibilis</u>		<u>5</u>	<u>y</u>	<u>Facw</u>
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>25</u>	= Total Cover	

Woody Vine Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
		<u>0</u>	= Total Cover	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
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<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter.

**Sapling/Shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 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 ☐

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

Hydrophytic veg. is present. - passes the dominance test.



Sampling Point: W00L-PEM-CAT1

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Histosol (A1)                                   | <input type="checkbox"/> Dark Surface (S7)                             | <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)                |
| <input type="checkbox"/> Histic Epipedon (A2)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)  | <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148) |
| <input type="checkbox"/> Black Histic (A3)                               | <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)        | <input type="checkbox"/> Piedmont Floodplain Soils (F19)           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                           | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                      | <input type="checkbox"/> (MLRA 136, 147)                           |
| <input type="checkbox"/> Stratified Layers (A5)                          | <input checked="" type="checkbox"/> Depleted Matrix (F3)               | <input type="checkbox"/> Very Shallow Dark Surface (TF12)          |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR N)                         | <input type="checkbox"/> Redox Dark Surface (F6)                       | <input type="checkbox"/> Other (Explain in Remarks)                |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)               | <input type="checkbox"/> Depleted Dark Surface (F7)                    |  |
| <input type="checkbox"/> Thick Dark Surface (A12)                        | <input type="checkbox"/> Redox Depressions (F8)                        |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) |  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                        | <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)          |  |
| <input type="checkbox"/> Sandy Redox (S5)                                | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)    |  |
| <input type="checkbox"/> Stripped Matrix (S6)                            | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)     |  |

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric  
Soil Present? Yes ☒ No

Meets F3.



# WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Ross-Ginger City/County: ROSS Co. Sampling Date: 5/18/2017  
 Applicant/Owner: AEP State: OH Sampling Point: W002-PEM-CAT1  
 Investigator(s): KLV, RJM Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): Dip Local relief (concave, convex, none): concave Slope (%) 0.1  
 Subregion (LRR or MLRA): LRR N Lat: 39.313469 Long: -82.825741 Datum: NAD 83  
 Soil Map Unit Name: RbB - Bainsboro silt loam, 2 to 6' 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 no, Soil no, or Hydrology no significantly disturbed?

Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation no, Soil no, or Hydrology no 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:

Wetland data point for W002-PEM-CAT1 (PEM).  
 Data taken at edge of maintained transmission right-of-way.

## HYDROLOGY

### Wetland Hydrology Indicators:

#### Primary Indicators (minimum of one is required, check all that apply)

☐ Surface Water (A1) ☐ True Aquatic Plants (B14)  
☐ High Water Table (A2) ☐ Hydrogen Sulfide Odor (C1)  
☐ Saturation (A3) ☒ Oxidized Rhizospheres on Living Roots (C3)  
☐ 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)  
☐ Aquatic Fauna (B13)

#### 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)

### 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)

Wetland Hydrology Present? Yes ☒ No ☐

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

### Remarks:

Wetland Hydrology Indicators are C3, D2 and D5.



Tree Stratum		(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>none</u>				
2					
3					
4					
5					
6					
7					
			<u>0</u>	= Total Cover	

Sapling/Shrub Stratum		(Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>Sambus nigra</u>		<u>10</u>	<u>Y</u>	<u>FAC</u>
2					
3					
4					
5					
6					
7					
8					
9					
10					
			<u>10</u>	= Total Cover	

Herb Stratum		(Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>Juncus tenuis</u>		<u>25</u>	<u>Y</u>	<u>FACW</u>
2	<u>Onoclea sensibilis</u>		<u>15</u>	<u>N</u>	<u>FACW</u>
3	<u>Impatiens capensis</u>		<u>15</u>	<u>N</u>	<u>FACW</u>
4	<u>Dichanthelium glaberrimum</u>		<u>20</u>	<u>Y</u>	<u>FAC</u>
5	<u>Verbena hastata</u>		<u>5</u>	<u>N</u>	<u>FACW</u>
6					
7					
8					
9					
10					
11					
12					
			<u>80</u>	= Total Cover	

Woody Vine Stratum		(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>none</u>				
2					
3					
4					
5					
6					
			<u>0</u>	= Total Cover	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
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<sup>1</sup>
  - ☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter.

**Sapling/Shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 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 ☐

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

Hydrophytic veg is present - passes the dominance test.



## SOIL

Sampling Point: W002-PEM-CAT1

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

[illegible]

<sup>1</sup>Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Histosol (A1)                                  | <input type="checkbox"/> Dark Surface (S7)                             | <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)                |
| <input type="checkbox"/> Histic Epipedon (A2)                           | <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)  | <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148) |
| <input type="checkbox"/> Black Histic (A3)                              | <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)        | <input type="checkbox"/> Piedmont Floodplain Soils (F19)           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                          | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                      | <input type="checkbox"/> (MLRA 136, 147)                           |
| <input type="checkbox"/> Stratified Layers (A5)                         | <input checked="" type="checkbox"/> Depleted Matrix (F3)               | <input type="checkbox"/> Very Shallow Dark Surface (TF12)          |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR N)                        | <input type="checkbox"/> Redox Dark Surface (F6)                       | <input type="checkbox"/> Other (Explain in Remarks)                |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)              | <input type="checkbox"/> Depleted Dark Surface (F7)                    |  |
| <input type="checkbox"/> Thick Dark Surface (A12)                       | <input type="checkbox"/> Redox Depressions (F8)                        |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) |  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                       | <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)          |  |
| <input type="checkbox"/> Sandy Redox (S5)                               | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)    |  |
| <input type="checkbox"/> Stripped Matrix (S6)                           | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)     |  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

## Hydric

### Soil Present?

**Yes**

**No**

**Soil Description Remarks:**

Meets F3.



# WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Ross-Ginger City/County: Boss Co. Sampling Date: 5/18/2017  
 Applicant/Owner: AEP State: OH Sampling Point: W002-PEM-CAT1-UPL  
 Investigator(s): KLV, RJM Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%) 01  
 Subregion (LRR or MLRA): LRR N Lat 39.3/33.84 Long: -82.875755 Datum: NAD83  
 Soil Map Unit Name: BbB - Rainsboro silt loam, 2 to 7' 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 no, Soil no, or Hydrology no significantly disturbed?

Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation no, Soil no, or Hydrology no 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:

Upland data point for W001-PEM-CAT1 and W002-PEM-CAT1.  
 Data point taken in maintained transmission right-of-way.

## HYDROLOGY

### Wetland Hydrology Indicators:

#### Primary Indicators (minimum of one is required, check all that apply)

☐ Surface Water (A1) ☐ True Aquatic Plants (B14)  
☐ High Water Table (A2) ☐ Hydrogen Sulfide Odor (C1)  
☐ Saturation (A3) ☐ Oxidized Rhizospheres on Living Roots (C3)  
☐ 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)  
☐ Aquatic Fauna (B13)

### 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)

### 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)

Wetland Hydrology Present? Yes ☐ No ☒

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

### Remarks:

Wetland Hydrology Indicators are not present.



Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
7.				
		<u>0</u>	= Total Cover	

Sapling/Shrub Stratum	(Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rubus allegheniensis</u>		<u>15</u>	<u>Y</u>	<u>FacU</u>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u>15</u>	= Total Cover	

Herb Stratum	(Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Oxalis stricta</u>		<u>15</u>	<u>Y</u>	<u>FacU</u>
2. <u>Achillea millefolium</u>		<u>20</u>	<u>Y</u>	<u>FacU</u>
3. <u>Leucanthemum vulgare</u>		<u>15</u>	<u>Y</u>	<u>UPL</u>
4. <u>Epilobium coloratum</u>		<u>10</u>	<u>N</u>	<u>FacW</u>
5. <u>Oxalis sensibilis</u>		<u>5</u>	<u>N</u>	<u>FacW</u>
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>65</u>	= Total Cover	

Woody Vine Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
		<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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

Total % Cover of	Multiply by:
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<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter.

**Sapling/Shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 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 ☒

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

Upland veg is dominant.



## SOIL

Sampling Point: W002-PEM-CAT1-UPU

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

[illegible]<sup>1</sup>Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

- |  |   |
|--|---|
| ___ Histosol (A1)                                  | ___ Dark Surface (S7)                             |
| ___ Histic Epipedon (A2)                           | ___ Polyvalue Below Surface (S8) (MLRA 147, 148)  |
| ___ Black Histic (A3)                              | ___ Thin Dark Surface (S9) (MLRA 147, 148)        |
| ___ Hydrogen Sulfide (A4)                          | ___ Loamy Gleyed Matrix (F2)                      |
| ___ Stratified Layers (A5)                         | ___ Depleted Matrix (F3)                          |
| ___ 2 cm Muck (A10) (LRR N)                        | ___ Redox Dark Surface (F6)                       |
| ___ Depleted Below Dark Surface (A11)              | ___ Depleted Dark Surface (F7)                    |
| ___ Thick Dark Surface (A12)                       | ___ Redox Depressions (F8)                        |
| ___ Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148) | ___ Iron-Manganese Masses (F12) (LRR N, 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)     |

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 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)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

## Hydric

### Soil Present?

**Yes**

No

✓

**Soil Description Remarks:**

Hydric Soil Indicators are not present



## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Ross Ginger City/County: Ross Co. Sampling Date: 8/1/2017  
 Applicant/Owner: ATP State: OH Sampling Point: W003-PEM-CAT1  
 Investigator(s): KLV Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): Dip Local relief (concave, convex, none): concave Slope (%) 0%  
 Subregion (LRR or MLRA): LRR Lat: 39.32435504 Long: -82.90020856 Datum: NAD 83  
 Soil Map Unit Name: MgA-Mentor silt loam, 0 to 2 ft. Slopes NWI classification: N/A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation no, Soil no, or Hydrology no 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

Remarks: Wetland data point for W003-PEM-CAT1 (PEM)  
Data point taken in maintained transmission Row and in a active fenced pasture.

## HYDROLOGY

## Wetland Hydrology Indicators:

## Primary Indicators (minimum of one is required, check all that apply)

<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Iron Deposits (B5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	

## Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Microtopographic Relief (D4)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

## Field Observations:

Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>2"</u>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>0</u>
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>0</u>

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: Wetland Hydrology Indicators are A1, A3, C3, D2 and D5.



Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		

Sapling/Shrub Stratum	(Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		= Total Cover		

Herb Stratum	(Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>		<u>20</u>	<u>V</u>	<u>FACW</u>
2. <u>Typha x glauca</u>		<u>20</u>	<u>V</u>	<u>OBL</u>
3. <u>Scirpus atrovirens</u>		<u>10</u>	<u>N</u>	<u>OBL</u>
4. <u>Impatiens capensis</u>		<u>15</u>	<u>N</u>	<u>FACW</u>
5. <u>Carex lurida</u>		<u>15</u>	<u>N</u>	<u>OBL</u>
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		= Total Cover		

Woody Vine Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
		= Total Cover		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
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<sup>1</sup>

☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter.

**Sapling/Shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 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 ☐

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

Hydrophytic veg is present - passes the rapid test and dominance test.



## SOIL

Sampling Point: W003-PEM-CAT1

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

[illegible]

<sup>1</sup>Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

- \_\_\_\_\_ Histosol (A1)
- \_\_\_\_\_ Histic Epipedon (A2)
- \_\_\_\_\_ Black Histic (A3)
- \_\_\_\_\_ Hydrogen Sulfide (A4)
- \_\_\_\_\_ Stratified Layers (A5)
- \_\_\_\_\_ 2 cm Muck (A10) **(LRR N)**
- \_\_\_\_\_ Depleted Below Dark Surface (A11)
- \_\_\_\_\_ Thick Dark Surface (A12)
- \_\_\_\_\_ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147,148)**
- \_\_\_\_\_ Sandy Gleyed Matrix (S4)
- \_\_\_\_\_ Sandy Redox (S5)
- \_\_\_\_\_ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☒ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

## Hydric

### Soil Present?

**Yes**

**No**

Soil Description Remarks:

Meets F3.







## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Boss Ginger City/County: Boss Co. Sampling Date: 8/1/2017  
 Applicant/Owner: AEP State: OH Sampling Point: W003-PEM-CATI-UPL  
 Investigator(s): KLV Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%) 0/  
 Subregion (LRR or MLRA): LRR Lat: 39.3243627 Long: -82.90000868 Datum: NAD 83  
 Soil Map Unit Name: MgA-Mentor Silty loam, 0 to 2.1 Slopes NWI classification: N/A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation no, Soil no, or Hydrology no 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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

## Remarks:

Upland data point for W003-PEM-CATI.  
 Data point taken in maintained transmission ROW and fenced pasture active.

## HYDROLOGY

## Wetland Hydrology Indicators:

## Primary Indicators (minimum of one is required, check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Iron Deposits (B5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	

## Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> FAC-Neutral Test (D5)

## Field Observations:

Surface Water Present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <input type="text"/>
Water Table Present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <input type="text"/>
Saturation Present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <input type="text"/>

(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☐

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

## Remarks:

Wetland Hydrology Indicators are not present.



Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
7.				
		<u>0</u>	= Total Cover	

Sapling/Shrub Stratum	(Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u>0</u>	= Total Cover	

Herb Stratum	(Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dactylis glomerata</u>		<u>35</u>	<u>Y</u>	<u>FACU</u>
2. <u>Plantago major</u>		<u>5</u>	<u>N</u>	<u>FACU</u>
3. <u>Trifolium pratense</u>		<u>10</u>	<u>N</u>	<u>FACU</u>
4. <u>Achillea millefolium</u>		<u>10</u>	<u>N</u>	<u>FACU</u>
5. <u>Vernonia gigantea</u>		<u>5</u>	<u>N</u>	<u>FACU</u>
6. <u>Glechoma hederacea</u>		<u>15</u>	<u>N</u>	<u>FACU</u>
7.				
8.				
9.				
10.				
11.				
12.				
		<u>80</u>	= Total Cover	

Woody Vine Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
		<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 (A/B)

## Prevalence Index worksheet:

Total % Cover of:	Multiply by:
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<sup>1</sup>
- \_\_\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

## Definitions of Vegetation Strata:

**Tree** - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter**Sapling/Shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 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 ☒

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

Upland veg is dominant.



Sampling Point: W003-PEM-CATI-UP

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)   | <input type="checkbox"/> Dark Surface (S7)                                    | <input type="checkbox"/> 2 cm Muck (A10) <b>(MLRA 147)</b>                |
| <input type="checkbox"/> Histic Epipedon (A2)                                  | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(MLRA 147, 148)</b>  | <input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 147, 148)</b> |
| <input type="checkbox"/> Black Histic (A3)                                     | <input type="checkbox"/> Thin Dark Surface (S9) <b>(MLRA 147, 148)</b>        | <input type="checkbox"/> Piedmont Floodplain Soils (F19)                  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                             | <input type="checkbox"/> <b>(MLRA 136, 147)</b>                           |
| <input type="checkbox"/> Stratified Layers (A5)                                | <input type="checkbox"/> Depleted Matrix (F3)                                 | <input type="checkbox"/> Very Shallow Dark Surface (TF12)                 |
| <input type="checkbox"/> 2 cm Muck (A10) <b>(LRR N)</b>                        | <input type="checkbox"/> Redox Dark Surface (F6)                              | <input type="checkbox"/> Other (Explain in Remarks)                       |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)                     | <input type="checkbox"/> Depleted Dark Surface (F7)                           |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                              | <input type="checkbox"/> Redox Depressions (F8)                               |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR N, MLRA 147,148)</b> | <input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR N, MLRA 136)</b> |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                              | <input type="checkbox"/> Umbric Surface (F13) <b>(MLRA 136, 122)</b>          |   |
| <input type="checkbox"/> Sandy Redox (S5)                                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 148)</b>    |   |
| <input type="checkbox"/> Stripped Matrix (S6)                                  | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)            |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

## Soil Present?

**Yes**

No

Hydric Soils are not present.







# WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Boss Ginger City/County: Boss Co Sampling Date: 8/1/2017  
 Applicant/Owner: AFP State: OH Sampling Point: W004-PEM-CAT1  
 Investigator(s): KLV Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): Dip Local relief (concave, convex, none): Concave Slope (%) 01  
 Subregion (LRR or MLRA): LRR Lat: 39.32643283 Long: -82.90463142 Datum: NAD 83  
 Soil Map Unit Name: NeE2-Ne gley loam, 20 to 35% Slopes NWI classification: N/A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation no, Soil no, or Hydrology no 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			

Remarks: Wetland data point for W004-PEM-CAT1 (PEM)  
Data point taken in maintained transmission ROW.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required, check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>.50"</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>      </u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>      </u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

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

Remarks: Wetland hydrology Indicators are C3, D2 and D5.



Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
7.				
		<u>0</u>	= Total Cover	

Sapling/Shrub Stratum	(Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u>0</u>	= Total Cover	

Herb Stratum	(Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Impatiens capensis</u>		<u>30</u>	<u>Y</u>	<u>Fach</u>
2. <u>Juncus effusus</u>		<u>20</u>	<u>Y</u>	<u>Fach</u>
3. <u>Leersia oryzoides</u>		<u>15</u>	<u>N</u>	<u>Obl</u>
4. <u>Carex lurida</u>		<u>15</u>	<u>N</u>	<u>Obl</u>
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>80</u>	= Total Cover	

Woody Vine Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>				
2.				
3.				
4.				
5.				
6.				
		<u>0</u>	= Total Cover	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

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<sup>1</sup>

☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter.

**Sapling/Shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 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 ☐

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

Wetland veg is present - passes the dominance test



## SOIL

Sampling Point: W004-PEM-CAT1

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

[illegible]<sup>1</sup>Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

- \_\_\_\_\_ Histosol (A1)
- \_\_\_\_\_ Histic Epipedon (A2)
- \_\_\_\_\_ Black Histic (A3)
- \_\_\_\_\_ Hydrogen Sulfide (A4)
- \_\_\_\_\_ Stratified Layers (A5)
- \_\_\_\_\_ 2 cm Muck (A10) (**LRR N**)
- \_\_\_\_\_ Depleted Below Dark Surface (A11)
- \_\_\_\_\_ Thick Dark Surface (A12)
- \_\_\_\_\_ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147,148**)
- \_\_\_\_\_ Sandy Gleyed Matrix (S4)
- \_\_\_\_\_ Sandy Redox (S5)
- \_\_\_\_\_ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric		
Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

## Soil Description Remarks:

Mects F3..







# WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Ross-Ginger City/County: Ross Co. Sampling Date: 8/1/2017  
 Applicant/Owner: AEP State: OH Sampling Point: WO04-PEM-CATI-UPL  
 Investigator(s): KLV Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%):  
 Subregion (LRR or MLRA): LRR Lat: 39.32630143 Long: -82.90459128 Datum: NAD 83  
 Soil Map Unit Name: NCE2-Negley loam, 2.0 to 35% slopes NWI classification: N/A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation no, Soil no, or Hydrology no 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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks: <u>Upland data point for WO04-PEM-CATI.</u> <u>Data point taken at edge of maintained Transmission ROW</u>					

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one is required, check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: <u>Wetland hydrology Indicators are not present</u>			

Tree Stratum		(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Acer saccharum</u>		<u>30</u>	<u>Y</u>	<u>FACU</u>
2.					
3.					
4.					
5.					
6.					
7.					
			<u>30</u>	= Total Cover	

Sapling/Shrub Stratum		(Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Lindera benzoin</u>		<u>15</u>	<u>Y</u>	<u>FAC</u>
2.	<u>Rosa multiflora</u>		<u>15</u>	<u>Y</u>	<u>FACU</u>
3.	<u>Acer saccharum</u>		<u>10</u>	<u>Y</u>	<u>FACU</u>
4.					
5.					
6.					
7.					
8.					
9.					
10.					
			<u>40</u>	= Total Cover	

Herb Stratum		(Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Pilea pumila</u>		<u>15</u>	<u>Y</u>	<u>FACU</u>
2.	<u>Impatiens capensis</u>		<u>15</u>	<u>Y</u>	<u>FACU</u>
3.	<u>Alliaria petiolata</u>		<u>15</u>	<u>Y</u>	<u>FACU</u>
4.	<u>Polystichum acrostichoides</u>		<u>15</u>	<u>Y</u>	<u>FACU</u>
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
			<u>60</u>	= Total Cover	

Woody Vine Stratum		(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>none</u>				
2.					
3.					
4.					
5.					
6.					
			<u>0</u>	= Total Cover	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 37.5 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
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<sup>1</sup>
- \_\_\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter.

**Sapling/Shrub** - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 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 ✓

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

Upland veg is dominant



Sampling Point: W004-PEM-CATI-UPL

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)   | <input type="checkbox"/> Dark Surface (S7)                                      | <input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )                |
| <input type="checkbox"/> Histic Epipedon (A2)                                    | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )  | <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 147, 148</b> ) |
| <input type="checkbox"/> Black Histic (A3)                                       | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )        | <input type="checkbox"/> Piedmont Floodplain Soils (F19)                    |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                                   | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                               | <input type="checkbox"/> ( <b>MLRA 136, 147</b> )                           |
| <input type="checkbox"/> Stratified Layers (A5)                                  | <input type="checkbox"/> Depleted Matrix (F3)                                   | <input type="checkbox"/> Very Shallow Dark Surface (TF12)                   |
| <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )                        | <input type="checkbox"/> Redox Dark Surface (F6)                                | <input type="checkbox"/> Other (Explain in Remarks)                         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)                       | <input type="checkbox"/> Depleted Dark Surface (F7)                             |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                                | <input type="checkbox"/> Redox Depressions (F8)                                 |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N, MLRA 147,148</b> ) | <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N, MLRA 136</b> ) |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                                | <input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122</b> )          |   |
| <input type="checkbox"/> Sandy Redox (S5)  | <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148</b> )    |   |
| <input type="checkbox"/> Stripped Matrix (S6)                                    | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)              |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric		
Soil Present?	Yes	No <input checked="" type="checkbox"/>

## Soil Description Remarks:





# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Boss-Ginger City/County: Boss Co. Sampling Date: 8/3/2017  
 Applicant/Owner: AEP State: OH Sampling Point: W006-PEM-CAT1  
 Investigator(s): KLV Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): Dip Local relief (concave, convex, none): concave  
 Slope (%): 0.1 Lat: 39.3461194 Long: -82.94134491 Datum: NAD83  
 Soil Map Unit Name: NEF2-Negley loam, 20 to 35% slopes NWI classification: PUBGh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation no, Soil no, or Hydrology no 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: <u>Wetland data point for W006-PEM-CAT1 (PEM).</u> <u>Data point taken in residential property.</u>		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>none</u>				
2.				
3.				
4.				
5. <u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ 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 = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b> 1. <u>none</u> 2. 3. 4. 5.				
<b>Herb Stratum (Plot size: <u>5'</u>)</b> 1. <u>Typha x glauca</u> <u>25</u> <u>Y</u> <u>Obl</u> 2. <u>Leersia oryzoides</u> <u>35</u> <u>Y</u> <u>Obl</u> 3. <u>Scirpus atrovirens</u> <u>10</u> <u>N</u> <u>Obl</u> 4. <u>Eupatorium perfoliatum</u> <u>10</u> <u>N</u> <u>Obl</u> 5. 6. 7. 8. 9. 10.				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b> 1. <u>none</u> 2.				
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b> <u>Wetland veg is present- passes the rapid test and dominance test.</u>				

# SOIL

Sampling Point: W006-PEM-CAT7

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 <sup>1</sup>		
0-16	10YR 3/1	80	10YR 4/4	20		Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks: Mects F3.

# HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" 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"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>.50"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		

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

Remarks: Wetland hydrology indicators are A1, A3, C3, D2 and D5.



# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Boss Ginger City/County: Boss Co. Sampling Date: 8/3/2017  
 Applicant/Owner: AEP State: OH Sampling Point: W006-PEM-CAT1-UPL  
 Investigator(s): KLV Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none  
 Slope (%): 0.1 Lat: 39.3460499 Long: -82.94158612 Datum: NAD 83  
 Soil Map Unit Name: NcE2-Negky loam, 20 to 35% Slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation no, Soil no, or Hydrology no 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: <u>Upland data point for W006-PEM-CAT1.</u> <u>Data point taken in residential property.</u>		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
5. _____				
Sapling/Shrub Stratum (Plot size: <u>15'</u> ) <u>0</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0' ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
Herb Stratum (Plot size: <u>5'</u> ) <u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. <u>Pod pratensis</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Oxalis stricta</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Taraxacum officinale</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
Woody Vine Stratum (Plot size: <u>30'</u> ) <u>100</u> = Total Cover				
1. <u>none</u>				
2. _____				
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) <u>Upland veg is present.</u>				

# SOIL

Sampling Point: W006-FEM-CAT1-UPL

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 <sup>1</sup>		
0-K	10YR 4/3	100					Silt loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
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**Indicators for Problematic Hydric Soils<sup>3</sup>:**  
☐ Coast Prairie Redox (A16)  
☐ Dark Surface (S7)  
☐ Iron-Manganese Masses (F12)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks: Hydric Soils not present.

# HYDROLOGY

Wetland Hydrology Indicators:		
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"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <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"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)		

<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Wetland hydrology is not present.



# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Boss Ginger City/County: Boss Co. Sampling Date: 8/3/2017  
 Applicant/Owner: AEP State: OH Sampling Point: W007-PFO-CAT2  
 Investigator(s): KLV Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): Dip Local relief (concave, convex, none): concave  
 Slope (%): 01 Lat: 39.3486551 Long: -82.94868404 Datum: NAD83  
 Soil Map Unit Name: CNE-Cruze silt loam, 20 to 35% slopes NWI classification: PSS1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation no, Soil no, or Hydrology no 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Wetland data point for W007-PFO-CAT2 (PFO).</u> <u>Data point taken in NWI wetland.</u>			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Populus deltoides</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Platanus occidentalis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Acer saccharinum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>45</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ 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 = _____
1. <u>Lindera benzoin</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0' 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Microstegium vimineum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Impatiens capensis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Pilea pumila</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. <u>none</u>	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) <u>Wetland veg is dominant - passes the dominance test.</u>				

## SOIL

Sampling Point: W007-PF0-CAT2

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 <sup>1</sup>		
0-10	10YR 3/2	100					Silt loam
10-16	10YR 4/2	90	10YR 4/4	10	C	PL	Clay loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks: Meets F3.

## HYDROLOGY

Wetland Hydrology Indicators:		
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"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: wetland hydrology indicators are C3, D2, and D5



# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ross-Ginger City/County: Ross Co. Sampling Date: 8/3/2017  
 Applicant/Owner: AEP State: OH Sampling Point: W007-PF0-CAT2-UPL  
 Investigator(s): KLV Section, Township, Range: Springfield Twp.  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): convex  
 Slope (%): 15% Lat: 39.34848001 Long: -82.94867138 Datum: NAD83  
 Soil Map Unit Name: CwE-Cruze Silty loam, 20 to 35% slopes NWI classification: PSS1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: <u>Upland data point for W007-PF0-CAT2.</u> <u>Data point taken in forested area adjacent to transmission ROW</u>		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)
1. <u>Acer saccharum</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ 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 = _____
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0' ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				
1. <u>Lindera benzoin</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Lonicera morrowii</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )				
1. <u>Microstegium vimineum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	Remarks: (Include photo numbers here or on a separate sheet.) <u>Upland veg. is dominant.</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>15</u> = Total Cover				Woody Vine Stratum (Plot size: <u>30'</u> )
1. <u>Parthenocissus quinquefolia</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
<u>15</u> = Total Cover				

# SOIL

Sampling Point: W007-PF0-CATZ-UP

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 <sup>1</sup>		
0-16	10YR 3/2	100				Silt loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
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**Indicators for Problematic Hydric Soils<sup>3</sup>:**  
☐ Coast Prairie Redox (A16)  
☐ Dark Surface (S7)  
☐ Iron-Manganese Masses (F12)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

Remarks: Hydric Soils are not present.

# HYDROLOGY

Wetland Hydrology Indicators:		
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"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <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"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)		

<b>Field Observations:</b> Surface Water Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present?    Yes _____    No <input checked="" type="checkbox"/>
---	---

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

Remarks: Wetland hydrology is not present



## **APPENDIX C**

### **Primary Headwater Habitat Evaluation (HHEI) Data Forms**



# Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

40

SITE NAME/LOCATION APP-Ross-Ginger

SITE NUMBER

RIVER BASIN Scioto River

DRAINAGE AREA (mi<sup>2</sup>) 0.23

LENGTH OF STREAM REACH (ft) 745

LAT 39.32107849

LONG -82.8927815

RIVER CODE 05A00020503

DATE 7/31/2017

SCORER KLV

COMMENTS S 002

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL



NONE / NATURAL CHANNEL



RECOVERED



RECOVERING



RECENT OR NO RECOVERY

MODIFICATIONS:

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]		<input type="checkbox"/> SILT [3 pt]	<u>10</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>
<input type="checkbox"/> BEDROCK [16 pt]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>20</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>25</u>	<input type="checkbox"/> MUCK [0 pts]	
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>55</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of  
Bldr Slabs, Boulder, Cobble, Bedrock

20

(A)

15

(B)

5

HHEI  
Metric  
Points

Substrate  
Max = 40

20

A + B

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input checked="" type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

Pool Depth  
Max = 30

0

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	

Bankfull  
Width  
Max=30

20

COMMENTS

AVERAGE BANKFULL WIDTH (meters)

7'

This information must also be completed

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
<input checked="" type="checkbox"/> Wide >10m		<input type="checkbox"/> Mature Forest, Wetland	
<input checked="" type="checkbox"/> Moderate 5-10m		<input type="checkbox"/> Immature Forest, Shrub or Old Field	
<input type="checkbox"/> Narrow <5m		<input type="checkbox"/> Residential, Park, New Field	
<input type="checkbox"/> None		<input type="checkbox"/> Fenced Pasture	
		<input type="checkbox"/> Conservation Tillage	
		<input type="checkbox"/> Urban or Industrial	
		<input type="checkbox"/> Open Pasture, Row Crop	
		<input type="checkbox"/> Mining or Construction	

COMMENTS

- FLOW REGIME** (At Time of Evaluation) (Check ONLY one box)

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

- SINUOSITY** (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input checked="" type="checkbox"/> 3.0
		<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

☐ Flat (0.5 ft/100 ft)

☐ Flat to Moderate

☒ Moderate (2 ft/100 ft)

☐ Moderate to Severe

☐ Severe (10 ft/100 ft)



**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI Form)

**DOWNSTREAM DESIGNATED USE(S)**

☒ WWH Name: Lick Run Distance from Evaluated Stream 0.40 miles  
☐ CWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_  
☐ EWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION**

USGS Quadrangle Name: Chillicothe East & Londonderry NRCS Soil Map Page: \_\_\_\_\_ NRCS Soil Map Stream Order \_\_\_\_\_  
County: Ross Co. Township / City: Springfield Twp. / Chillicothe

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): Y Date of last precipitation: 7/29/2017 Quantity: <.25"  
Photograph Information: \_\_\_\_\_  
Elevated Turbidity? (Y/N): N Canopy (% open): 35%  
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: \_\_\_\_\_  
Field Measures: Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (µmhos/cm) \_\_\_\_\_  
Is the sampling reach representative of the stream (Y/N): Y If not, please explain: \_\_\_\_\_

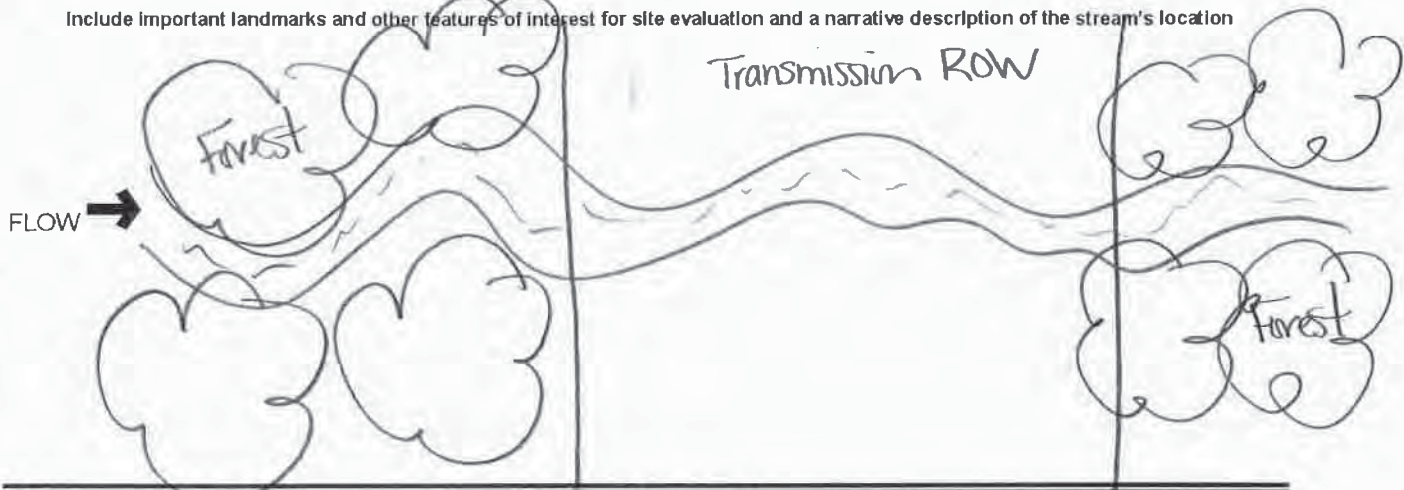
Additional comments/description of pollution impacts: \_\_\_\_\_  
\_\_\_\_\_

**BIOTIC EVALUATION**

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N  
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N  
Comments Regarding Biology: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





# Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

32

SITE NAME/LOCATION ATP - Ross ginger

SITE NUMBER

RIVER BASIN Susquehanna

DRAINAGE AREA (mi<sup>2</sup>) 0.044

LENGTH OF STREAM REACH (ft) 151

LAT 39.32409803

LONG -82.89977474

RIVER CODE 0500020503

RIVER MILE

DATE 8/1/2017

SCORER KLV

COMMENTS SOOY

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS:

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pt]	<u>15</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>20</u>
<input type="checkbox"/> BEDROCK [16 pt]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]		<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>15</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of  
Bldr Slabs, Boulder, Cobble, Bedrock

0 (A) 9

(B) 3

**HHEI  
Metric  
Points**

Substrate  
Max = 40

12

A + B

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

Pool Depth  
Max = 30

15

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

5

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	

Bankfull  
Width  
Max=30

5

COMMENTS

AVERAGE BANKFULL WIDTH (meters)

2'

This information must also be completed

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
<input type="checkbox"/> Wide >10m		<input type="checkbox"/> Mature Forest, Wetland	<input type="checkbox"/> Conservation Tillage
<input checked="" type="checkbox"/> Moderate 5-10m		<input type="checkbox"/> Immature Forest, Shrub or Old Field	<input type="checkbox"/> Urban or Industrial
<input type="checkbox"/> Narrow <5m		<input checked="" type="checkbox"/> Residential, Park, New Field	<input type="checkbox"/> Open Pasture, Row Crop
<input type="checkbox"/> None		<input checked="" type="checkbox"/> Fenced Pasture	<input type="checkbox"/> Mining or Construction

COMMENTS

- ☒ **FLOW REGIME** (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

**SINUOSITY** (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

☐ Flat (0.5 ft/100 ft) ☒ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)



**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI Form)

**DOWNSTREAM DESIGNATED USE(S)**

☒ WWH Name: Lick Run Distance from Evaluated Stream 0 miles  
☐ CWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_  
☐ EWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION**

USGS Quadrangle Name: Chillicothe East & Londonderry NRCS Soil Map Page: \_\_\_\_\_ NRCS Soil Map Stream Order \_\_\_\_\_  
County: Boss Co. Township / City: Springfield Twp. / Chillicothe

**MISCELLANEOUS**

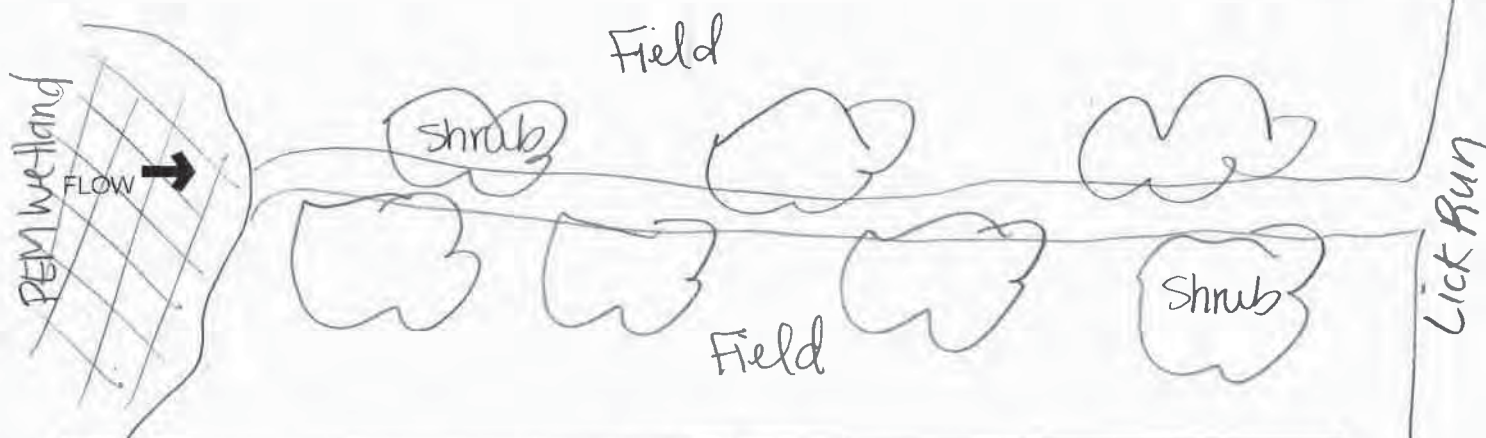
Base Flow Conditions? (Y/N): Y Date of last precipitation: 7/29/2017 Quantity: 4.25"  
Photograph Information: \_\_\_\_\_  
Elevated Turbidity? (Y/N): N Canopy (% open): 25%  
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id and attach results) Lab Number: \_\_\_\_\_  
Field Measures: Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (µmhos/cm) \_\_\_\_\_  
Is the sampling reach representative of the stream (Y/N): Y If not, please explain: \_\_\_\_\_  
Additional comments/description of pollution impacts: \_\_\_\_\_

**BIOTIC EVALUATION**

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  
Fish Observed? (Y/N): N Voucher? (Y/N): N Salamanders Observed? (Y/N): N Voucher? (Y/N): N  
Frogs or Tadpoles Observed? (Y/N): N Voucher? (Y/N): N Aquatic Macroinvertebrates Observed? (Y/N): N Voucher? (Y/N): N  
Comments Regarding Biology: \_\_\_\_\_

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





# Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

17

SITE NAME/LOCATION AEV - Kossinger

SITE NUMBER

RIVER BASIN Santa River

DRAINAGE AREA (mi<sup>2</sup>) 0.035

LENGTH OF STREAM REACH (ft) 64

LAT 39.32484766

LONG 82.90247924

RIVER CODE 050600020503

RIVER MILE

DATE 8/1/2017

SCORER KLV

COMMENTS SOOS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL



NONE / NATURAL CHANNEL



RECOVERED



RECOVERING



RECENT OR NO RECOVERY

MODIFICATIONS:

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check **ONLY** two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]		<input checked="" type="checkbox"/> SILT [3 pt]	<u>20</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]		<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>25</u>
<input type="checkbox"/> BEDROCK [16 pt]		<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]		<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>15</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> SAND (<2 mm) [6 pts]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

Total of Percentages of  
Blldr Slabs, Boulder, Cobble, Bedrock 0

(A)

9

(B)

3

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES:

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check **ONLY** one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check **ONLY** one box):

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	

COMMENTS

AVERAGE BANKFULL WIDTH (meters)

HHEI  
Metric  
Points

Substrate  
Max = 40

12

A + B

Pool Depth  
Max = 30

0

Bankfull  
Width  
Max=30

5

This information **must** also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS

- FLOW REGIME** (At Time of Evaluation) (Check **ONLY** one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

- SINUOSITY** (Number of bends per 61 m (200 ft) of channel) (Check **ONLY** one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

☐ Flat (0.5 ft/100 ft)

☐ Flat to Moderate

☒ Moderate (2 ft/100 ft)

☐ Moderate to Severe

☐ Severe (10 ft/100 ft)



**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI Form)

**DOWNSTREAM DESIGNATED USE(S)**

☒ WWH Name: Lick Run Distance from Evaluated Stream 0.17 miles  
☐ CWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_  
☐ EWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION**

USGS Quadrangle Name: Chillicothe East/Londonderry NRCS Soil Map Page: \_\_\_\_\_ NRCS Soil Map Stream Order \_\_\_\_\_  
County: Ross Co. Township / City: Springfield Twp. / Chillicothe

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): Y Date of last precipitation: 7/29/2017 Quantity: 4.25"

Photograph Information: \_\_\_\_\_

Elevated Turbidity? (Y/N): N Canopy (% open): 20%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: \_\_\_\_\_

Field Measures: Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (µmhos/cm) \_\_\_\_\_

Is the sampling reach representative of the stream (Y/N): Y If not, please explain: \_\_\_\_\_

Additional comments/description of pollution impacts: \_\_\_\_\_

**BIOTIC EVALUATION**

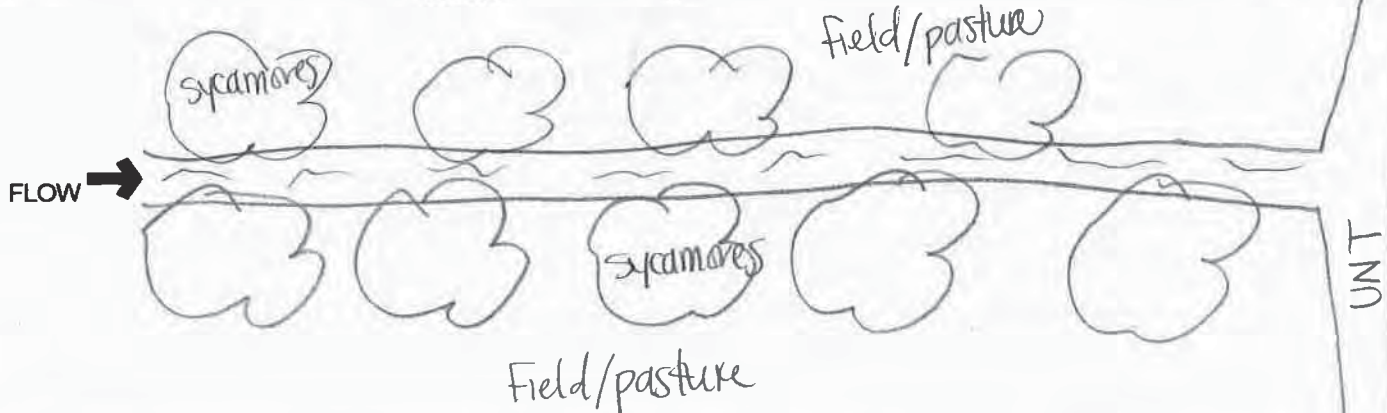
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N): N Voucher? (Y/N): N Salamanders Observed? (Y/N): N Voucher? (Y/N): N  
Frogs or Tadpoles Observed? (Y/N): N Voucher? (Y/N): N Aquatic Macroinvertebrates Observed? (Y/N): N Voucher? (Y/N): N

Comments Regarding Biology: \_\_\_\_\_

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**12/13/2017 5:09:26 PM**

**in**

**Case No(s). 17-0637-EL-BTX**

Summary: Application (4 of 5 Parts) electronically filed by Ms. Christen M. Blend on behalf of AEP Ohio Transmission Power Company, Inc.