

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Montague City/County: Shutesbury, Franklin County Sampling Date: 2022-Mar-31
 Applicant/Owner: W.D. Cows State: MA Sampling Point: W-MBF-10_PFO-3
 Investigator(s): Greg Russo, Molly Lennon Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 1 to 3
 Subregion (LRR or MLRA): LRR R Lat: 42.4772820902 Long: -72.4294742849 Datum: WGS84
 Soil Map Unit Name: 75B: Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony NWI classification: None
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point 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"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If yes, optional Wetland Site ID: W-MBF-10
Remarks: (Explain alternative procedures here or in a separate report)		
Covertyp is PFO. Area is wetland, all three wetland parameters are 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"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" 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 checked="" type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	
The criterion for wetland hydrology is met.	

VEGETATION -- Use scientific names of plants.

Sampling Point: W-MBF-10_PFO-3

	Absolute % Cover	Dominant Species?	Indicator Status																																																	
Tree Stratum (Plot size: <u>30 ft</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3</u> (A/B)																																																
1. <i>Tsuga canadensis</i>	40	Yes	FACU																																																	
2. _____	_____	_____	_____																																																	
3. _____	_____	_____	_____																																																	
4. _____	_____	_____	_____																																																	
5. _____	_____	_____	_____																																																	
6. _____	_____	_____	_____																																																	
7. _____	_____	_____	_____																																																	
			40 = Total Cover																																																	
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)																																																				
1. <i>Kalmia latifolia</i>	50	Yes	FACU	Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 10%; text-align: center;">Total % Cover of:</th> <th style="width: 10%;"></th> <th style="width: 10%; text-align: center;">Multiply By:</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">5</td> <td></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;">10</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">90</td> <td></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;">360</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>Column Totals</td> <td style="text-align: center;">95</td> <td></td> <td style="text-align: center;">(A)</td> <td style="text-align: center;">370</td> <td style="text-align: center;">(B)</td> </tr> <tr> <td colspan="6" style="text-align: center;">Prevalence Index = B/A = <u>3.9</u></td> </tr> </tbody> </table>		Total % Cover of:		Multiply By:			OBL species	0		x 1 =	0		FACW species	5		x 2 =	10		FAC species	0		x 3 =	0		FACU species	90		x 4 =	360		UPL species	0		x 5 =	0		Column Totals	95		(A)	370	(B)	Prevalence Index = B/A = <u>3.9</u>					
	Total % Cover of:		Multiply By:																																																	
OBL species	0		x 1 =		0																																															
FACW species	5		x 2 =		10																																															
FAC species	0		x 3 =		0																																															
FACU species	90		x 4 =		360																																															
UPL species	0		x 5 =		0																																															
Column Totals	95		(A)		370	(B)																																														
Prevalence Index = B/A = <u>3.9</u>																																																				
2. _____	_____	_____	_____																																																	
3. _____	_____	_____	_____																																																	
4. _____	_____	_____	_____																																																	
5. _____	_____	_____	_____																																																	
6. _____	_____	_____	_____																																																	
7. _____	_____	_____	_____																																																	
			50 = Total Cover																																																	
Herb Stratum (Plot size: <u>5 ft</u>)																																																				
1. <i>Osmundastrum cinnamomeum</i>	5	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1- Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																																
2. _____	_____	_____	_____																																																	
3. _____	_____	_____	_____																																																	
4. _____	_____	_____	_____																																																	
5. _____	_____	_____	_____																																																	
6. _____	_____	_____	_____																																																	
7. _____	_____	_____	_____																																																	
8. _____	_____	_____	_____																																																	
9. _____	_____	_____	_____																																																	
10. _____	_____	_____	_____																																																	
11. _____	_____	_____	_____																																																	
12. _____	_____	_____	_____																																																	
			5 = Total Cover																																																	
Woody Vine Stratum (Plot size: <u>30 ft</u>)																																																				
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>																																																
2. _____	_____	_____	_____																																																	
3. _____	_____	_____	_____																																																	
4. _____	_____	_____	_____																																																	
			0 = Total Cover																																																	

Remarks: (Include photo numbers here or on a separate sheet.)
 Dominance test is met as well. In MA *Tsuga canadensis* can be counted as FAC..

Hydrology Photos



Photo of Sample Plot
North



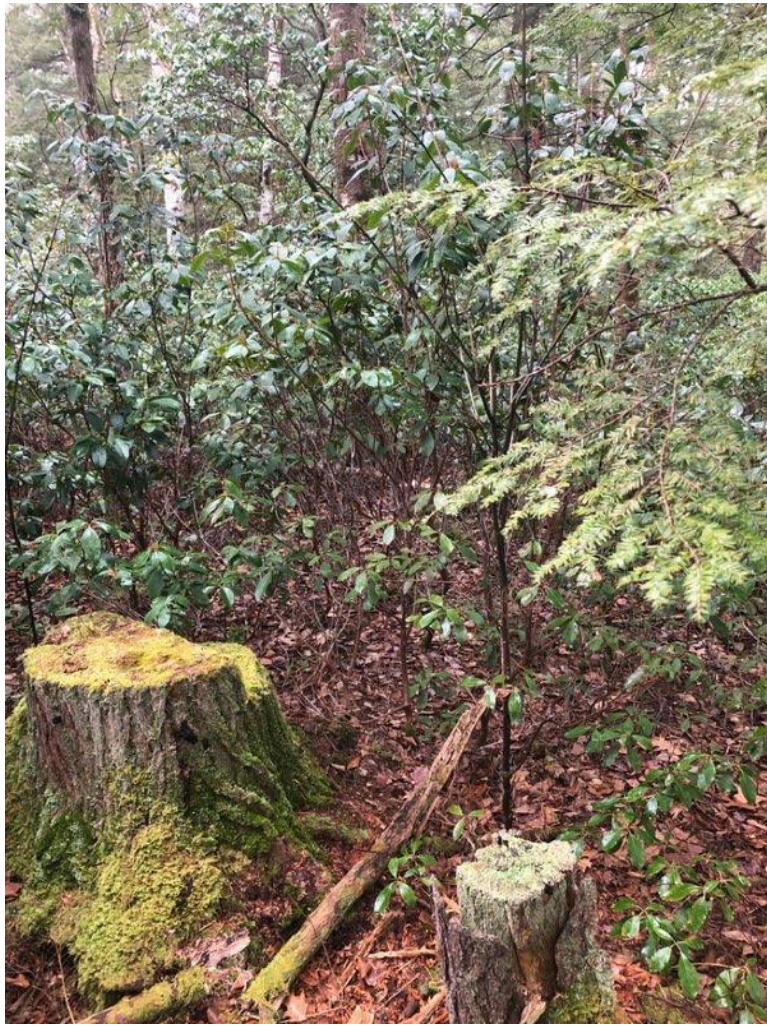
Photo of Sample Plot
East



Photo of Sample Plot
South



Photo of Sample Plot
West



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Montague City/County: Shutesbury, Franklin County Sampling Date: 2022-Mar-31
 Applicant/Owner: W.D. Cows State: MA Sampling Point: W-MBF-10_UPL-3
 Investigator(s): Greg Russo, Molly Lennon Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1 to 3
 Subregion (LRR or MLRA): LRR R Lat: 42.4773801584 Long: -72.4291390926 Datum: WGS84
 Soil Map Unit Name: 75B: Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony NWI classification: None
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Hydric Soil 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"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If yes, optional Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separate report)			
Covertypes is UPL. Area is upland, not all three wetland parameters are present.			

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <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 checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
(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:	
The criterion for wetland hydrology is not met.	

VEGETATION -- Use scientific names of plants.

Sampling Point: W-MBF-10_UPL-3

	Absolute % Cover	Dominant Species?	Indicator Status																																									
Tree Stratum (Plot size: 30 ft)				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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																																								
1. <i>Tsuga canadensis</i>	40	Yes	FACU																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
40 = Total Cover																																												
Sapling/Shrub Stratum (Plot size: 15 ft)																																												
1. <i>Pinus strobus</i>	25	Yes	FACU	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply By:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">90</td> <td></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;">360</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Column Totals</td> <td style="text-align: center;">90</td> <td></td> <td style="text-align: center;">(A)</td> <td style="text-align: center;">360 (B)</td> </tr> <tr> <td colspan="4" style="text-align: right;">Prevalence Index = B/A =</td> <td style="text-align: center;"><u>4</u></td> </tr> </tbody> </table> Hydrophytic Vegetation Indicators: ___ 1- Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is > 50% ___ 3 - Prevalence Index is ≤ 3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		Total % Cover of:		Multiply By:		OBL species	0		x 1 =	0	FACW species	0		x 2 =	0	FAC species	0		x 3 =	0	FACU species	90		x 4 =	360	UPL species	0		x 5 =	0	Column Totals	90		(A)	360 (B)	Prevalence Index = B/A =				<u>4</u>
	Total % Cover of:		Multiply By:																																									
OBL species	0		x 1 =		0																																							
FACW species	0		x 2 =		0																																							
FAC species	0		x 3 =		0																																							
FACU species	90		x 4 =		360																																							
UPL species	0		x 5 =		0																																							
Column Totals	90		(A)		360 (B)																																							
Prevalence Index = B/A =					<u>4</u>																																							
2. <i>Kalmia latifolia</i>	15	Yes	FACU																																									
3. <i>Tsuga canadensis</i>	10	Yes	FACU																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
50 = Total Cover																																												
Herb Stratum (Plot size: 5 ft)																																												
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
8. _____	_____	_____	_____																																									
9. _____	_____	_____	_____																																									
10. _____	_____	_____	_____																																									
11. _____	_____	_____	_____																																									
12. _____	_____	_____	_____																																									
0 = Total Cover																																												
Woody Vine Stratum (Plot size: 30 ft)																																												
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
0 = Total Cover																																												
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 <input checked="" type="checkbox"/>																																												
Remarks: (Include photo numbers here or on a separate sheet.) No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC- or drier).																																												

SOIL

Sampling Point: W-MBF-10_UPL-3

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 ¹	Loc ²		
0 - 2	10YR 2/2	100					Org matter Loam	
2 - 4	10YR 4/1	100					Sandy Clay Loam	
4 - 6	2.5YR 3/4	100					Silty Clay Loam	
6 - 16	2.5Y 6/4	100					Silty Clay Loam	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)	

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

Restrictive Layer (if observed):		Hydric Soil Present?	Yes ___ No <input checked="" type="checkbox"/>
Type:	Rock		
Depth (inches):	16		

Remarks:
 No positive indication of hydric soils was observed.

Photo of Sample Plot
North



Photo of Sample Plot
East



Photo of Sample Plot
South



Photo of Sample Plot
West

