

July 05, 2021

Jeff Randolph Managing Partner Bluecup Ventures, LLC. 20 Cedar Woods Lane Fairfield, CT 06825

Sent Via Email 07/05/21

RE: Bluecup Ventures- Wilkes Barre Site
Aquatic Resource Delineation Report
Laurel Run and Wilkes Barre Townships, Luzerne County, Pennsylvania

Thompson Environmental Surveys & Permitting, LLC. (TES&P) has completed an aquatic resource delineation for Bluecup Ventures, LLC. (Bluecup) at the proposed Wilkes Barre Development Site (hereto referred to as the Project). The following report summarizes the results of this investigation.

BACKGROUND

The proposed Project will entail the proposed development of a significantly disturbed reclaimed mine site for commercial use. The existing site consists of a historic mining site containing small wooded/shrubby lots with steep topography and non-vegetated areas which have been historically graded and used for subsurface mining, and fill/coal material storage. The Project area commonly had sparce vegetation containing big bluestem (*Andropogon gerardii*), Canada goldenrod (*Solidago cabadensis*), Japanese knotweed (*Reynoutria japonica*), and grey birch seedlings (*Betula populifolia*). The most common tree species observed were grey birch (Betula populifolia) and red oak (Quercus rubra). An approximately 96-acre aquatic resource study area (Study Area) for the investigation was determined based on a preliminary Site Plan (Plans) provided by Bluecup May 11, 2021.

The Project is located in Laurel Run and Wilkes Barre Townships, Luzerne County, Pennsylvania, it can be found on the United States Geological Survey (USGS) Wilkes Barre-East and Wilkes Barre-West, Pennsylvania 7.5-minute series topographical quadrangles (USGS, 2020) (Figure 1). The coordinates for the approximate Project center are 41.21868° and -75.87850°. Land cover within the Project area consists of forest and open land. Land use in the vicinity of the Project consists of surface mining, industrial, and primary and secondary roadways.

The Project area drains northwest to an un-named tributary (UNT) to Spring Run. Spring Run is a tributary to Solomon Creek, and these watercourses are located within the Upper Susquehanna River basin. Spring

Run and Solomon Creek have PA Code, Title 25, Chapter 93 designated protected aquatic life uses of Cold Water Fishes, Migratory Fishes (CWF, MF) (Commonwealth of PA, 2020a). The Pennsylvania Department of Environmental Protection (PADEP) does not list any of these watercourses as having an Existing Use Classification (PADEP, 2020b).

The Pennsylvania Fish and Boat Commission (PFBC) does not list Spring Run or Solomon Creek as Stocked Trout Waters. Solomon Creek is listed by PFBC as Wild Trout Waters (PFBC, 2020a, 2020b, and 2020c). Under Chapter 105 [105.17(iii)], wetlands located in or along the floodplain of Wild Trout Waters are considered Exceptional Value (Commonwealth of PA, 2020b). Additionally, wetlands which serve as habitat for fauna or flora listed as "threatened" or "endangered" under the Endangered Species Act of 1973, or wetlands that are hydrologically connected to or located within 1/2-mile of wetlands identified as habitat for flora or fauna listed as "threatened" or "endangered" are considered Exceptional Value.

According to the *Draft 2020 Pennsylvania Integrated Water Quality Monitoring and Assessment Report*, both the UNT to Spring Run and Spring Run are listed as aquatic life impaired (PADEP, 2020a).

No wetlands are identified by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (USFWS, 2020) within proximity to the Project. (Figure 2).

Five soil map units are located within the Project Study Area. Each soil map unit has a hydric soil rating given by the Natural Resources Conservation Service (NRCS) (Table 1).

Table 1. Study Area Soil Map Units

Soil Map Unit	Description	Hydric Rating
CF	Cut and fill land	0
DdB	Dekalb channery sandy loam, 0 to 8 percent slopes, rubbly	0
DdD	Dekalb channery sandy loam, 8 to 25 percent slopes, rubbly	0
Mg	Mine dump	0
Sm	Strip mine	0

METHODOLOGY

On May 18, 2021, Bridger Thompson of TES&P performed a site visit to identify and delineate wetlands and watercourses within the Study Area. These resources are potentially regulated under the Pennsylvania Clean Streams Law and Dam Safety and Encroachments Act, and the federal Clean Water Act (Commonwealth of PA, 2020a and 2020b; Clean Water Act of 1972). The Study Area for the aquatic resource investigation is depicted on **Figures 2 and 3.**

To identify and delineate wetlands, TES&P performed an on-site routine wetland determination as described in the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual, Technical Report Y-87-1 (Environmental Laboratory, 1987) using wetland criteria detailed in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: North Central and Northeast Region (Version 2.0) (USACE, 2012). If a wetland was delineated, a USACE Regional Supplement Wetland Determination Data Form was completed at a representative wetland data point. Data on the composition of the vegetation community, soil profile characteristics, and hydrology were recorded on the data form. Delineated wetlands were classified following Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al., 1979). The boundaries of delineated wetlands were recorded with a high-precision, mapping-grade Global Positioning System (GPS) unit. TES&P also recorded upland data points to document existing site conditions or the transition between the delineated wetland and upland boundary. Copies of the wetland determination data forms are located in Appendix A. Photographs were taken of the existing site conditions and each resource and are presented in Appendix B.

To identify and delineate watercourses, TES&P performed an on-site evaluation based on typical watercourse characteristics such as defined streambed and streambanks, exclusion of terrestrial vegetation, hydrologically-sorted substrate material, and the presence of an ordinary high-water mark (OHWM). If a watercourse was delineated, information was collected for each resource including but not limited to approximate top of bank width, width at the OHWM, approximate channel depth, flow depth, channel substrate, and channel morphology. The extent of each watercourse was recorded with a GPS unit. For watercourses exhibiting an average width at the OHWM of ten feet or greater, both left and right banks were recorded. For watercourses with average width at the OHWM of less than ten feet, the centerline of the channel was recorded. Photographs were taken of each resource and are presented in **Appendix B.**

RESULTS

TES&P identified and delineated four palustrine emergent (PEM) wetlands, one intermittent (INT) watercourse, and four ephemeral (EPH) watercourses within the 96-acre Study Area (Figure 3). A summary of the delineated resources is provided in Table 2. The field data forms for the delineated



wetlands and photographs of the identified features and existing site conditions are located in **Appendices A** and **B**, respectively. Descriptions of the delineated resources are presented below.

Wetland WIL-W-001 (PEM)

WIL-W-001 is an approximately 0.06-acre PEM wetland located in the northeast corner of the Study Area. The wetland is situated along the discharge of a small intermittent drainage where the drainage enters a historically graded haul road storm ditch. The wetland boundary follows the saturated soil conditions and vegetation dominated by wool grass (*Scirpus cypernius*). The primary source of wetland hydrology is provided by the seasonal hillslope groundwater discharge associated with the intermittent drainage and surface water runoff that is perched by a shallow bedrock layer. The primary indicators of hydrology observed were Surface Water (A1) and Saturation (A3). The wetland vegetation is dominated by wool grass, Japanese stilt grass (*Microstegium vimineum*) and meadowsweet (*Spiraea alba*). The soil texture at the wetland data point is silt loam and meets the criteria for a Depleted Matrix (F3).

Wetland WIL-W-002 (PEM):

WIL-W-002 is an approximately 0.04-acre PEM wetland located on the north edge of the Study Area. The wetland is situated at the discharge of a storm culvert along an ephemeral channel where silt and other debris has collected in a topographic depression. The wetland boundary follows the topography of the depression, the silt deposits, and the non-vegetated concave surface. The primary source of wetland hydrology is provided by surface water runoff that collects in the depressional topography. The primary indicators of hydrology observed were Sediment Deposits (B2) and Sparsely Vegetated Concave Surface (B8). The wetland lacked a vegetative layer however the fringes were vegetated by Japanese knotweed and red maple (Acer rubrum). The soil texture at the wetland data point is silt loam and contains silt deposits and coal fines underlain by a Depleted Matrix (F3).

Wetland WIL-W-003 (PEM)

WIL-W-003 is an approximately 0.07-acre PEM wetland located in the north central extent of the Study Area. The wetland is situated in a recently disturbed waterline right-of-way at the discharge of a seasonal groundwater seep. The wetland boundary follows the saturated soil conditions and vegetation dominated by common reed (*Phragmites australis*) and sensitive fern (*Onoclea sensibilis*). The primary source of wetland hydrology is provided by the seasonal groundwater discharge. The primary indicators of hydrology observed were Surface Water (A1) and Saturation (A3). The soil texture at the wetland data point is silt loam with coal fines however it meets the criteria for a Depleted Matrix (F3).

Wetland WIL-W-004 (PEM)

WIL-W-004 is an approximately 0.09-acre PEM wetland located in the central portion of the Study Area. The wetland is situated in a constructed linear ditch that extends along a historic haul road in the center of



the mine site. The wetland boundary follows the saturated soil conditions and vegetation dominated by common reed and soft rush (*Juncus effusus*). The primary source of wetland hydrology is provided by a seasonal high groundwater that is conveyed in the ditch and surface water runoff collection perched by a shallow bedrock layer. The primary indicators of hydrology observed were Surface Water (A1) and Saturation (A3). The soil texture at the wetland data point is silt loam with coal fines however it meets the criteria for a Depleted Matrix (F3).

Watercourse WIL-S-001 (INT)

Watercourse WIL-S-001 is a small intermittent channel that originates at a roadside culvert and drains southwest extending parallel to a historic haul road. Portions of the channel are within a constructed stormwater channel along the haul road. Approximately one inch of water depth was observed throughout the reach investigated. No finfish or aquatic organisms were observed. The channel is approximately four feet wide at the top-of-bank and is approximately one foot wide at the OHWM. The approximate bank height at the top-of-bank is one foot on both the left and right bank with heavy erosion. The channel has a hydrologically sorted substrate consisting of gravel and cobble with a bedrock bottom.

Watercourse WIL-S-002 (INT)

Watercourse WIL-S-002 is a small heavily eroded ephemeral channel that extends along a historic haul road. No flow was observed at the time of the investigation. The channel is approximately four feet wide at the top-of-bank and is approximately two feet wide at the OHWM. The bank height ranges from one to four feet at the top-of-bank. The channel has a hydrologically sorted substrate consisting of gravel and cobble with a bedrock bottom.

Watercourse WIL-S-003 (EPH)

Watercourse WIL-S-003 is a small ephemeral channel that originates in a heavily disturbed location in northeastern corner of the Study Area. The channel drains west extending within a constructed stormwater ditchl and becomes diffuse surface flow where it enters a gravel filled depression in the central portion of the Study Area. No flow was observed at the time of the investigation. The channel ranges from six feet to two feet wide at the top-of-bank and is approximately two feet wide at the OHWM. The approximate bank height at the top-of-bank is two feet on both the left and right bank with heavy erosion. The channel has a hydrologically sorted substrate consisting of gravel and cobble with a bedrock bottom.

Watercourse WIL-S-004 (EPH)

Watercourse WIL-S-004 is an ephemeral channel that extends from an upslope wooded draw and drains within a constructed stormwater channel in a historically graded area of the mine site. No flow was observed at the time of the investigation. The channel ranges from six feet to two feet wide at the top-of-bank and is approximately two feet wide at the OHWM. The approximate bank height at the top-of-bank ranges from



two to three feet on both the left and right bank with heavy erosion. The channel has a hydrologically sorted substrate consisting of gravel and cobble with a bedrock bottom.

Watercourse WIL-S-005 (EPH)

Watercourse WIL-S-005 is an ephemeral stormwater channel that originates in a roadside drainage and has input from multiple roadside culverts. The channel drains northwest in a constructed ditch extending parallel to an existing heavily used haul road and extends under Interstate 81 where it exits the Study Area. No flow was observed at the time of the investigation. The channel ranges from ten to six feet wide at the top-of-bank and is approximately four foot wide at the OHWM. The approximate bank height at the top-of-bank is three feet on both the left and right bank with heavy erosion. The channel has a hydrologically sorted substrate consisting of leaf litter, gravel, and cobble with a bedrock bottom with portions being heavily vegetated by Japanese knotweed.

Table 2. Wetland and Watercourse Identification and Classification

Resource Name	Classification	Delineated Size	Photo Number(s)
WIL-W-001	PEM	0.06 acre	5
WIL-W-002	PEM	0.04 acre	7
WIL-W-003	PEM	0.07 acre	8
WIL-W-004	PEM	0.09 acre	10
WIL-S-001*	INT	685 feet	12,13
WIL-S-002	EPH	148 feet	14
WIL-S-003	EPH	567 feet	15
WIL-S-004	EPH	137 feet	16
WIL-S-005*	EPH	842 feet	17,18

^{*}Wetland boundary continues beyond the Study Area boundary

SUMMARY

On May 18, 2021 TES&P conducted an aquatic resource delineation for Bluecup for the proposed Wilkes-Barre Development Site in Laurel Run and Wilkes Barre Townships, Luzerne County, Pennsylvania. Four wetlands and five watercourse were identified within the Study Area.

Sincerely,

Thompson Environmental Surveys & Permitting, LLC.

Bridger Thompson

Senior Biologist / Owner

USFWS/PFBC Qualified Bog Turtle Surveyor

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Enclosures (3)

Figures: Location Map, NWI Wetlands and Soils Map, Delineated Aquatic Resources Map

Appendix A: USACE Regional Supplement Wetland Determination Data Forms

Appendix B: Photographic Log



REFERENCES

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U.S. Fish and Wildlife Service (USFWS). 2020. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Accessed in November, 2020.



Figures

Figure 1: Location Map

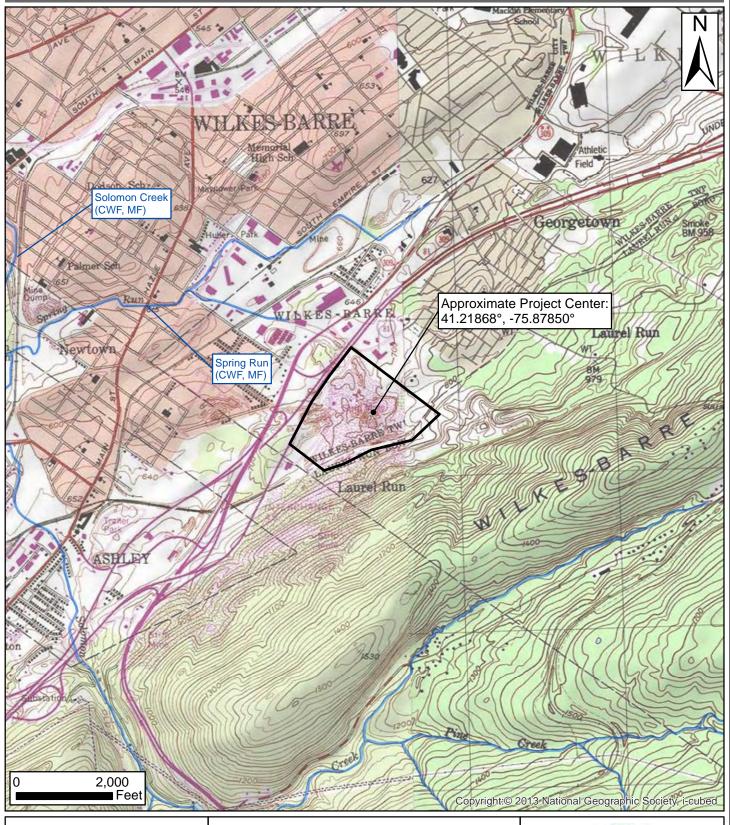
Figure 2: NWI Wetlands and Soil Map Units

Figure 3: Delineated Aquatic Resources



WILKES-BARRE SITE

Figure 1: Location Map





USGS 7.5' Quadrangles: Wilkes Barre-East and Wilkes-Barre West Luarel Run and Wilkes-Barre Townships Luzerne County, Pennsylvania



WIL-W-003 (PEM)







0 100 200 Feet Created By: CMG

Date: 7/5/2021

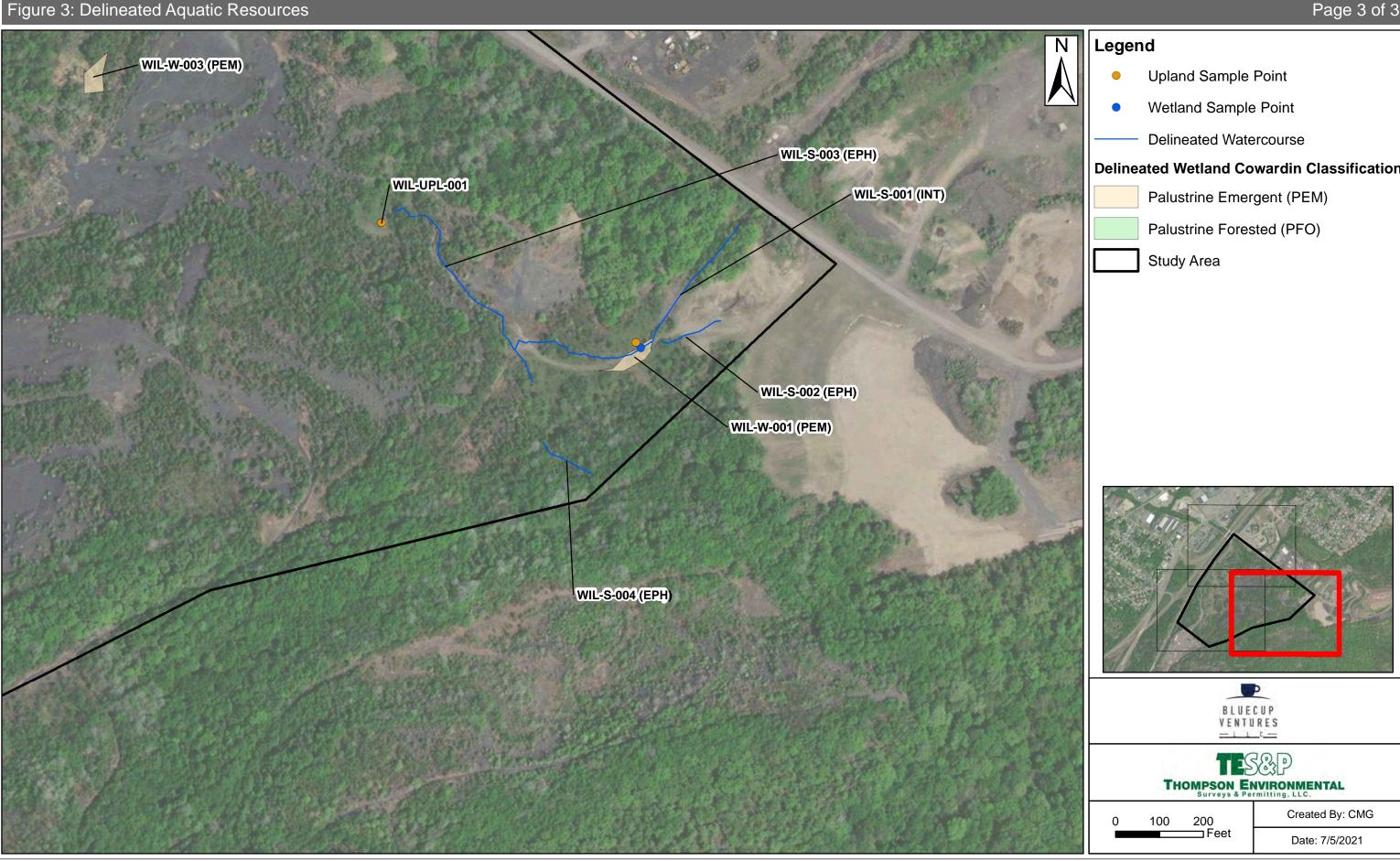




100 200 Feet

Created By: CMG

Date: 7/5/2021



Appendix A

USACE Regional Supplement Wetland Determination Data Forms



Project/Site: Bluecup Ventures Wilkes Barre Site	City/County: Wilkes Ba	rre, Luzerne Co.	Sampling Date: 18-May-21
Applicant/Owner: Bluecup Ventures, LLC.	Sta	ite: PA Sampling	Point: WIL-UPL-001
Investigator(s): Bridger Thompson	Section, Township, F	Range: S. T. \	Vilkes Barre R.
Landform (hillslope, terrace, etc.): Gulch or Gully	Local relief (concave, co	onvex, none): concave	Slope: 5.2 % / 3.0 °
Subregion (LRR or MLRA): LRR R Lat.	- : 41.218910°	Long.: -75.876133°	Datum: NAD-83
Soil Map Unit Name: Sm: Strip mine	11.210310		cation: N/A
<u> </u>			<u> </u>
Are climatic/hydrologic conditions on the site typical for this time of	fyear? Yes • No	(If no, explain in	
Are Vegetation $igsqcup$, Soil $igsqcup$, or Hydrology $igsqcup$ significa	ntly disturbed? Are "	Normal Circumstances" p	resent? Yes No
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturall	y problematic? (If no	eeded, explain any answe	ers in Remarks.)
Summary of Findings - Attach site map showing	sampling point lo	cations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes No •		_	
Hydric Soil Present? Yes No	Is the Sampled within a Wetlar		
Wetland Hydrology Present? Yes ○ No ●			
Upland data point collected to document the onsite conditions. The	e data point is located in a	shallow depression in a	abandoned strip mine.
Hydrology			
Wetland Hydrology Indicators:		Cocondan, Indicate	are (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicate Surface Soil Cr	ors (minimum of 2 required)
Surface Water (A1) Water-Stained I		Drainage Patte	
High Water Table (A2) Aquatic Fauna (` '	Moss Trim Line	
Saturation (A3) Marl Deposits (I			ater Table (C2)
☐ Water Marks (B1) ☐ Hydrogen Sulfic	•	Crayfish Burro	
	pheres along Living Roots (C3)		ble on Aerial Imagery (C9)
☐ Drift deposits (B3) ☐ Presence of Rec			essed Plants (D1)
	duction in Tilled Soils (C6)	Geomorphic Po	osition (D2)
☐ Iron Deposits (B5) ☐ Thin Muck Surfa	ace (C7)	Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain i	n Remarks)	Microtopograp	hic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Te	est (D5)
Field Observations:			
Surface Water Present? Yes No Depth (inches):		
Water Table Present? Yes O No O Depth (inches):		Yes ○ No ●
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	nd Hydrology Present?	Yes O No •
Describe Recorded Data (stream gauge, monitoring well, aerial ph	otos, previous inspections),	, if available:	
Remarks:			
No evidence of hydrology.			

vegeration - use scientific names or pla	IILS			Sampling Point: WIL-UPL-001
(District 20 foot	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 feet)	% Cover	_	Status	Number of Dominant Species
1. Populus tremuloides		~	FACU	That are OBL, FACW, or FAC:1(A)
2	-			Total Number of Dominant
3				Species Across All Strata: 4 (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: 25.0% (A/B)
6				
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 feet)	=	= Total Cove	r	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
1 Betula populifolia	10	✓	FAC	
2. Robinia pseudoacacia	10	<u></u>	FACU	FACW species $0 \times 2 = 0$
3	0			FAC species $20 \times 3 = 60$ FACU species $80 \times 4 = 320$
4	0			
5	0			UPL species $0 \times 5 = 0$
6	0			Column Totals: 100 (A) 380 (B)
7	0			Prevalence Index = B/A = 3.800
Herb Stratum (Plot size: 10 feet)	20=	= Total Cove	r	Hydrophytic Vegetation Indicators:
				Rapid Test for Hydrophytic Vegetation
1 Solidago altissima		~	FACU	☐ Dominance Test is > 50%
2. Equisetum arvense			FAC	Prevalence Index is ≤3.0 ¹
3				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				_
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11 12				at breast neight (BBH), regardless of neight.
12		 = Total Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)		- rotar cover		greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cove	r	
				Hydrophytic Vegetation
				Present? Yes No •
Remarks: (Include photo numbers here or on a separate sho	eet.)			

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: WIL-UPL-001

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)													
Depth		Matrix				lox Featu	res						
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture			narks	
0-10	2.5Y	3/2	100						Silt		coal fines		
10-14	10YR	4/2	100						Clay Loam				
14+	-	-			-				-		shale		
					-				-				
		-	-		-	-			-				
		-			-								
					-								
			-			-		-					
									-				
¹ Type: C=Cond	centration. D	=Depletio	n. RM=Rec	luced Matrix, (S=Covere	d or Coate	d Sand Gra	ains ²Loca	tion: PL=Pore Lining	j. M=Ma	trix		
Hydric Soil I		<u> </u>		·					Indicators for			ic Soils : 3	
Histosol (A				Polyv	alue Belov	v Surface (S	58) (LRR F	.,					
	edon (A2)			MLRA	A 149B)	-					RR K, L, MLF		
Black Histi				Thin	Dark Surfa	ce (S9) (L	RR R, MLF	A 149B)			(A16) (LRR		
	Sulfide (A4)			Loam	y Mucky M	1ineral (F1)	LRR K, L)				r Peat (S3) (L		
Stratified I	Layers (A5)			Loam	y Gleyed I	Matrix (F2)					(LRR K, L, M)		
	Below Dark S	Surface (A	11)	L Deple	eted Matrix	(F3)					rface (S8) (LI		
☐ Thick Dark	c Surface (A1	2)			x Dark Sur				☐ Thin Dark Surface (S9) (LRR K, L) ☐ Iron-Manganese Masses (F12) (LRR K, L, R)				
Sandy Mu	ck Mineral (S	51)				Surface (F7	')					(MLRA 149B)	
Sandy Gle	yed Matrix (S	54)		☐ Redo	x Depressi	ons (F8)						, 145, 149B)	
Sandy Red	dox (S5)								Red Parent			A, 143, 1430)	
Stripped M	1atrix (S6)										Surface (TF12	2)	
☐ Dark Surfa	ace (S7) (LRF	R R, MLRA	149B)						Other (Expl			-)	
³ Indicators of	hydrophytic	vegetatio	n and wetl:	and hydrology	must he n	resent unl	ess disturk	ed or proble			J		
			ii ana wea	and mydrology	mast be p	reserve, and	coo diotari	ca or proble					
Restrictive La	ayer (If obs	erved):											
Type:									Hydric Soil Pres	ent?	Yes •	No O	
Depth (inch	nes):								,		1G ©		
Remarks:													
İ													
İ													
•													
1													

Project/Site: Bluecup Ventures Wilkes Barre Site	City/County: Wilkes Barre, Luzerne Co. Sampling Date: 18-May-21
Applicant/Owner: Bluecup Ventures, LLC.	State: PA Sampling Point: WIL-W-001 (PEM)
Investigator(s): Bridger Thompson	Section, Township, Range: S. T. Wilkes Barre R.
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): concave Slope: 8.7 % / 5.0 °
Subregion (LRR or MLRA): LRR R Lat.:	41.218097° Long.: -75.874012° Datum: NAD-83
Soil Map Unit Name: DdD: Dekalb channery sandy loam, 8 to 25 per	
Are climatic/hydrologic conditions on the site typical for this time of	Y (A) N. (
Are Vegetation . , Soil . , or Hydrology . significan	tly disturbed? Are "Normal Circumstances" present? Yes Volume No
Are Vegetation \square , Soil \square , or Hydrology \square naturally	problematic? (If needed, explain any answers in Remarks.)
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Table Counted have
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes ● No ○	
Hydrology	
Hydrology	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Le	Surface Soil Cracks (B6)
✓ Surface Water (A1) Water-Stained Le High Water Table (A2) Aquatic Fauna (B	
✓ Saturation (A3)	
Water Marks (B1) Hydrogen Sulfide	
I nyarogan samas	heres along Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
☐ Drift deposits (B3) ☐ Presence of Redu	
	uction in Tilled Soils (C6) Geomorphic Position (D2)
✓ Iron Deposits (B5) ☐ Thin Muck Surfac	
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in	
Sparsely Vegetated Concave Surface (B8)	✓ FAC-neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
	1
Water Table Present? Yes No Depth (inches):	
Water Table Present? Saturation Present? (includes capillary fringe) Yes No Depth (inches): Yes No Depth (inches):	Wetland Hydrology Present? Yes No
Saturation Present? Ves No Depth (inches):	Wetland Hydrology Present? Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos)	Wetland Hydrology Present? Yes ● No ○

vegeration - use scientific names or pia	ints			Sampling Point: WIL-W-001 (PEM)
- (Plot size:	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	<u> </u>	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:3(A)
2				Total Number of Dominant
3				Species Across All Strata:3(B)
4				Percent of dominant Species
5			-	That Are OBL, FACW, or FAC: 100.0% (A/B)
6				Prevalence Index worksheet:
7		= Total Cove		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 feet)		- Total Covel		OBL species
1 . Spiraea alba	10	✓	FACW	FACW species $10 \times 2 = 20$
2	0			FAC species $20 \times 3 = 60$
3				
4	0			l '
5	0			I
6	0			Column Totals:
7	0			Prevalence Index = $B/A = \underline{1.714}$
Herb Stratum (Plot size: 10 feet)	10=	= Total Cove	•	Hydrophytic Vegetation Indicators:
	40		ODI	Rapid Test for Hydrophytic Vegetation
1 Scirpus cyperinus		✓	OBL	✓ Dominance Test is > 50%
2. Microstegium vimineum		✓	FAC	✓ Prevalence Index is ≤3.0 ¹
3				☐ Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6 7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				
		= Total Cove		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				T , , ,
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2				size, and woody plants less than 3.28 ft tall.
3				Woody vine - All woody vines greater than 3.28 ft in
4				height.
	=	= Total Cove	•	
				Hydrophytic
				Vegetation
				Present? Yes VO
Remarks: (Include photo numbers here or on a separate sh	eet.)			

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: WIL-W-001 (PEM)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)													
Depth		Matrix				dox Featu	ires		-				
(inches)	Color (r	noist)	%	Color (moist)	%_	Type ¹	Loc2	Texture	Ren	narks		
0-20	10YR	4/2	90	2.5YR	5/8	10	С		Silt Loam				
		-			-								
		-		-	-	-			-				
			-	-	-	-				-			
		-		-									
		-											
		-		-	-	-							
		-		-	-	_		-					
¹ Type: C=Cond	centration. D	=Depletio	n. RM=Red	uced Matrix,	CS=Cover	ed or Coate	ed Sand Gr	ains ² Loca	ntion: PL=Pore Lining. M=M	1atrix			
Hydric Soil I				<u> </u>					Indicators for Probl		c Soils : 3		
Histosol (A				☐ Poly	value Belo	w Surface ((S8) (LRR I	₹,					
	pedon (A2)			MLR	A 149B)				2 cm Muck (A10)				
☐ Black Histi	ic (A3)					ace (S9) (l			Coast Prairie Redo				
Hydrogen	Sulfide (A4)					Mineral (F1)	5 cm Mucky Peat				
Stratified I	Layers (A5)					Matrix (F2))		☐ Dark Surface (S7) (LRR K, L, M) ☐ Polyvalue Below Surface (S8) (LRR K, L)				
Depleted I	Below Dark S	urface (A	11)		leted Matri				☐ Thin Dark Surface (S9) (LRR K, L)				
☐ Thick Dark	k Surface (A1	2)				ırface (F6)			☐ Irin Dark Surface (S9) (LRR K, L) ☐ Iron-Manganese Masses (F12) (LRR K, L, R)				
Sandy Mu	ck Mineral (S	1)				Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
Sandy Gle	yed Matrix (S	64)		☐ Red	ox Depress	sions (F8)							
Sandy Red	dox (S5)								✓ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)✓ Red Parent Material (F21)				
Stripped M	4atrix (S6)								☐ Very Shallow Dark		2)		
☐ Dark Surfa	ace (S7) (LRR	R, MLRA	149B)						Other (Explain in		•		
³ Indicators of	hydrophytic	vegetatio	n and wetla	nd hydrology	must be i	oresent, un	less disturl	oed or proble		,			
Restrictive La				· · · · · · · · · · · · · · · · · · ·				•					
Type:	ayei (ii obse	erveu).											
Depth (inch	oc).								Hydric Soil Present?	Yes 💿	No O		
	les)												
Remarks:													

Project/Site: Bluecup Ventures Wilkes Barre Site	City/County: Wilkes Barre, Luzerne Co. Sampling Date: 18-May-21
Applicant/Owner: Bluecup Ventures, LLC.	State: PA Sampling Point: WIL-W-001 (UPL)
Investigator(s): Bridger Thompson	Section, Township, Range: S. T. Wilkes Barre R.
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): CONVEX Slope: 14.1 % / 8.0 °
Subregion (LRR or MLRA): LRR R Lat.:	41.218130° Long.: -75.874052° Datum: NAD-83
Soil Map Unit Name: DdD: Dekalb channery sandy loam, 8 to 25 per	
Are climatic/hydrologic conditions on the site typical for this time of y	
Are Vegetation 🔲 , Soil 🗹 , or Hydrology 🗌 significan	ly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . naturally	problematic? (If needed, explain any answers in Remarks.)
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No •	To the Country of Aura
Hydric Soil Present? Yes No •	Is the Sampled Area within a Wetland? Yes O No •
Wetland Hydrology Present? Yes ○ No ●	
Hydrology	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
☐ Surface Water (A1) ☐ Water-Stained Lea ☐ High Water Table (A2) ☐ Aquatic Fauna (B)	
	eres along Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
☐ Drift deposits (B3) ☐ Presence of Redu	
	tion in Tilled Soils (C6) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Thin Muck Surface	
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in	
Sparsely Vegetated Concave Surface (B8)	FAC-neutral Test (D5)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Surface Trace Tresents	
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No ●
Saturation Present? Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:
Remarks:	
No evidence of hydrology.	

VEGETATION - Use scientific names of pi	ants			Sampling Point: WIL-W-001 (UPL)
Tree Stratum (Plot size:)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: 4 (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: 0.0% (A/B)
6				
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 feet)	=	= Total Cove	r	
1 Lonicera tatarica	20	✓	FACU	
2. Acer rubrum	10	$\overline{\Box}$	FAC	FACW species $0 \times 2 = 0$
3. Robinia pseudoacacia	20	✓	FACU	FAC species $10 \times 3 = 30$
4. Rosa multiflora	10		FACU	FACU species $70 \times 4 = 280$
5				UPL species $0 \times 5 = 0$
6				Column Totals: <u>80</u> (A) <u>310</u> (B)
7				Prevalence Index = B/A = 3.875
Herb Stratum (Plot size: 10 feet)		= Total Cove	r	Hydrophytic Vegetation Indicators:
Herb Stratum (1 lot 3/26				Rapid Test for Hydrophytic Vegetation
1 Solidago canadensis	10	✓	FACU	Dominance Test is > 50%
2. Andropogon gerardii	10	~	FACU	Prevalence Index is ≤3.0 ¹
3	0			Morphological Adaptations ¹ (Provide supporting
4	0			data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7	0			Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9	0			Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12		\Box		
Woody Vine Stratum (Plot size:)	_	= Total Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3				l
4		П		Woody vine - All woody vines greater than 3.28 ft in height.
4		= Total Cove		neight.
		- Total Cove	ı	
				Hydrophytic Vegetation
				Present? Yes No •
Remarks: (Include photo numbers here or on a separate s	heet.)			
remainer (ancieus prioto numbero nere or on a separate s				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: WIL-W-001 (UPL)

Profile Descr Depth	iption: (De	scribe to	the depth		: the indicator or co dox Features	nfirm the	absence of indicators.)	
(inches)	Color	(moist)	%	Color (moist)		Loc2	Texture	Remarks
0-10	10YR	4/3	100				Silt Loam	
				-				shale
								Sildic
							-	
			-	-				
							-	
¹ Type: C=Con	centration. [D=Depletio	n. RM=Red	uced Matrix, CS=Covere	ed or Coated Sand Gra	ins ² Loca	ation: PL=Pore Lining. M=Ma	atrix
Hydric Soil 1		•		,				
Histosol (Polyvalue Relo	w Surface (S8) (LRR R,			ematic Hydric Soils: 3
	pedon (A2)			MLRA 149B)	W Surface (SO) (ERRY)	,		LRR K, L, MLRA 149B)
Black Hist				☐ Thin Dark Surfa	ace (S9) (LRR R, MLR	A 149B)		x (A16) (LRR K, L, R)
	Sulfide (A4)	`			Mineral (F1) LRR K, L)		5 cm Mucky Peat o	or Peat (S3) (LRR K, L, R)
				Loamy Gleyed			Dark Surface (S7)	(LRR K, L, M)
	Layers (A5)		11)	Depleted Matrix				ırface (S8) (LRR K, L)
	Below Dark		11)	Redox Dark Su			☐ Thin Dark Surface	(S9) (LRR K, L)
	k Surface (A			Depleted Dark			☐ Iron-Manganese M	asses (F12) (LRR K, L, R)
	ıck Mineral (Redox Depress			Piedmont Floodpla	in Soils (F19) (MLRA 149B)
	eyed Matrix ((S4)		Redox Depress	ions (10)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Re							Red Parent Materia	al (F21)
	Matrix (S6)						Very Shallow Dark	Surface (TF12)
☐ Dark Surf	ace (S7) (LR	RR R, MLRA	149B)				Other (Explain in R	emarks)
³ Indicators o	f hydrophytic	c vegetatio	n and wetla	nd hydrology must be p	resent, unless disturbe	ed or probl	ematic.	
Restrictive L	aver (if ob	served):						
Type:	, c (c							
Depth (inc	hoc):						Hydric Soil Present?	Yes O No 💿
Remarks:								
ĺ								

Project/Site: Bluecup Ventures Wilkes Barr	re Site	City/County: Wilkes Barre, Luze	rne Co. Sampling Date: 18-May-21
Applicant/Owner: Bluecup Ventures, LLC.		State: PA	Sampling Point: WIL-W-002 (PEM)
Investigator(s): Bridger Thompson		Section, Township, Range:	s. T. Wilkes Barre R.
Landform (hillslope, terrace, etc.): Sw	vale	Local relief (concave, convex, n	one): concave Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR R	Lat.:	41.221183° Long	.: -75.877792° Datum: NAD-83
Soil Map Unit Name: CF: Cut and fill la	nd		NWI classification: N/A
Are climatic/hydrologic conditions on the		ear? Yes No	(If no, explain in Remarks.)
			Circumstances" present? Yes • No
	, _		explain any answers in Remarks.)
		,,	s, transects, important features, etc.
	es ○ No ●		s, transects, important reatures, etc.
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	es O No O	Is the Sampled Area	··
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	'es	within a Wetland?	Yes ○ No •
Wetland Hydrology Present? Remarks: (Explain alternative procedum)			
Hydrology			
Wetland Hydrology Indicators: Primary Indicators (minimum of one re	occuired, check all that annly)		Secondary Indicators (minimum of 2 required)
Surface Water (A1)	Water-Stained Lea	wee (R9)	☐ Surface Soil Cracks (B6) ☐ Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B1)	` '	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15	·	Dry Season Water Table (C2)
☐ Water Marks (B1)	Hydrogen Sulfide (Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospho	eres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduc	ced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduc	ction in Tilled Soils (C6)	Geomorphic Position (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface	e (C7)	Shallow Aquitard (D3)
☐ Inundation Visible on Aerial Imagery (B		Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B	38)		FAC-neutral Test (D5)
Field Observations:			
Surface Water Frederics	No Depth (inches):		
	No • Depth (inches):		ology Present? Yes No
Saturation Present? (includes capillary fringe) Yes	No Depth (inches):		ology Present? 1 cs 🙂 140 🔾
Describe Recorded Data (stream gauge	e, monitoring well, aerial photo	os, previous inspections), if avail	able:
Remarks:			

vegetation - use scientific names of pi	ants			Sampling Point: WIL-W-002 (PEM)
- (Diet size:	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species: 5	Status	Number of Dominant Species
1		Ц,		That are OBL, FACW, or FAC:0(A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: 0.0% (A/B)
6				Prevalence Index worksheet:
7		 = Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)		- Total Covei		OBL species 0 x 1 = 0
1	0			FACW species $0 \times 2 = 0$
2	0			FAC species $0 \times 3 = 0$
3	0			l
4	0			l
5				
6				Column Totals: 10 (A) 40 (B)
7	0	Ш.		Prevalence Index = B/A = 4.000
Herb Stratum (Plot size: _10 feet)	=	= Total Cover		Hydrophytic Vegetation Indicators:
·	10		EACH	Rapid Test for Hydrophytic Vegetation
1 . Reynoutria japonica		✓ .	FACU	☐ Dominance Test is > 50%
2				Prevalence Index is ≤3.0 ¹
3		H .		☐ Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5 6				☐ Problematic Hydrophytic Vegetation ¹ (Explain)
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				
		= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				, ,
1				Herb - All herbaceous (non-woody) plants, regardless of
2				size, and woody plants less than 3.28 ft tall.
3				Woody vine - All woody vines greater than 3.28 ft in
4				height.
		= Total Cover		
				Hydrophytic
				Vegetation No. 0
				Present? Yes V No 🖲
Barradar (Tardada ababa aran 1	L L >			1
Remarks: (Include photo numbers here or on a separate s	neet.)			

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: WIL-W-002 (PEM)

Profile Descri	iption: (Des	scribe to	the depth	needed to doc	ument	the indic	ator or co	onfirm the	absence of indicators.)				
Depth		Matrix				dox Featu			_				
(inches)	Color (moist)	%	Color (mo	ist)	%	Type ¹	Loc2	Texture	Remai	rks		
0-6	2.5Y	3/2	100						Silt	coal fines			
6-16	2.5YR	4/1	90	7.5YR	5/6	10	С	М	Silty Clay				
										-			
		-							-				
										-			
		-											
		-	-										
										-			
¹ Type: C=Cond	centration. D	=Depletio	n. RM=Red	luced Matrix. CS=	-Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=				
Hydric Soil I		Бергесіе									3		
Histosol (A				Polyadi	ıa Balaı	w Surface ('CQ\ /I DD [)	Indicators for Prob				
	pedon (A2)			MLRA 1		w Surface (30) (LKK I	ν,	2 cm Muck (A10)				
Black Histi				☐ Thin Da	rk Surfa	ace (S9) (L	RR R, MLF	RA 149B)		lox (A16) (LRR K,	· ·		
	Sulfide (A4)			Loamy I	Mucky I	Mineral (F1) LRR K, L)		or Peat (S3) (LRR	R K, L, R)		
	Layers (A5)					Matrix (F2)			Dark Surface (S7				
	Below Dark S	Surface (A	11)	✓ Deplete	d Matri	x (F3)			Polyvalue Below Surface (S8) (LRR K, L)				
	k Surface (A1		/	Redox [Oark Su	rface (F6)			☐ Thin Dark Surface (S9) (LRR K, L)				
	ck Mineral (S			Deplete	d Dark	Surface (F7	7)		Iron-Manganese Masses (F12) (LRR K, L, R)				
	yed Matrix (S			Redox [Depress	sions (F8)			Piedmont Floodplain Soils (F19) (MLRA 149B)				
Sandy Red		<i>-</i> .,							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Stripped M									☐ Red Parent Material (F21) ☐ Very Shallow Dark Surface (TF12)				
	ace (S7) (LRF	R R. MI RA	149B)										
									Other (Explain in	Remarks)			
Indicators of	hydrophytic	vegetatio	n and wetl	and hydrology mu	ust be p	oresent, un	less disturt	ped or probl	ematic.				
Restrictive La	ayer (if obs	erved):											
Type:													
Depth (inch	nes):								Hydric Soil Present?	Yes 💿 N	No O		
Remarks:													
I													

Project/Site: Bluecup Ventures Wilkes Barre	Site	City/County: Wilkes Barre, Luze	rne Co. Sampling Date: 18-May-21
Applicant/Owner: Bluecup Ventures, LLC.		State: PA	Sampling Point: WIL-W-002 (UPL)
Investigator(s): Bridger Thompson		Section, Township, Range:	S. T. Wilkes Barre R.
Landform (hillslope, terrace, etc.): Ravi	ne	Local relief (concave, convex, n	
Subregion (LRR or MLRA): LRR R	Lat.:	41.221014° Long	.: -75.877721° Datum: NAD-83
Soil Map Unit Name: CF: Cut and fill land			NWI classification: N/A
Are climatic/hydrologic conditions on the	site typical for this time of y	ear? Yes No	(If no, explain in Remarks.)
Are Vegetation ☐ , Soil ✓ , or	Hydrology significant	ly disturbed? Are "Normal	Circumstances" present? Yes No
	, _	•	explain any answers in Remarks.)
-		,	s, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	s O No •		
Hydric Soil Present? Yes	s O No 💿	Is the Sampled Area within a Wetland?	Yes ○ No ●
	s O No 💿	Willill a Welland:	130 55
Upland data point collected to verify the	,		
Hydrology			
Wetland Hydrology Indicators:			Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one rec			Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Lea	` '	Drainage Patterns (B10)
High Water Table (A2) Saturation (A3)	☐ Aquatic Fauna (B1	·	Moss Trim Lines (B16)
Water Marks (B1)	Marl Deposits (B15		☐ Dry Season Water Table (C2) ☐ Crayfish Burrows (C8)
Sediment Deposits (B2)	Hydrogen Sulfide (ogor (C1) eres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Oxidized Rhizosph Presence of Reduc		Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)		ction in Tilled Soils (C6)	Geomorphic Position (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface	* *	Shallow Aguitard (D3)
Inundation Visible on Aerial Imagery (B7)			Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		Cinana	FAC-neutral Test (D5)
_	No ● Depth (inches):		
	Depth (inches):	Wetland Hydr	ology Present? Yes O No •
Saturation Present? (includes capillary fringe) Yes N	Depth (inches):		
Describe Recorded Data (stream gauge,	monitoring well, aerial photo	os, previous inspections), if avail	able:
Remarks:			
No evidence of hydrology.			

vegetation - use scientific names or pia	nts			Sampling Point: WIL-W-002 (UPL)
- (Plot size:	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	<u>Species:</u>	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:1(A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: 50.0% (A/B)
6				Prevalence Index worksheet:
7		 = Total Cove		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)		- Total Covel		OBL species 0 x 1 = 0
1Acer rubrum	10	✓	FAC	FACW species $0 \times 2 = 0$
2	0			FAC species $10 \times 3 = 30$
3				I
4	0			l ·
5				· ·
6				Column Totals: <u>20</u> (A) <u>70</u> (B)
7				Prevalence Index = $B/A = 3.500$
Herb Stratum (Plot size: 10 feet)	10=	= Total Cove	r	Hydrophytic Vegetation Indicators:
	10		FACU	Rapid Test for Hydrophytic Vegetation
1 . Reynoutria japonica		✓	FACU	☐ Dominance Test is > 50%
2				Prevalence Index is ≤3.0 ¹
3				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5 6				☐ Problematic Hydrophytic Vegetation ¹ (Explain)
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				
		= Total Cove	•	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				, ,
1				Herb - All herbaceous (non-woody) plants, regardless of
2				size, and woody plants less than 3.28 ft tall.
3				Woody vine - All woody vines greater than 3.28 ft in
4				height.
	=	= Total Cove	r	
				Hydrophytic
				Vegetation V
				Present? Yes V NO S
Remarks: (Include photo numbers here or on a separate she	eet.)			

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: WIL-W-002 (UPL)

	iption: (Des	scribe to	the depth	needed to d	locument	the indica	ator or co	nfirm the	absence of indicato	ors.)				
Depth (inches)	Calar	Matrix		Calas (ox Featu		100	- Tavb		D	maulca.		
0-4	Color (moist) 3/2	% 100	Color (moist)	%	Type ¹	Loc ²	Texture Silt		Ren	narks		
									-		- Courtines			
4-12	2.5Y	4/3	100			-			Silt Loam					
12+											shale			
									-					
						-								
						-								
						-								
¹ Type: C=Cond	entration. D	=Depletion	n. RM=Red	uced Matrix (CS=Covere	d or Coate	d Sand Gra	ains ² I oca	ation: PL=Pore Lining	. M=Ma	ıtrix			
Hydric Soil I		_ 35.000	neu	. see i issuity	227010							in Calla . 3		
Histosol (A				Poly	alue Below	Surface (58) (LRR R	l,	Indicators for					
	edon (A2)				A 149B)	, 201.100 (I	20) (2	.,			LRR K, L, MLI			
Black Histi				Thin	Dark Surfa	ce (S9) (L	RR R, MLR	A 149B)			(A16) (LRR			
	Sulfide (A4)			Loan	ny Mucky M	ineral (F1)	LRR K, L)				r Peat (S3) (l			
	Layers (A5)			Loan	ny Gleyed N	1atrix (F2)					(LRR K, L, M)			
Depleted I	Below Dark S	Surface (A	11)		eted Matrix				☐ Polyvalue Below Surface (S8) (LRR K, L) ☐ Thin Dark Surface (S9) (LRR K, L)					
☐ Thick Dark	k Surface (A1	12)			x Dark Sur				☐ Iron-Manganese Masses (F12) (LRR K, L, R)					
Sandy Mu	ck Mineral (S	51)			Depleted Dark Surface (F7)						mont Floodplain Soils (F19) (MLRA 149B)			
☐ Sandy Gle	yed Matrix (S	54)		∟ Redo	x Depressi	ons (F8)						A, 145, 149B)		
Sandy Red	dox (S5)								Red Parent Material (F21)					
Stripped M	latrix (S6)										Surface (TF1	2)		
☐ Dark Surfa	ace (S7) (LRF	R R, MLRA	149B)						Other (Expl	ain in Re	emarks)			
³ Indicators of	hydrophytic	vegetatio	n and wetla	nd hydrology	must be pi	esent, unl	ess disturb	ed or probl	ematic.					
Restrictive La	aver (if obs	erved):												
Type:	, , ,	,												
Depth (inch	nes):								Hydric Soil Pres	ent?	Yes 🔾	No 💿		
Remarks:														
remarks.														

Project/Site: Bluecup Ventures Wilkes Barre Site	City/County: Wilkes Barre, Luzer	ne Co. Sampling Date: 18-May-21
Applicant/Owner: Bluecup Ventures, LLC.	State: PA	Sampling Point: WIL-W-003 (PEM)
Investigator(s): Bridger Thompson	Section, Township, Range: S	T. Wilkes Barre R.
Landform (hillslope, terrace, etc.): Ravine	Local relief (concave, convex, no	one): concave Slope: 3.5 % / 2.0 °
Subregion (LRR or MLRA): LRR R	Lat.: 41,219899° Long.	: -75.878447°
Soil Map Unit Name: Sm: Strip mine		NWI classification: N/A
Are climatic/hydrologic conditions on the site typica	al for this time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed? Are "Normal of	Circumstances" present? Yes No
Are Vegetation $\ \ \ \ \ \ \ \ \ \ \ \ \ $	naturally problematic? (If needed, e.	xplain any answers in Remarks.)
Summary of Findings - Attach site m	nap showing sampling point location	s, transects, important features, etc.
	• •	
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland?	Yes ● No ○
Wetland Hydrology Present? Yes No	o O	
	in a separate report.) Inditions in wetland WIL-W-003 (PEM). The wetland he wetland boundary follows the saturated soils and	
Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; che		Secondary Indicators (minimum of 2 required) Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
✓ Iron Deposits (B5) ☐ Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	
Sparsely vegetated concave surface (bb)		FAC-Heutral Test (D5)
Field Observations:		
Surface Water Present? Yes No •	Depth (inches):	
Water Table Present? Yes No •	Depth (inches): Wetland Hydro	ology Present? Yes No
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):	
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspections), if availa	ble:
Remarks:		
IXCITICINS.		

(5)	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC:
2	0			Total Number of Descinant
3				Total Number of Dominant Species Across All Strata: 2 (B)
4				(c)
5				Percent of dominant Species
6				That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:)	=	= Total Cover		Total % Cover of: Multiply by:
1	0			OBL species <u>0</u> x 1 = <u>0</u>
2				FACW species $\underline{60}$ x 2 = $\underline{120}$
				FAC species $0 \times 3 = 0$
3				FACU species $0 \times 4 = 0$
4				UPL species $0 \times 5 = 0$
5				Column Totals:60 (A)120 (B)
6				
7	0			Prevalence Index = B/A = 2.000
Herb Stratum (Plot size: 10 feet)	0 =	= Total Cover		Hydrophytic Vegetation Indicators:
				✓ Rapid Test for Hydrophytic Vegetation
1 Onoclea sensibilis	30	✓	FACW	✓ Dominance Test is > 50%
2. Phragmites australis	30	✓	FACW	✓ Prevalence Index is ≤3.0 ¹
3	0			
4				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				Froblematic Hydrophytic Vegetation (Explain)
				1 Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				_
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				Sapling/shrub - Woody plants less than 3 in. DBH and
(Plot size)	60 =	= Total Cover	•	greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)	_			
1	-			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2				size, and woody plants less than 5.20 it tall.
3				Woody vine - All woody vines greater than 3.28 ft in
4				height.
	0 =	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes No
Remarks: (Include photo numbers here or on a separate she	eet.)			

Sampling Point: WIL-W-003 (PEM)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: WIL-W-003 (PEM)

Profile Descr Depth	iption: (De		the depth	needed to		t the indic		onfirm the	absence of indicators	i.)			
(inches)	Color (Matrix (moist)	%	Color	moist)	dox reatu %	res Type ¹	Loc ²	Texture		Ren	narks	
0-6	2.5Y	3/1	100		inoise		.,,,,		Silt	COS	al fines	Idirio	
6-14	10YR	4/2	85	7.5YR	5/8	15	C	M	Silty Clay				
14+				-				-	-	sha	ale		
	N-	-		-				-	-				
-			-			-	-	-					
		-	-					-					
	N-	-		-				-					
		-								——			
										———			
		-								——			
										——			
1													
			n. RM=Red	uced Matrix,	CS=Cover	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. I				
Hydric Soil 1 Histosol (□ Dol	nalus Polo	w Surface ((CO) (I DD I		Indicators for P	oblema	atic Hydri	c Soils: 3	
`	pedon (A2)			☐ Poly MLR	value Belo A 149B)	w Surrace ((58) (LKK I	ζ,	2 cm Muck (A				
Black Hist				Thir	Dark Surf	ace (S9) (L	RR R, MLF	RA 149B)	Coast Prairie				
	Sulfide (A4)	١		Loai	my Mucky	Mineral (F1) LRR K, L)	5 cm Mucky F				
	Layers (A5)	,		Loai	my Gleyed	Matrix (F2))		☐ Dark Surface				
	Below Dark	Surface (A	11)	✓ Dep	leted Matri	x (F3)			Polyvalue Bel				
	k Surface (A		/	Red	ox Dark Su	ırface (F6)			Thin Dark Surface (S9) (LRR K, L)				
	ıck Mineral (☐ Dep	leted Dark	Surface (F7	7)		☐ Iron-Manganese Masses (F12) (LRR K, L, R)				
	eyed Matrix (Red	ox Depress	sions (F8)			Piedmont Floodplain Soils (F19) (MLRA 149B)				
Sandy Re		(31)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
	Matrix (S6)								Red Parent M	•	•		
	ace (S7) (LR	R R, MLRA	(149B)						Very Shallow		-	2)	
³ Indicators o				and hydrology	, must ha i	orecent un	lace dictur	ned or probl	Other (Explain	ı ın kem	iarks)		
Restrictive L			iii ana weac	ina nyarolog	, must be j	present, un	icss disturi	ocu or probi	lematic.				
Type:	ayer (IT obs	servea):											
Depth (inc	hes):								Hydric Soil Preser	ıt?	Yes 💿	No \bigcirc	
Remarks:	1103).												
Remarks:													

Project/Site: Bluecup Ventures Wilkes Barr	re Site	City/County: Wilkes Barre, Luze	rne Co. Sampling Date: 18-May-21
Applicant/Owner: Bluecup Ventures, LLC.		State: PA	Sampling Point: WIL-W-003 (UPL)
Investigator(s): Bridger Thompson		Section, Township, Range:	S. T. Wilkes Barre R.
Landform (hillslope, terrace, etc.): Rav	vine	Local relief (concave, convex, n	
Subregion (LRR or MLRA): LRR R	Lat.:	41.219889° Long	: -75.878353° Datum: NAD-83
Soil Map Unit Name: Sm: Strip mine			NWI classification: N/A
Are climatic/hydrologic conditions on th	ne site typical for this time of y	ear? Yes No	(If no, explain in Remarks.)
Are Vegetation , Soil 🗹 , o	r Hydrology 🔲 significant	tly disturbed? Are "Normal	Circumstances" present? Yes No
Are Vegetation , Soil , , o	or Hydrology 🔲 naturally p	problematic? (If needed, e	explain any answers in Remarks.)
		,	s, transects, important features, etc.
	res No O		· · · · · · · · · · · · · · · · · · ·
Hydric Soil Present?	′es ○ No •	Is the Sampled Area	Yes ○ No ●
,,	′es ○ No •	within a Wetland?	163 0 110 0
Remarks: (Explain alternative procedu	ures here or in a separate repo	rt.)	
a abandoned strip mine.	•		e wetland on the edge of a waterline right-of-way in
Hydrology			
Wetland Hydrology Indicators:			Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one re	equired; check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Lea	• •	Drainage Patterns (B10)
High Water Table (A2) Saturation (A3)	Aquatic Fauna (B1		Moss Trim Lines (B16)
Water Marks (B1)	☐ Marl Deposits (B1		Dry Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide		Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)		eres along Living Roots (C3)	
Algal Mat or Crust (B4)	Presence of Reduc	• •	Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Iron Deposits (B5)		ction in Tilled Soils (C6)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B	Thin Muck Surface	•	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B		Remarks)	FAC-neutral Test (D5)
	-,		
Field Observations: Surface Water Present? Yes	No Depth (inches):		
_			
Saturation Present?	No Depth (inches): No Depth (inches):	Wetland Hydr	ology Present? Yes O No 🖲
(includes capillary fringe) Describe Recorded Data (stream gauge		os, previous inspections), if avail	able:
Remarks:			
No evidence of hydrology.			

vegetation - use scientific names of pla	nts			Sampling Point: WIL-W-003 (UPL)
- (Plot size:	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	<u> </u>	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: 100.0% (A/B)
6				Prevalence Index worksheet:
7		= Total Cove		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 feet)		- Total Covel		OBL species 0 x 1 = 0
1 Betula populifolia	20	✓	FAC	FACW species $0 \times 2 = 0$
2	0			FAC species $30 \times 3 = 90$
3				I
4	0			l ·
5	0			UPL species $0 \times 5 = 0$
6				Column Totals: <u>30</u> (A) <u>90</u> (B)
7				Prevalence Index = $B/A = 3.000$
Herb Stratum (Plot size: 10 feet)	20=	= Total Cove	•	Hydrophytic Vegetation Indicators:
	10		FAC	Rapid Test for Hydrophytic Vegetation
1 Microstegium vimineum		✓	FAC	✓ Dominance Test is > 50%
2				✓ Prevalence Index is ≤3.0 ¹
3				☐ Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6 7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
9 10				Tree Meady plants 2 in /7 6 cm) or more in diameter
11			-	Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12				
		= Total Cove	-	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
		_		grouter than 6.25 ft (fift) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2				size, and woody plants less than 3.28 ft tall.
3				Woody vine - All woody vines greater than 3.28 ft in
4				height.
	=	= Total Cove	7	
				Hydrophytic
				Vegetation
				Present? Yes V NO V
Remarks: (Include photo numbers here or on a separate she	eet.)			

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: WIL-W-003 (UPL)

Depth nches)		Matrix	%	Redox Features Color (moist) % Type 1 Loc2	Texture	Remarks
)-10	Color (n 2.5Y	3/2	100	Color (IIIOISE) 70 Type - LOC-	Silt	coal fines
					-	
-14	10YR	3/2	100		Silt Loam	·
1+						shale
					-	
			-			
: C=Cond	centration. D=	=Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	ation: PL=Pore Lining.	M=Matrix
ic Soil I	indicators:				Indicators for P	roblematic Hydric Soils: 3
listosol (A	A1)			Polyvalue Below Surface (S8) (LRR R,		A10) (LRR K, L, MLRA 149B)
listic Epip	pedon (A2)			MLRA 149B)		Redox (A16) (LRR K, L, R)
lack Histi	ic (A3)			☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		Peat or Peat (S3) (LRR K, L, R)
lydrogen	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		(S7) (LRR K, L, M)
tratified !	Layers (A5)			Loamy Gleyed Matrix (F2)		low Surface (S8) (LRR K, L)
epleted !	Below Dark Su	urface (A	11)	Depleted Matrix (F3)		rface (S9) (LRR K, L)
hick Darl	k Surface (A12	2)		Redox Dark Surface (F6)		ese Masses (F12) (LRR K, L, R)
Sandy Mu	ick Mineral (S1	1)		Depleted Dark Surface (F7)		odplain Soils (F19) (MLRA 149B)
		4)		Redox Depressions (F8)		(TA6) (MLRA 144A, 145, 149B)
Sandy Gle	eyed Matrix (S	7)				
		4)				
Sandy Red		7)			Red Parent M	laterial (F21)
Sandy Red Stripped M	dox (S5)		A 149B)		Red Parent M Very Shallow	laterial (F21) Dark Surface (TF12)
Sandy Red Stripped M Dark Surfa	dox (S5) Matrix (S6) ace (S7) (LRR	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21)
Sandy Red Stripped M Dark Surfa licators of	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12)
Sandy Reconstripped Mark Surfactions of rictive La	dox (S5) Matrix (S6) ace (S7) (LRR	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12)
Sandy Reconstripped Mark Surfactors of rictive Language.	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
andy Rec cripped M ark Surfa cators of ctive La pe:	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
andy Reconstripped Noark Surfactors of ictive Lagree poth (inch	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
andy Reconstripped Noark Surfactors of ictive Lagree poth (inch	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
andy Reconstripped North Surfacetors of ictive Lagree:epth (inch	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
andy Reconstripped Mark Surfactors of ictive Large:	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
andy Reconstripped Mark Surfactors of ictive Large:	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
andy Reconstripped Mark Surfactors of ictive Large:	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
andy Reconstripped North Surfacetors of ictive Lagree:epth (inch	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
andy Reconstripped North Surfacetors of ictive Lagree:epth (inch	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
candy Reconstripped Noark Surfactors of Cators of Cators Lawren L	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
candy Reconstripped Noark Surfactors of Cators of Cators Lawren L	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or probl	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
candy Reconstripped Noark Surfactors of Cators of Cators Lawren L	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or problems.	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
Sandy Reconstripped No Dark Surfactors of Cators Lawype:	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or problems.	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
Sandy Reconstripped No Dark Surfactors of Cators Lawype:	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or problems.	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
Sandy Reconstripped No Dark Surfactors of rictive Lagype:epth (inch	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or problems.	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
Sandy Red Stripped M Dark Surfa licators of	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or problems.	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
Sandy Reconstripped No Dark Surfactors of rictive Lagype:epth (inch	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or problems.	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
Sandy Reconstripped No Dark Surfactions of rictive Lagren peth (inch	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or problems.	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)
Sandy Reconstripped No Dark Surfactors of Cattive Lagren Tictive Lagren Tict	dox (S5) Matrix (S6) ace (S7) (LRR f hydrophytic v ayer (if obse	R, MLRA		nd hydrology must be present, unless disturbed or problems.	Red Parent M Very Shallow Other (Explai	laterial (F21) Dark Surface (TF12) n in Remarks)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Bluecup Ventures Wilkes Barre	Site	City/County: \	Vilkes Barre, Luzerr	ne Co.	Sampling Date: 18-May-21
Applicant/Owner: Bluecup Ventures, LLC.			State: PA	Sampling F	Point: WIL-W-004 (PEM)
Investigator(s): Bridger Thompson		Section, Tow	ınship, Range: S	т. W	filkes Barre R.
Landform (hillslope, terrace, etc.): Swale	2	Local relief (con	cave, convex, no	ne): concave	Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR R	Lat.:	41.219039°	Long.:	-75.880119°	Datum: NAD-83
Soil Map Unit Name: Sm: Strip mine				NWI classific	cation: N/A
-			● No ○ (_	
Are climatic/hydrologic conditions on the		ear? Yes		If no, explain in F	=
Are Vegetation, Soil 🗹, or h	Hydrology 🗹 significant	ly disturbed?	Are "Normal C	ircumstances" pr	esent? Yes No
Are Vegetation \square , Soil \square , or H	lydrology 🗌 naturally p	roblematic?	(If needed, ex	plain any answer	rs in Remarks.)
Summary of Findings - Attach		ampling poi	int locations	, transects,	important features, etc.
, , , , , , , , , , , , , , , , , , , ,	No O				
1 7	; ● No ○		ampled Area Wetland?	Yes No	
Wetland Hydrology Present? Yes	; No				
Wetland data point collected to docume used haul road in a abandoned strip mir by soft rush.					
Hydrology					
Wetland Hydrology Indicators:				Secondary Indicator	rs (minimum of 2 required)
Primary Indicators (minimum of one req				Surface Soil Cra	` '
✓ Surface Water (A1) High Water Table (A2)	Water-Stained Lea	` ,		Drainage Patter	, ,
Saturation (A3)	☐ Aquatic Fauna (B1) ☐ Marl Deposits (B15)	-		Moss Trim LinesDry Season Wa	• •
Water Marks (B1)	Hydrogen Sulfide (-		Crayfish Burrow	• •
Sediment Deposits (B2)		eres along Living R	note (C3)		le on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduc		000 (05)	_	ssed Plants (D1)
✓ Algal Mat or Crust (B4)		tion in Tilled Soils ((C6)	Geomorphic Po	• •
✓ Iron Deposits (B5)	☐ Thin Muck Surface		(00)	Shallow Aquitar	` '
☐ Inundation Visible on Aerial Imagery (B7)	Other (Explain in F	` ,		Microtopograph	ic Relief (D4)
☐ Sparsely Vegetated Concave Surface (B8)		,		✓ FAC-neutral Tes	st (D5)
Field Observations:					
Surface Water Present? Yes • N	o O Depth (inches):				
Water Table Present? Yes O No.	o Depth (inches):				
Saturation Present? (includes capillary fringe) Yes • No	Depth (inches):		Wetland Hydro	logy Present?	Yes No
Describe Recorded Data (stream gauge,	monitoring well, aerial photo	s, previous inspe	ections), if availa	ble:	
Remarks:					

VEGETATION - Use scientific names of plants

vegetation - use scientific names of pla				Sampling Point: WIL-W-004 (PEM)
- (Plot circ)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover		Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: 100.0% (A/B)
6				Prevalence Index worksheet:
7		= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)		- Iotal Covel		OBL species 30 x 1 = 30
1	0			FACW species $30 \times 2 = 60$
2	0			FAC species $0 \times 3 = 0$
3	0			l '
4	0			l '
5				· ·
6				Column Totals: <u>60</u> (A) <u>90</u> (B)
7				Prevalence Index = B/A = 1.500
Herb Stratum (Plot size: 10 feet)	=	= Total Cover		Hydrophytic Vegetation Indicators:
4. 2	20		OBL	✓ Rapid Test for Hydrophytic Vegetation
1 _ Juncus effusus 2 _ Phragmites australis		✓	OBL FACW	✓ Dominance Test is > 50%
			FACW	✓ Prevalence Index is \leq 3.0 ¹
·			TACW	Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5 6				☐ Problematic Hydrophytic Vegetation ¹ (Explain)
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10		П		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				
		= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				, ,
1				Herb - All herbaceous (non-woody) plants, regardless of
2				size, and woody plants less than 3.28 ft tall.
3				Woody vine - All woody vines greater than 3.28 ft in
4				height.
	=	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes No
				Present? 165 0 110 0
Barradar (Tarabada abada arang)				<u> </u>
Remarks: (Include photo numbers here or on a separate she	eet.)			

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: WIL-W-004 (PEM)

	iption: (De	scribe to	the depth	needed to d	ocument	the indic	ator or co	onfirm the	absence of indicators.		
Depth (inches)		Matrix				dox Featu		1 2			
	Color (Color (moist)	%	Type ¹	Loc²	Texture	coal fines	narks
0-10	2.5Y	3/1	100			-			P	— Coal filles	
10-14	2.5Y	4/2	90	7.5YR	5/6	10	C		Silty Clay		
14+										shale	
		-	_	-	-				•		
		-			-				-	-	
		-			-						
									-		
		-			-						
1		D. J. H.	- DM D - d				-1.61.6	-: 21		Matric	
		=Depletio	n. KM=Ked	ucea Matrix, (_S=Covere	eu or Coate	ea Sand Gr	ains ² Loca	ation: PL=Pore Lining. M:		
Hydric Soil I				□ . .	mbus D. I	C	(00) (100	,	Indicators for Pro	blematic Hydr	ic Soils: 3
Histosol (A					value Belov A 149B)	w Surface ((S8) (LRR F	ζ,	2 cm Muck (A10	O) (LRR K, L, ML	RA 149B)
Histic Epip Black Histi					,	ace (S9) (I	LRR R, MLF	RA 149B)	Coast Prairie Re	edox (A16) (LRR	K, L, R)
	Sulfide (A4)) LRR K, L			at or Peat (S3) (I	
	Layers (A5)					Matrix (F2)				57) (LRR K, L, M)	
	Below Dark S	Surface (A	11)		eted Matrix					V Surface (S8) (L	
	Surface (A		11)		x Dark Su					ce (S9) (LRR K,	
	ck Mineral (S			☐ Depl	eted Dark	Surface (F	7)			e Masses (F12) (
_	yed Matrix (Redo	x Depress	ions (F8)				plain Soils (F19)	
Sandy Rec		51)							Mesic Spodic (T		A, 145, 149B)
Stripped M									Red Parent Mat		
	ace (S7) (LRI	R R, MLRA	149B)							ark Surface (TF1	2)
									Other (Explain i	n Remarks)	
³ Indicators of			n and wetla	ind hydrology	must be p	resent, un	less disturi	oed or probl	ematic.		
Restrictive La	ayer (if obs	erved):									
Type:									Hydric Soil Present	? Yes ⊙	No O
Depth (inch	nes):								nyunc son Present	r res 🙂	NO U
Remarks:											
i											
i											
i											
•											
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1											
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WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Bluecup Ventures Wilkes Barre S	Site	City/County:	Wilkes Barre, Luzer	ne Co. Sai	mpling Date: 18-May-21
Applicant/Owner: Bluecup Ventures, LLC.			State: PA	Sampling Poi	nt: WIL-W-004 (UPL)
Investigator(s): Bridger Thompson		Section, To	wnship, Range: S	. T. Wilke	es Barre R.
Landform (hillslope, terrace, etc.): Flat		Local relief (co	ncave, convex, no	ne): flat	Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR R	Lat.:	41.218999°	Long.	-75.880139°	Datum: NAD-83
Soil Map Unit Name: Sm: Strip mine		111210333		NWI classificati	
		- Vaa	● No ○	_	
Are climatic/hydrologic conditions on the			· ·	If no, explain in Ren	· v
Are Vegetation , Soil , or H	lydrology significant	tly disturbed?	Are "Normal (Circumstances" prese	_{ent?} Yes • No ·
Are Vegetation $\ \ \ \ \ \ \ \ \ \ \ $, Soil $\ \ \ \ \ \ \ \ $, or H	lydrology 🗌 naturally p	problematic?	(If needed, ex	plain any answers i	n Remarks.)
Summary of Findings - Attach		sampling po	int locations	, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Yes		Takka	- 1.4 4		
Hydric Soil Present? Yes			Sampled Area a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present? Yes	O No •				
Hydrology					
Wetland Hydrology Indicators:	·		-	_	minimum of 2 required)
Primary Indicators (minimum of one requestion Surface Water (A1)		(PO)		Surface Soil CracksDrainage Patterns	
High Water Table (A2)	Water-Stained Lea☐ Aquatic Fauna (B1	` '		Moss Trim Lines (E	
Saturation (A3)	Marl Deposits (B15	-		Dry Season Water	•
Water Marks (B1)	Hydrogen Sulfide	-		Crayfish Burrows (` '
Sediment Deposits (B2)	Oxidized Rhizosph	. ,	Roots (C3)		on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduc			Stunted or Stresse	d Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduc	ction in Tilled Soils	(C6)	Geomorphic Position	` ,
Iron Deposits (B5)	Thin Muck Surface	e (C7)		Shallow Aquitard (I	•
Inundation Visible on Aerial Imagery (B7)	Other (Explain in F	Remarks)		Microtopographic F	
Sparsely Vegetated Concave Surface (B8)				FAC-neutral Test (I	D5)
Field Observations:					
Danace Tracer Frederics	Depth (inches):				
Water Table Present? Yes O No	Depth (inches):				
(Includes capillary ITINge)	Depth (inches):		Wetland Hydro		′es ○ No •
Describe Recorded Data (stream gauge, r	monitoring well, aerial photo	os, previous insp	pections), if availa	ble:	
Remarks:					
No evidence of hydrology.					

VEGETATION - Use scientific names of plants

vegeration - use scientific names or pia	ints			Sampling Point: WIL-W-004 (UPL)
(0)	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata:
4				
5				Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
6	0			That Are OBL, TACW, OF TAC.
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 feet)	0 =	= Total Cove	r	Total % Cover of: Multiply by:
	10		EAC	OBL species 0 x 1 = 0
1 Betula populifolia		✓	FAC	FACW species $0 \times 2 = 0$
2				FAC species $10 \times 3 = 30$
3	•			FACU species $20 \times 4 = 80$
4				UPL species $0 \times 5 = 0$
5				Column Totals: 30 (A) 110 (B)
<u>6</u>				
7				Prevalence Index = B/A = <u>3.667</u>
Herb Stratum (Plot size: 10 feet)	10 =	= Total Cove	•	Hydrophytic Vegetation Indicators:
	20		E4.011	Rapid Test for Hydrophytic Vegetation
1 . Andropogon gerardii		✓	FACU	☐ Dominance Test is > 50%
2				Prevalence Index is ≤3.0 ¹
3				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				1
7	0			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8				
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
(District)	20 =	= Total Cove	•	greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				, ,
1				Herb - All herbaceous (non-woody) plants, regardless of
2				size, and woody plants less than 3.28 ft tall.
3				Woody vine - All woody vines greater than 3.28 ft in
4				height.
	0 =	= Total Cove	•	
				Hydrophytic Vegetation
				Present? Yes No
Remarks: (Include photo numbers here or on a separate sh	eet.)			
	,			

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: WIL-W-004 (UPL)

Depth (inches)	
0-14 2.5Y 3/1 100 Silt coal fines	
14+ shale	
¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix	
Hydric Soil Indicators: Indicators for Problematic Hydric Soils :	3
Hictory (A1)	
MLRA 149B)	
Thin Dark Surface (S9) (LRR R, MLRA 149B)	D)
Loamy Mucky Mineral (F1) LRR K, L)	K)
Stratified Layers (AE) Loamy Gleyed Matrix (F2)	
Depleted Matrix (F3)	
Thick Dark Surface (A12) Redox Dark Surface (F6)	D)
Depleted Dark Surface (F7)	
Redox Depressions (F8)	
inesic Spoule (TAO) (MENA 144A, 143, 14	96)
Christoph Matrix (CC)	
Stripped Matrix (S6) Very Shallow Dark Surface (TF12)	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Uvery Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed):	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Hidric Seil Brosent3	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Type: Depth (inches): Hydric Soil Present? Yes No	ı
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Type: Depth (inches): Hydric Soil Present? Yes No	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
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Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Type: Depth (inches): Hydric Soil Present? Yes No	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Type: Depth (inches): Hydric Soil Present? Yes No	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Type: Depth (inches): Hydric Soil Present? Yes No	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators 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 •	

Appendix B

Photographic Log



Date:

1

05/18/21

Feature ID:

Existing Conditions

Direction:

West

Description:

Photo depicts a view of the currently used existing haul road on the northern edge of the Study Area.



Photograph:

Date:

2

05/18/21

Feature ID:

Existing Conditions

Direction:

Southwest

Description:

Photo depicts a view facing southwest from the northeast edge of the Study Area of the existing historically mined areas.



Date:

3

05/18/21

Feature ID:

Existing Conditions

Direction:

North

Description:

View of the typical conditions of the historically used haul roads within the Study Area.



Photograph:

Date:

4

05/18/21

Feature ID:

Existing Conditions

Direction:

Northeast

Description:

View of the typical conditions observed throughout the Study Area.



5

05/18/21

Feature ID:

Wetland WIL-W-001 (PEM)

Direction:

North

Description:

View of the vegetative conditions at the wetland data point WIL-W-001 (PEM).



Photograph: Date:

6

05/18/21

Feature ID:

Upland WIL-W-001 (UPL)

Direction:

North

Description:

View the vegetative conditions at the upland data point FIN-W-001 (UPL).



Date:

7

05/18/21

Feature ID:

Wetland WIL-W-002 (PEM)

Direction:

South

Description:

View of the vegetative conditions in wetland WIL-W-002 (PEM).



Photograph:

8 8

05/18/21

Date:

Feature ID:

Wetland WIL-W-003 (PEM)

Direction:

North

Description:

View of the vegetative conditions in wetland WIL-W-003 (PEM).



9

05/18/21

Feature ID:

Upland WIL-W-003 (UPL)

Direction:

West

Description:

View of vegetative conditions at the upland data point WIL-W-003 (UPL).



Photograph: Date:

10 05/18/21

Feature ID:

Wetland WIL-W-004 (PEM)

Direction:

South

Description:

View of the vegetative conditions in wetland WIL-W-004 (PEM).



11

05/18/21

Feature ID:

Upland WIL-W-004 (UPL)

Direction:

N/A

Description:

View of the conditions at the upland data point WIL-W-004 (UPL).



Photograph: Date:

12

05/18/21

Feature ID:

Watercourse WIL-S-001 (INT)

Direction:

North

Description:

View of facing upstream at the culvert that discharges WIL-S-001 under the haul road..



3. **...** 13

05/18/21

Date:

Feature ID:

Watercourse WIL-S-001 (INT)

Direction:

North

Description:

View of facing upstream on watercourse Wil-S-001 where the channel is perched on exposed bedrock.



Photograph: Date:

14

05/18/21

Feature ID:

Watercourse WIL-S-002 (EPH)

Direction:

North

Description:

View of facing upstream at the heavily eroded channel identified as WIL-S-002 (EPH)



15 05/18/21

Feature ID:

Watercourse WIL-S-003 (EPH)

Direction:

South

Description:

View of the facing upstream on watercourse WIL-S-003 (EPH)



Photograph: Date:

16 05/18/21

Feature ID:

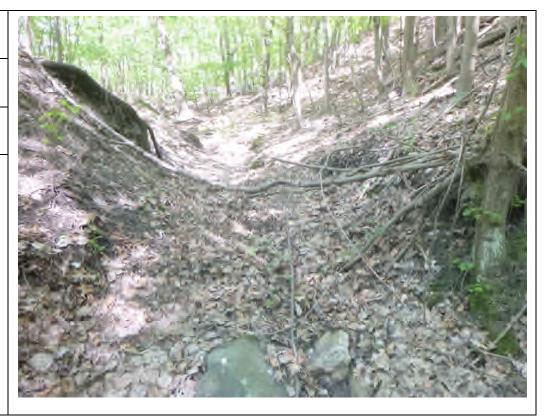
Watercourse WIL-S-004 (EPH)

Direction:

North

Description:

View of facing upstream along the ephemeral drainage identified as WIL-S-004 (EPH)



17

07/10/21

Feature ID:

Watercourse WIL-S-005 (EPH)

Direction:

West

Description:

View of facing downstream stream along watercourse WIL-S-005 (EPH).



Photograph: Date:

18

07/10/21

Feature ID:

Watercourse WIL-S-005 (EPH)

Direction:

East

Description:

View of facing upstream along watercourse WIL-S-005 (EPH).

