STREAM AND WETLAND DELINEATION REPORT

JAMES CITY SWD WELL #38268

HIGHLAND TOWNSHIP, ELK COUNTY, PENNSYLVANIA

APRIL 2014

Prepared for:

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REPORT CERTIFICATION

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Date	4/2/14	Signature
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Date	4/2/14	Signature C Lob
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STREAM AND WETLAND DELINEATION REPORT

INTRODUCTION

On behalf of Seneca Resources Corporation (Seneca), Kleinfelder conducted a wetland investigation of the proposed James City Salt Water Disposal (SWD) Well #38268 (Project) area on March 17, 2014. The area of investigation (AOI) is located to the south of Lamont Road (T319) in Highland Township, Elk County, Pennsylvania and appears on the James City 7.5-minute United States Geological Survey (USGS) quadrangle as provided on the Topographic Basemap (Figure 1). The AOI is provided on the Aerial Basemap, (Figure 2).

METHODS

Kleinfelder conducted a wetland investigation of the proposed Project AOI using the wetland delineation methodology outlined in the 1987 *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (United States Army Corps of Engineers, 2012). This approach recognizes the three parameters of vegetation, soils, and hydrology to identify and delineate wetlands. The purpose of this investigation was to identify wetland and stream boundaries within the AOI and avoid and/or minimize impacts to these natural resources. Nomenclature and indicator status of vegetative species was identified using the United States Army Corps of Engineers (USACE) 2013 National Wetland Plant List (NWPL). Wetland, stream, and pond features were classified according to Cowardin et al. (1979) guidelines.

Prior to fieldwork, field biologists reviewed available mapping (topographic and aerial imagery) to identify areas containing wet signatures or which may be problematic to understand the nature of wetlands and/or streams which may be encountered. Additionally, a desktop evaluation of soils, National Wetland Inventory (NWI) wetlands and Federal Emergency Management Area (FEMA) floodplains which may be located on-site was conducted (**Figure 2**).

During the field work, the boundaries of streams, wetlands and ponds were identified and flagged using a site-specific identification system. Following the establishment of the feature boundary in the field, the flagged locations were recorded using a Trimble GeoXH (GeoExplorer 2008 and GeoXH 6000 models) with attached Tornado or Zephyr external antennas. At



representative points along the stream and wetland boundaries, data was collected to document the existing vegetation, soils and hydrology characteristics of the features.

Stream flow regime, bank height, width and depth were measured in the field. Geomorphic traits such as stream bed substrate, entrenchment, degree of channelization, relative erosion, dominant riparian vegetation and percent riparian canopy cover were recorded. Features were determined to be streams if they met the following three parameters: presence of defined bed and bank, ordinary high water mark, and connectivity to other aquatic features. Features that did not exhibit all three parameters were classified as erosional/drainage features. The USACE defines perennial, intermittent, and ephemeral streams as follows:

- Perennial streams having running water throughout the majority of the year with groundwater contributing to stream flow,
- Intermittent streams are defined as having running water during certain times of the year when groundwater contributes to stream flow, and;
- Ephemeral streams are defined as having running water primarily after storm events and are dry the majority of the year because the water table is generally well below the stream bed (Environmental Laboratory, 1987).

Forested streams were identified as streams with at least 30% canopy cover, out 150 feet from each bank.

RESULTS

Kleinfelder identified a total of two wetlands within the AOI. The land cover and aquatic resource types found within the project area consist of hardwood forest, emergent wetlands. Land use in the project area is dominated by forested tracts. Please refer to the Wetland Location Map in Appendix A to view locations of the mapped wetlands. A table summarizing wetland data is provided in Appendix B, and photographs of each feature within the AOI are presented in Appendix C. Field datasheets are included in Appendix D to provide information specific to each wetland and upland sample point location. Qualifications of the individuals who assisted in the development of this report are provided in Appendix E.

Wetlands

Wetlands within the project area are classified as emergent. Spice bush (*Lindera benzoin*, FAC) was observed as the dominant species within the shrub stratum, however was not a present at



30% or more aerial coverage to be considered a Palustrine Scrub-Shrub (PSS) wetland. The herbaceous stratum was dominated by fowl blue grass (*Poa palustris*, FACW), dark-green bulrush (*Scirpus atrovirens*, OBL), lamp rush (*Juncus effusus*, FACW), and sensitive fern (*Onoclea sensibilis*, FACW). The combination of these species resulted in a dominance test of greater than 50 percent and indicates that hydrophytic vegetation were dominant. Hydric soils were present and all wetlands met the hydric soil indicator for depleted matrix. Primary indicators of wetland hydrology included saturation, surface water, oxidized rhizospheres on living roots and high water table. Geomorphic position provided secondary indicators of wetland hydrology. Based on the combination of dominant hydrophytic vegetation, hydric soils, and the presence of primary and/or secondary wetland hydrology indicators, these features were determined to be wetlands.

Uplands

Sample Points that did not exhibit all three parameters to be considered wetlands were determined to be located in upland areas. Please refer to the field data sheets provided in **Appendix C** for additional information specific to the upland conditions near each wetland. Dominant vegetation within the uplands consisted of sweet birch (*Betula lenta*, FACU) and sugar maple (*Acer saccharum*, FACU) in the tree stratum. The shrub stratum was dominated by American Beech (*Fagus grandifolia*, FACU) and striped maple (*Acer pensylvanicum*, FACU). No herbs were identified in the herbaceous stratum. The composition of the species present resulted in a dominance test of less than 50 percent, and no hydric soil or wetland hydrology indicators were present. Based on the absence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology, these sample points are located in upland areas.

Streams

The project area is located within the Wolf Run drainage basin. According to Chapter 93, streams within this watershed would be considered High Quality-Cold Water Fishes (HQ-CWF). During the wetland delineation fieldwork, Kleinfelder did not identify any streams within the Project AOI.

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DISCUSSION

This document describes the aquatic resources found within the AOI and was performed based on information provided by Seneca. This document is intended to provide stream locations and wetland boundaries within the AOI. Any encroachments, fills, or crossings of these areas will require the appropriate State and Federal permits. Data on which this report is based are on file at Kleinfelder's Cranberry, PA office.

REFERENCES

- Cowardin, L.M., V. Carter V., F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31. Washington, D.C.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS., NTIS No. AD A176 912.
- Lichvar, R.W. 2013. The National Wetland Plant List: 2013 wetland ratings. Phytoneuron 2013-49: 1-241.
- U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0, ed. J.F. Berkowitz, J.S. Wakely, R.W. Lichvar, C.V. Noble. ERDC/EL TR-12-9. Vicksburgh, MS: U.S. Army Engineer Research and Development Center.

APPENDIX A WETLAND LOCATION MAP

APPENDIX B

WETLAND DATA TABLE

	TABLE 1. S	TABLE 1. SUMMARY OF WETLANDS	OF WETLAN	IDS	
			PACODE	GPS LOCATIO	GPS LOCATION COORDINATES
FIELD DESIGNATION	RESOURCE DESCRIPTION	COWARDIN	CH.105.17 WETLAND STATUS	LATITUDE	LONGITUDE
WETLAND A	EMERGENT	PEM	N/A	41.619205	-78.820868
WETLAND B	EMERGENT	PEM	N/A	41.619072	-78.820752

APPENDIX C

SITE PHOTOGRAPHS



Photograph 1 - Wetland A, View South



Photograph 2 - Wetland A, View North



Photograph 3 - Wetland B, View North



Photograph 4 – Wetland B, View Northeast



SITE PHOTOGRAPHS
JAMES CITY SWD Well #38268

APPENDIX D

FIELD DATASHEETS

									044710044
Project/Site:	James City	SWD Well #38268	(City/County:			Elk Co., PA	Date:	3/17/2014
Applicant/Owner:	Seneca Rese	ources Corporation		State:		PA	Sampling Point:	Wetland A	
Investigator(s):	Holmes, Jo	osh & Lee, Mallory		Section, Tov	ınship,	Range:		Highland	
Landform (hillslope	, terrace, etc.):	Depression	1	_ocal relief (concav	e, convex, i		Concave	
Slope (%): 1			Long:	-78,82	0868	Subregi	on (LRR or MLRA): L	.RR - N_Datur	
Soil Map Unit Nam			СрВ				NWI classification	n:	PEM
Are climatic/hydrol		on the site typical	x Yes	No		(if no, expla	ain in Remarks)		
for this time of yea									Į
Are Vegetation		or Hydrology	significa	ntly disturbe	ed?	Are "Norm	al Circumstances" pro	esent? <u>x</u> Y	esNo
Are Vegetation			naturally	, problemati	c?	(If needed,	explain any answers	in Remarks.)	i
		, , ,	•	·					
SUMMARY OF FI	NDINGS - Atta	ch site map showi	ng sam	pling point	locatio	ns, transe	cts, important featu	res, etc.	
Hydrophytic Veget		x Yes	No		·				
Hydric Soil Presen		× Yes	— _{No}	ls ti	ne San	npled Area	Within a Weltand?	Y	es
Wetland Hydrology		x Yes	No			•			
		cedures here or in a		te renort)			· · · · · · · · · · · · · · · · · · ·	····	
Remarks, (⊏xpiairi	atternative pro-	cedules here of in a	a sopeii u	ic report.					
Depression formed	d from logging a	activity. Wetland A							
HYDROLOGY									
Wetland Hydrolo	gy Indicators:					_			
Primary Indicato	<u>rs (minimum c</u>	of one is required:	check:	all that app	ıly)	or Secon	dary Indicators (mir		requirea)
x Surface Water (A1)	Water-Staine	ed Leave	s (B9)			Surface Soil Crack		
X High Water Tabl	e (A2)	Aquatic Fau	na (B13)				Sparsely Vegetated	d Concave Surfa	ice (B8)
x Saturation (A3)		True Aquatio	: Plants (l	B14)			Drainage Patterns	(B 10)	
Water Marks (B	1)	Hydrogen St	ulfide Odd	or (C1)			Moss Trim Lines (E	316)	
Sediment Depos		X Oxidized Rhi	zosphere	es on Living F	Roots (C	3)	Dry-Season Water	Table (C2)	
Drift Deposits (B	(3)	Presence of	Reduced	l Iron (C4)			Crayfish Burrows (C8)	
Algal Mat or Cru		Recent Iron	Reductio	n in Tilled So	ils (C8)		Saturation Visable	on Aerial Image	y (C9)
Iron Deposits (B		Thin Muck S					Stunted or Stresse	d Plants (D1)	
Inundation Visal	ole on Aerial	Other (Expla	in in Ren	narks)			X_Geomorphic Positi	on (D2)	
Imagery (B7)							Shallow Aquitard (I	O3)	
							Microtopographic F	Relief (D4)	
1							x FAC-Neutral Test ((D5)	
Field Observati	ons:								
Surface Water F		YesNo De	epth (inc	ches):	1				
Water Table Pre			epth (inc	,	3				
Saturation Prese		<u> </u>	epth (inc	· · · · · · · · · · · · · · · · · · ·	0	Wetland	Hydrology Presen	t? x Yes	No
1		- 103 110 BC	, pui (iiii	ooo,	~	***************************************	,	_	
(includes capilla	iy iiiiye)	am gauga manit	oring v.	all aprial n	hotos	nrevioue i	nspections), if avail	able:	
	sed Data (Sile	ani gauge, monit	Jillig W	on, acriai p	110103,	picviousi	riopeoliorio,, ii araii		
N/A									
Demonstrat								······································	
Remarks:		ry hydrology indic	atore w	ore met					
Multiple primary	and secondar	ry riyarology maic	ators w	CIC IIICI.					
!									

EGETATION - Use scientific name	s of plants			Sampling Point: Wetland	ΑL
EGETATION - Gae scientific france	Absolute %	Dom.	Indicator	Dominance Test works	heet:
ee Stratum (Piot <u>size:</u> 30)	Cover	spp?	Status	Number of Dominant	
				Species That are OBL,	
				FACW or FAC:	2(A)
2					
3				Total Number of Dominant	
4				Species Across All Strata:	2 (8)
5					
6				Percent of Dominant	
7				0.00	
	0 =Total		_	Species That are OBL,	
50% of Tota	ıl Cover0	20% of Tota	l Cover 0	540W -= 540	100 (A/B)
	Absolute %	Dom.	Indicator	FACW, or FAC:	100 (100)
apling Stratum (Plot size:15)	Cover	spp?	Status		-14-
				Prevalence Index work	
				TO (GI 70	Multiply by:
			<u> </u>	OBE openios	x1=
3				FACW species	x2=
4				FAC species	x3=
5	<u></u>				x4=
6					x5=
7				Column Totals	PI:
	0 =Total		10	Ocialist Fotos	
50% of Tot	al Cover 0		al Cover 0		
	Absolute %	Dom.	Indicator	1	
Shrub Stratum (Plot size; 15)	Cover	spp?	Status		l-diantara:
1 Lindera benzoin	5	Yes	FAC	Hydrophytic Vegetation	indicators:
	-			No Rapid Test for Hydrophyl	
				Yes Dominance Test is >50%	
3				Prevalence Index is < 3.0	O*
4				Morphological Adaptation	ns* (Provide
5				supporting data in Rema	rks or on separal
6				sheet)	
7				Problematic Hydrophytic	Vegetation*
		l Cover		(Explain)	-
50% of To	tal Cover 2.5	20% of To	tal Cover1	(Exhigii)	
	Absolute %	Dom.	Indicator		
Herb Stratum (Plot size: 5)	Cover	spp?	Status	A S. Martin and building and	and wolland
1 Thelypteris palustris	2	No	FACW	* Indicators of hydric soil	
2 Juncus effusus	2	No	FACW	hydrology must be prese	
	1	No	OBL.	disturbed or problemation	i.
3 Scirpus atrovirens	45	Yes	FACW		
4 Poa palustris				Definitions of Vegeta	tion Strata:
5				Tree - Woody plants, exclud	
6				approximately 20 ft (6 m) or	more in height ar
7				3 in. (7.6 cm) or larger in dia	meter at breast
8				height (DBH)	
9				1	
10				Sapling - Woody plants, exc	cluding woody
				vines, approximately 20 ft (6	m) or more in
11			-	height and less than 3 in. (7	6 cm) DBH.
12	50 =To!	al Cover		Olimba Manda alanda anni	udina woody vina
			otal Cover 10	Shrub Woody plants, excl approximately 3 to 20 ft (1 to	uusiy woouy viile n 6 m) in heinht
50% of 10	otal Cover 25			approximately 5 to 20 ft (1 to	o o my in noight.
	Absolute %	Dom.	Indicator		
Woody Vine Stratum (Plot size: 30)	Cover	spp?	Status	Herb – All herbaceous (non	-woody) plants,
1				including herbaceous vines	, regardless of si
2				and woody plants, except w	roody vines, less
3				than approximately 3 ft (1 n	n) in height.
4					
	0 =To	tal Cover		Woody vine – All woody vin	es, regardless of
END/ of T	otal Cover 0		otal Cover 0	height.	
50% 01 1	Olai Govoi	_5,0 51 1			
				 	
Remarks: (include photo numbers here or c	n separate sheet.)				
·					
				Hydrophytic Veget	ation Present
1				1	
				x YesNo	

						····		Point: Wetland A
OILS	escription: (Des	cribe to the	depth needed t	o documen	t the indica	tor or con	firm the absenc	e of indicators.)
epth	Matrix	onbo to the		Redox Fea	tures			
nches)	Color (moist)	%	Color (moist)	%	Type *1	Loc *2	Texture	Remarks
0-3	10YR 3/2	100	00.01				Silt Loam	
	10YR 4/1	72	7.5YR 4/6	28	С	M	Clay Loam	
3-8		80	7.5YR 5/8	20	C	M	Clay	
3-20	2.5Y 5/1		7,5117 0,0					
								
						***	· · · · · · · · · · · · · · · · · · ·	
	-							
						2 Location:	DI - Doro Lining M	=Matrix
		=Depletion, RI	M=Reduced Matrix,		sanu Grains.	Z LOCATION.	Indicators for D	roblematic Hydric Soils *3
ydric S	ioil Indicators:			rface (S7)	N 44 DA 447			10)(MLRA 147)
Histos	sol (A1)			rk Surface (S		, 148)		Redox (A16) (MLRA 147, 148)
Histic	Epipedon (A2)			e Below Surf	ace (S8)	-		dpłain Soils (F19)(MLRA 136,147)
Black	: Histic (A3)		•	147, 148)				Dark Surface (TF12)
Hydro	ogen Sulfide (A4)			Gleyed Matrix	(F2)	-		
Stratif	fied Layers (A5)			d Matrix (F3)		-	Other (Explain	III Remarks)
2 cm i	Muck (A10) (LRR N	ŧ)		Dark Surface (
Deple	eled Below Dark Su	rface (A11)		d Dark Surfac				
Thick	Dark Surface (A12)		Depressions (
Sand	y Mucky Mineral (S	1)	Iron-Ma	nganese Mas	ses (F12)			
 (LRR	N, MLRA 147, 148)		, MLRA 136)				
	Colored Makes (C)	1)		Surface (F13)				
Sandy	ly Gleyed Matrix (S4		ev - do-	nt Floodolain	Soils (F19) (M	LRA 148)		
	ly Redox (S5)	,						
Sand				rent Material (F21) (MLRA 1			
Sand	ly Redox (S5)	,			F21) (MLRA 1			
Sandy Stripp	ly Redox (S5) ped Matrix (S6)		Red Pa	rent Material (127, 147)		
Sandy Stripp	ly Redox (S5) ped Matrix (S6)			rent Material (127, 147)	obiematic.	10
Sand Stripp	ly Redox (S5) ped Matrix (S6)	vegetation and	Red Pa	rent Material (127, 147)	Hydric Soi	
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Sand Stripp 3 Indicate Restric Type: Depth (I	y Redox (S5) ped Matrix (S6) tors of hydrophytic vitive Layer (if o	vegetation and	Red Pa	rent Materiat (ent, unless dis	127, 147)	Hydric Soi	
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Sand Stripp 3 Indicate Restric Type: Depth (I	y Redox (S5) ped Matrix (S6) tors of hydrophytic vitive Layer (if o	vegetation and	Red Pa	rent Materiat (ent, unless dis	127, 147)	Hydric Soi	
Sand Stripp 3 Indicate Restric Type: Depth (I	y Redox (S5) ped Matrix (S6) tors of hydrophytic vitive Layer (if o	vegetation and	Red Pa	rent Materiat (ent, unless dis	127, 147)	Hydric Soi	
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							T-11.	Date:	3/17/2014
Project/Site:		SWD Well #3826		City/Cou	inty:		Elk		
Applicant/Owner:	Seneca Reso	ources Corpora	tion	State:		PA	Sampling Point:	Wetland B	
Investigator(s):	Holmes, Jo	sh & Lee, Mallory			Township,			-lighland	
Landform (hillslope	terrace, etc.):	Depression		Local re	lief (concav	ve, convex,		concave	
Slope (%): 1		41.619072	Long:	-7	8.820752	Subregi		<u>.RR - N</u> Datu	
Soil Map Unit Name	 e:		Ср	В			NWI classification	1:	PEM
Are climatic/hydrolo	ogic conditions	on the site typical	х Үе	S	No	(if no, explain	ain in Remarks)		
for this time of year		•••							
Are Vegetation		or Hydrology	signifi	cantly dis	turbed?	Are "Norm	al Circumstances" pro	esent? <u>x</u> \	′esNo
Are Vegetation		or Hydrology		illy proble		(If needed,	explain any answers	in Remarks.)	
Ase vegetation		o,, a		,,		•			
SUMMARY OF FIN	NDINGS - Attac	h site map show	wing sa	mpling p	oint locati	ons, transe	ects, important featu	res, etc.	
Hydrophytic Vegeta	tion Present?	x Yes	No)					
Hydric Soil Present		x Yes	N	0	ls this Sa	mpled Are	a Within a Wetland	? <u> </u>	<u>es</u>
Wetland Hydrology		x Yes	N	0	ļ				
Remarks: (Explain			a sena	rate reno	rf)				
Remarks. (Explain	atternative pro-	soudice note of a			,				
Reference Point fo	r Wetland B.								
HYDROLOGY									
Wetland Hydrolo	av Indicators		/						
Primary Indicator	gy maioators. co (minimum c	f and is require	d chec	k all that	anniv)	or Secon	ndary Indicators (mi	nimum of two	<u>required)</u>
		Water-Sta			C CAPPILL	<u></u> -	Surface Soil Crack		
Surface Water (/	•						Sparsely Vegetate		ace (B8)
X High Water Tabl	e (A2)	—_Aquatic Fa		-			Drainage Patterns		` '
X Saturation (A3)		True Aqua					Moss Trim Lines (E	-	
Water Marks (B		Hydrogen	Sumae	Jaor (CT)		0.01	Dry-Season Water		
Sediment Depos	ilts (B2)	X Oxidized F				U3)			
Drift Deposits (B	3)	Presence					Crayfish Burrows (··· (CO)
Algal Mat or Cru	st (B4)	Recent in	n Reduc	tion in Tille	ed Soils (C8)		Saturation Visable		ery (Ce)
Iron Deposits (B		Thin Mucl	Surface	(C7)			Stunted or Stresse		
Inundation Visal	te on Aerial	Other (Ex	plain in R	(emarks			Geomorphic Positi		
Imagery (B7)							Shallow Aquitard (
							Microtopographic I		
							x FAC-Neutral Test	(D5)	
Field Observati	ons:								
Surface Water P		Yes x No	Depth (inches):	1				
Water Table Pre				inches):	6				
		Yes No	Danth (inches):		Wetland	l Hydrology Presen	t? x Yes	s No
Saturation Prese		- 16510	Depuit	inonica).		***************************************			
(includes capilla	y ninge)		م حام مان	مح المين	ial abotes	provious	inenectione) if avail	able:	
	ied Data (stre	am gauge, mor	iitoring	wen, aei	iai priotos	, previous	inspections), if avail		
N/A									
									
Remarks:									
1									
<u> </u>									
Depression form	ned from loggi	ng activity.							
1									
1									

EGETATION - Use scientific name	s of plants			Sampling Point: Wetland B
EGETATION - OSE SCIENCING HERIC	Absolute %	Dom.	Indicator	Dominance Test worksheet:
Otratum (District	Cover	spp?	Status	Number of Dominant
ee Stratum (Plot size: _)	00701			Species That are OBL,
1				FACW or FAC:(A)
2			····	
3				Total Number of Dominant
4				Species Across Ali Strata:(B)
5				
6				Percent of Dominant
7				
	<u>0</u> =Total			Species That are OBL,
50% of Total	al Cover 0		l Cover 0	FACW, or FAC: (A/B)
	Absolute %	Dom.	Indicator	PACVV, OI FAC.
apling Stratum (Plot size:)	Cover	spp?	Status	Prevalence Index worksheet:
1				
2				1 V (SS), 1 V = 3
3				OBL species x1=
				FACW species x2=
4				FAC species x3=
5				FACU species x4=
6				UPL species x5=
7	0 =Tota	Cover		Column Totals PI:
F00/ £T-1			al Cover 0	
50% 0(10)	al Cover 0	Dom.		1
	Absolute %	spp?	Indicator Status	
Shrub Stratum (Plot size:)	Cover	spp r	Olatus	Hydrophytic Vegetation Indicators:
1				Yes Rapid Test for Hydrophytic Vegetation
2				Dominance Test is >50%
3			. <u> </u>	Prevalence Index is < 3.0*
4				Morphological Adaptations* (Provide
5				supporting data in Remarks or on separate
6				l l
7		•		sheet)
	0 =Tota	d Cover	. —	Problematic Hydrophytic Vegetation*
50% of To	tal Cover 0		al Cover 0	(Explain)
30 % 01 10	Absolute %	Dom.	Indicator	
	Cover	spp?	Status	
Herb Stratum (Plot size:)		Yes	FACW	 Indicators of hydric soil and welland
1 Poa palustris	12	No.	FACW	hydrology must be present, unless
2 Thelypteris palustris	5	Yes	FACW	disturbed or problematic.
3 Onoclea sensibilis	40	res	I'AGVV	<u></u>
4				Definitions of Vegetation Strata:
5				1
6				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and
7				approximately 20 π (6 m) of more in height and 3 in. (7.6 cm) or larger in diameter at breast
8				height (DBH)
9				
				Sapling – Woody plants, excluding woody
10				vines, approximately 20 ft (6 m) or more in
11	-		<u></u>	height and less than 3 in. (7.6 cm) DBH.
12	67 -Tol	al Cover		la Namanda sings
			otal Cover 11.4_	Shrub – Woody plants, excluding woody vines approximately 3 to 20 ft (1 to 6 m) in height.
50% of T	otal Cover 28.5			approximately 3 to 20 it (1 to 6 iti) in neight.
	Absolute %	Dom.	Indicator	
Woody Vine Stratum (Plot size:)	Cover	spp?	Status	Herb – All herbaceous (non-woody) plants,
1				including herbaceous vines, regardless of size
2				and woody plants, except woody vines, less
3	· · · · · · · · · · · · · · · · · · ·		_	than approximately 3 ft (1 m) in height.
4				
	0 =To	tal Cover		Woody vine – All woody vines, regardless of
50% of T	otal Cover 0	20% of To	otal Cover0	height.
30 70 08 7				
	- asserate about 1			
Remarks: (include photo numbers here or o	on separate sileet.)			
				Hydrophytic Vegetation Present?
				Ĭ
1				lu Van No
				x_YesNo
				—

SOILS				·····				Point: Wetland B
Drofile C	Description: (De	scribe to the	e depth needed t	o documer	t the indica	tor or con	firm the absence	e of indicators.)
	Matrix		o dopar noozou i	Redox Fea	tures			
Depth	Color (moist)	%	Color (moist)	%	Type *1	Loc*2	Texture	Remarks
(inches)			7,5YR 4/6	18	C	М	Silt Loam	
0-6	10YR 4/1	- <u>- 70</u>	7.5YR 5/6	30	<u>c</u>	M	Sandy Clay	
6-10_	10YR 6/1		7.51K 5/0				Same y Same	
				,				-
								-
								
7								
1 Type: 0	C=Concentration,	D=Depletion, R	M=Reduced Matrix,	MS=Masked	Sand Grains.	*2 Location:	PL=Pore Lining, M=	-Malrix
	Soil Indicators:	****		rface (S7)			Indicators for Pr	oblematic Hydric Soils *3
	sol (A1)		Thin Da	rk Surface (S	9) (MLRA 147	, 148)	2 cm Muck (A1	0)(MLRA 147)
	Epipedon (A2)			e Below Surf			Coast Prairie R	edox (A16) (MLRA 147, 148)
	Histic (A3)			147, 148)			Piedmont Flood	iplain Soits (F19)(MLRA 136,147)
	• •		•		(F2)	•		ark Surface (TF12)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) X Depleted Matrix (F3)							Other (Explain	
		MS		Dark Surface	(F6)	•		
	Muck (A10) (LRR			d Dark Surfac				
	eted Below Dark S		·					
	Dark Surface (A1	-		Depressions (
	ly Mucky Mineral (nganese Mas	sses (F12)			
(LRR	RN, MERA 147, 14	8)		, MLRA 136)		400)		
Sand	ly Gleyed Mairix (54)) (MLRA 136,			
	iy Redox (S5)				Soils (F19) (M			
Strip	ped Matrix (S6)		Red Pa	rent Material ((F21) (MLRA	127, 147)		
*3 Indica	tors of hydrophytic	vegetation an	d welland hydrology	must be prese	ent, unless dis	lurbed or pr	oblematic.	
Restric	ctive Layer (if	observed):				- 1	Hydric Soil	
Туре:						i	_x_Yes _	_No
	(inches):							
Remar								
ricinan	No.							
i								
i								
Soil pre	ofile meets Hvo	iric Soil Indi	cator for Deplete	d Matrix: F	3. Soils are	compacte	d due to logging	g activity.
Oon pro	omo mooto m,	21,0 0011 111-1						
l								
1								
1								
1								
Datach	neet entered by	r Lee Mall	orv					Last revised: 11/14/
atasrے	neer entered by	/. Lee, wan	UTY					

							D-4	014710044
	es City SWD Well #38268		City/Cou			Elk	_Date:	3/17/2014
Applicant/Owner: Senec	a Resources Corporat	ion	State: _		PA	Sampling Point:	Upland	A&B
	lmes, Josh & Lee, Mallory		Section,	Township,	Range:	High	land	
Landform (hillslope, terrac			Local reli	ief (concav	e, convex, r	one):	concave	
· · · · ·	.at: 41.619168	Long:	-78	.820796	Subregio	n (LRR or MLRA): LRR	- N_Datur	n: NAD-83
Soil Map Unit Name:		CpE				NWI classification:		PEM
Are climatic/hydrologic cor	nditions on the site typical	x Yes		No	(if no, expla	in in Remarks)		
for this time of year?						•		
Are Vegetation Soi	or Hydrology	significa	antiy dist	urbed?	Are "Norma	al Circumstances" preser	nt? x_Y	es No
Are Vegetation Soi			ly problen			explain any answers in R		
Are vegeration	orriyatology	- , , , , , , , , , , , , , , , , , , ,	, , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,	It	,	
SUMMARY OF FINDING	S - Attach site man show	/ina san	ndina pa	oint location	ns, transe	cts, important features,	etc.	
Hydrophytic Vegetation Pr		× No	ام وي		-,	· · ·		
Hydric Soil Present?	Yes	- No		ls the San	opled Area	Within a Wetland?	N	lo
*		X No	ľ	.5 a.15 Gari	.p			*******
Wetland Hydrology Preser			ato ropod	(1)				
Remarks: (Explain alterna	arvo processares nere or in	a copul	opoi	**7				
Upland Reference point fo								
Wetland Hydrology Indi	cators.		****		·			
Drimani Indicators /min	imum of one is required	l· chack	all that	annly)	or Secon	dary Indicators (minimu	um of two	required)
				<u> «Խիլֆ)</u>	OK OCCUI	Surface Soil Cracks (Bit		
Surface Water (A1)	Water-Stali					Sparsely Vegetated Co		ace (B8)
High Water Table (A2)	Aquatic Far					Drainage Pattems (B10		
Saluration (A3)	True Aquat				,		"	
Water Marks (B1)	Hydrogen S			B	0)	Moss Trim Lines (B16)	lo (C2)	
Sediment Deposits (B2)				ng Roots (C	3)	Dry-Season Water Tab	10 (UZ)	
Drift Deposits (B3)	Presence of					Crayfish Burrows (C8)	adal Imar-	o. (CO)
Algal Mat or Crust (B4)	Recent Iron			i Soils (C8)		Saturation Visable on A		ıy (Ga)
Iron Deposits (B5)	Thin Muck					Stunted or Stressed Pla		
Inundation Visable on A	erialOther (Exp	lain in Re	marks)			Geomorphic Position (I	JZ)	
Imagery (B7)						Shallow Aquitard (D3)		
ļ						Microtopographic Relie	I (U4)	
						FAC-Neutral Test (D5)		
Field Observations:								
Surface Water Present								
Water Table Present?	Yes x No D							
Saturation Present?	Yes x No D	epth (in	iches):		Wetland	Hydrology Present?	— Yes	<u>x</u> No
(includes capillary fring	e)		·					
Describe Recorded Da	ta (stream gauge, moni	toring w	æll, aeria	al photos,	previous ir	rspections), if available) :	
N/A	· •	**						
Remarks:								
No Primary or Seconda	ary wetland Hydrology li	ndicator	s were p	resent.				
'			·					

GETATION - Coc continue	names of plants	<u></u>	· · · · · · · · · · · · · · · · · · ·	Sampling Point: Upland A & B
	Absolute %	Dom.	Indicator	Dominance Test worksheet:
ee Stratum (Plot size: _)	Cover	spp?	Status	Number of Dominant
	17	Yes	FACU	Species That are OBL,
Betula lenta	23	Yes	FACU	FACW or FAC: 0(A)
2 Acer saccharum		163	17100	
3				Total Number of Dominant
4				Species Across All Strata: 4 (B)
5				Species Across Air Strata(D)
6				
7				Percent of Dominant
	40 =Total	Cover		Species That are OBL,
50°	% of Total Cover 20	20% of Total	Cover 8	I '
00.	•	Dom.	Indicator	FACW, or FAC: 0 (A/E
and the second second	Absolute %	spp?	Status	
apling Stratum (Plot size:)	Cover	Yes	FACU	Prevalence Index worksheet:
1 <u>Fagus grandifolia</u>	32			Total % Cover of: Multiply by:
2 Acer pensylvanicum	8	Yes	FACU	
3				
4				FACW species x2=
			·	FAC species x3=
				FACU species x4=
6				UPL species x5=
7		Cover		Column Totals PI:
	40 =Total		LCauser 9	
50	% of Total Cover 20		l Cover 8	1
	Absolute %	Dom.	Indicator	l
rub Stratum (Plot size;)	Cover	spp?	Status	
				Hydrophytic Vegetation Indicators:
1				No Rapid Test for Hydrophylic Vegetalion
2				No Dominance Test Is >50%
3				Prevalence Index is < 3.0*
4				Morphological Adaptations* (Provide
5				supporting data in Remarks or on separa
6				1 '
7				sheet)
	0 =Total	Cover		Problematic Hydrophytic Vegetation*
Er	0% of Total Cover 0		al Cover 0	(Explain)
50		Dom.	Indicator	
	Absolute %	spp?	Status	
lerb Stratum (Ptot size: _)	Cover	sph:	Otatus	* Indicators of hydric soil and welland
1				hydrology must be present, unless
2				1 7 7
3				disturbed or problematic.
			<u></u>	Definitions of Vegetation Strata:
5				Tree - Woody plants, excluding woody vines
6				approximately 20 ft (6 m) or more in height a
7				3 in (7.6 cm) or larger in diameter at breast
				3 in. (7.6 cm) or larger in diameter at breast
8				3 in. (7.6 cm) or larger in diameter at breast height (DBH)
8				3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sanling – Woody plants, excluding woody
8 9 10				3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in
89				3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sanling – Woody plants, excluding woody
89		Il Cover		3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
8		al Cover		3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (8 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vin
8		20% of Tot	al Cover 0	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
8			al Cover 0	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (8 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vin
8	0 =Tota 50% of Total Cover 0 Absolute %	20% of Tot		3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vin approximately 3 to 20 ft (1 to 6 m) in height.
8	0 =Tota 50% of Total Cover0 Absolute % Cover	20% of Tot Dom.	Indicator	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vin approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants,
8	0 =Tota 50% of Total Cover 0 Absolute % Cover	20% of Tot Dom.	Indicator	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody vin approximately 3 to 20 ft (1 to 6 m) in height. Herb All herbaceous (non-woody) plants, including herbaceous vines, regardless of sincluding herbaceous vines, regardless of sincl
8	0 =Tota 50% of Total Cover0 Absolute % Cover	20% of Tot Dom.	Indicator	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vin approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of stand woody plants, except woody vines, less and woody plants, except woody vines, less
8	0 =Tota 50% of Total Cover0 Absolute % Cover	20% of Tot Dom.	Indicator	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody vin approximately 3 to 20 ft (1 to 6 m) in height. Herb All herbaceous (non-woody) plants, including herbaceous vines, regardless of sincluding herbaceous vines, regardless of sincl
8	O =Tota i0% of Total Cover 0 Absolute % Cover	20% of Tot Dom. spp?	Indicator	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vin approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of si and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
8	O =Total Cover O Absolute % Cover O O =Total Cover O O O O O O O O O O O O O O O O O O O	20% of Tot Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vin approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of si and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of
8 9 10 11 12 5 5 Voody Vine Stratum (Plot size:) 1 2 3 4	O =Tota i0% of Total Cover 0 Absolute % Cover	20% of Tot Dom. spp?	Indicator	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vin approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of s and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
8	O =Total Cover O Absolute % Cover	20% of Tot Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vin approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of si and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of
8		20% of Tot Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vinapproximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of si and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of
8		20% of Tot Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vine approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of si and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of
8		20% of Tot Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vinapproximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of st and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless oheight.
8		20% of Tot Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vine approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of si and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of
8		20% of Tot Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breast height (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vine approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of st and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless o height.
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SOILS	···				Point: Upland A&B
Profile Description: (Describe to th	e depth needed t	o document the ind	icator or cor	nfirm the absenc	e of indicators.)
Depth Matrix	•	Redox Features			
(inches) Color (moist) %	Color (moist)	% Type *	1 Loc *2	Texture	Remarks
0-3 10YR 2/1 100	,		_	Silt Loam	
3-6 10YR 5/3 100				Sandy Clay	
6-20 7.5YR 5/6 100				Sandy Clay	
0-20 1.511C 3/0 100					
					
					-
*1 Type: C=Concentration, D=Depletion, F	RM=Reduced Matrix,	MS=Masked Sand Grain	s. *2 Location	: PL=Pore Lining, M	=Matrix
Hydric Soil Indicators:		rface (S7)			roblematic Hydric Soils *3
Histoso! (A1)		rk Surface (S9) (MLRA 1	47, 148)	2 cm Muck (A1	
Histic Epipedon (A2)	Polyval	ue Below Surface (S8)			ledox (A16) (MLRA 147, 148)
Black Histic (A3)	(MLRA	147, 148)			dplain Soils (F19)(MLRA 136,147)
Hydrogen Sulfide (A4)	Loamy	Gleyed Matrix (F2)		Very Shallow D	Park Surface (TF12)
Stratified Layers (A5)	Deplete	d Matrix (F3)		Other (Explain	in Remarks)
2 cm Muck (A10) (LRR N)	Redox	Dark Surface (F6)			
Depleted Below Dark Surface (A11)		d Dark Surface (F7)			
Thick Dark Surface (A12)		Depressions (F8)			
		nganese Masses (F12)			
Sandy Mucky Mineral (S1)		, MLRA 136)			
(LRR N, MLRA 147, 148)	•	Surface (F13) (MLRA 1	36 122)		
Sandy Gleyed Matrix (S4)		nt Floodplain Soils (F19)			
Sandy Redox (S5)		rent Material (F21) (MLF			
Stripped Matrix (S6)	Reura	Hellt Material (1 21) (MCI	0. 121, 111,		
*3 Indicators of hydrophytic vegetation an	d wetland hydrology	muet ha procent unioss	dishumed or p	roblematic.	
	d wetland hydrology	iliust be present, uneas	distance of p	Hydric Soil	Present?
Restrictive Layer (if observed):]	Yes _2	
Type:			1	<u> </u>	<u> </u>
Depth (inches):					
Remarks:					
No Hydric Soil Indicators were ob	served.				
1					
1					
			····		Last revised: 11/14/1
Datasheet entered by: Lee, Mal	lory	<u></u>			Last revisca. 11/14/

	lesses Of	L. CIAID IAIGH #29220	City/Cot	intv:		Elk Co., PA	Date:	3/18/2014
roject/Site:	James Ci	ty SWD Well #38268			PA	Sampling Point:		SP-4
• •	Seneca Re	sources Corporatio	Costion	Township,		Gamping , Sind Highlan	d Township)
vestigator(s):		Josh & Lee, Mallory			range. /e, convex,:		none	
andform (hillslope		.): Hillslope		8,821633	Pubrodi	on (LRR or MLRA): LR	R - N Date	ım: NAD83
· /··/·	<u>6%Lat:</u>	41.618467 L				NWI classification:		NA
ioil Map Unit Nam	ne: <u>C</u> j	oB - Cookport channery l			Of no ovol	ain in Remarks)		
re climatic/hydro	logic conditior	ns on the site typical	Yes _ <u>x</u>	No	(II Ho, expir	alla ili i Komankoy		
or this time of yea	ır?			4	Are liblere	al Circumstances" pres	ent? x	Yes No
re Vegetation	Soil	or Hydrologys	ignificantly dis	turbear	Are nom	explain any answers in	Remarks)	
re Vegetation	Soil _	or Hydrologyr	naturally proble	matic?	(II needed,	explain any anavora in	, containe,	
		taab aita man abawi	na camplina r	oint locati	ons, transe	cts, important feature	s, etc.	
SUMMARY OF FI Sydrophytic Vege	INDINGS - At	? Yes	x No	One looks	0110, 1.4.1.5			
			X No	Is the Sa	mpled Area	a Within a Wetland?		No
lydric Soil Preser		Yes	No	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Netland Hydrolog	y Present?) d \				
temarks: (Explaii	n alternative p	rocedures here or in a	coparate rope	/				
Wetland Hydrol Primary Indicato X Surface Water High Water Tal X Saturation (A3) Water Marks (E Sediment Depo	ors (minimun (A1) ble (A2) 31) osits (B2)	n of one is required: Water-Stains Aquatic Fau True Aquatic Hydrogen St Oxidized Rh Presence of	ed Leaves (B9) na (B13) : Plants (B14) ulfide Odor (C1) izospheres on Li Reduced Iron (C	iving Roots (C3)	Surface Soil Cracks Sparsely Vegetated X Drainage Pattems (B Moss Trim Lines (B1 Dry-Season Water T Crayfish Burrows (C)	(B6) Concave Su 310) 6) fable (C2) 8)	rface (B8)
Algal Mat or Cr Iron Deposits (Inundation Visa Imagery (B7)	B5)	Thin Muck S	Reduction in Tilli turface (C7) nin in Remarks)	ed Solls (C8)	1	Saturation Visable of Stunted or Stressed Geomorphic Position Shallow Aquitard (D: Microtopographic Re	Plants (D1) 1 (D2) 3)	gary (OU)
						FAC-Neutral Test (D)5)	
Field Observa Surface Water Water Table Pr Saturation Pres (includes capili	Present? resent? sent?	Yes X No Do X Yes No Do	epth (inches): epth (inches): epth (inches):	12		l Hydrology Present		esNo
Describe Reco	rded Data (s	tream gauge, monit	oring well, ae	rial photos	s, previous	inspections), if availa	ble:	
DOSGRIDO 11000		_ · · · · · · · · · · · · · · · · · · ·	•					
Remarks:	ıd hvdrology	indicators present a	t the time of s	sampling.	Excessive	water was present du	e to snow	melt.
	,	,						
1								
i								

/EGETATION - Use scientific na	mes of plants			Sampling Point:	SP-4
EGETATION - Use scientific fla	Absolute %	Dom.	Indicator	Dominance Test work	sheet:
ree Stratum (Plot size: 30'r)	Cover	spp?	Status	Number of Dominant	
				Species That are OBL,	
1	<u></u>			FACW or FAC:	1(A)
3					
4				Total Number of Dominant	
5				Species Across All Strata:	<u>3</u> (8)
6					
7				Percent of Dominant	
	0 =Total (Species That are OBL,	
50% of	Total Cover 0	20% of Tota	d Cover 0	540W 540	33% (A/B)
	Absolute %	Dom.	Indicator	FACW, or FAC:	(AB)
Sapling Stratum (Plot size: 15'r)	Cover	spp?	Status	Prevalence Index wo	kehoot:
1				Total % Cover of:	Multiply by:
2				OBL species	x1=
3				FACW species	x2=
4	<u></u>			FAC species	x3=
5				FACU species	x4=
6				UPL species	x5=
7		Cavar		Column Totals	PI:
	Total Cours 0		al Cover 0		
50% of	Total Cover 0	20% of 100 Dom.			
	Absolute %	spp?	Indicator Status		
Shrub Stratum (Plot size: 15'r.)	Cover	Yes	FACU	Hydrophytic Vegetation	n Indicators:
1 Rubus allegheniensis	12	162	1700	no Rapid Test for Hydroph	
2				no Dominance Test is >50	
3				Prevalence Index is < 3	*0.
4				Morphological Adaptati	ons* (Provide
5				supporting data in Rem	arks or on separat
6			•	sheet)	
7	12 =Total	Cover		Problematic Hydrophyt	c Vegetation*
50% n	Total Cover 6		al Cover 2.4	(Explain)	
50 % 0	Absolute %	Dom.	Indicator		
Herb Stratum (Plot size: 5'r_)	•	spp?	Status		
1 Juncus effusus	35	Yes	FACW	* Indicators of hydric so	
2 Scirpus atrovirens	12	No	OBL	hydrology must be pres	sent, unless
3 Dennstaedtia punctilobula	36	Yes	FACU	disturbed or problemat	ic.
4					
5				Definitions of Veget	
6				Tree - Woody plants, exclu	ding woody vines,
7				approximately 20 ft (6 m) o 3 in, (7.6 cm) or larger in di	r more in height an
8				height (DBH)	aneter at predat
9				7 ' '	
10				Sapling – Woody plants, e.	(Cluding Woody
11				vines, approximately 20 ft height and less than 3 in. (7 6 cm\DBH.
12	_			reight and less than 6 ins. (, ==
	83 =Tota			Shrub – Woody plants, ex	oluding woody vine
50% (of Total Cover 41.5		ital Cover 16.6	approximately 3 to 20 ft (1	to 6 m) in height.
	Absolute %	Dom.	Indicator		
Woody Vine Stratum (Plot size: 30'r)	Cover	spp?	Status	Herb – All herbaceous (no	n-woody) plants,
1				including herbaceous vine	s, regardless of siz
2				and woody plants, except	woody vines, less
3				than approximately 3 ft (1	m) ut neight.
4		d Cover		Woody vine – All woody v	nes, regardless of
		al Cover	otal Cover 0	height.	,
50%	of Total Cover 0	∠U% U1 ! C	Jean GOVEL		
			<u> </u>		
Remarks: (include photo numbers here	or on separate sheet.)				
1					=
				Hydrophytic Vege	tation Present'
Sample Point does not meet hydrop	hytic vegetation tests.				
				Yes x No	

OILS							Sampling	Point: SP-4
ofile D	escription: (Des	scribe to the	depth needed	to documer	nt the indica	tor or con	firm the absence	e of indicators.)
onie D epth	Matrix	011100		Redox Fea	tures			
ches)	Color (moist)	%	Color (moist)	%	Type *1	Loc *2	Texture	Remarks
,	10YR 4/2	100	4				Silt Loam	
)-2		88	7.5YR 5/6	12	С	M	Silt Loam	
-10		100	7.0110 010				Silty Clay	
)-20	10YR 5/6	100						
	 			. ——				
							<u> </u>	
					0	to Logation:	DI =Pore Lining M=	Matrix
		=Depletion, R	M=Reduced Matrix	MS=Masked	Sand Grans.	Z LOCIGOII.	PL=Pore Lining, M=	oblematic Hydric Soils *3
dric S	Soil Indicators:			urface (S7)			2 cm Muck (A10	
Histo	sol (A1)				9) (MLRA 147	, 148)		edox (A16) (MLRA 147, 148)
– Histic	Epipedon (A2)			lue Below Sur	face (S8)		Coast Frame Rt	iplain Soils (F19)(MLRA 136,147)
– Black	Histic (A3)		(MLRA	. 147, 148)				
– Hydro	ogen Sulfide (A4)		Loamy	Gleyed Matrix	(F2)			ark Surface (TF12)
^	fied Layers (A5)		Deplet	ed Matrix (F3)			Other (Explain i	n Remarks)
_	Muck (A10) (LRR I	N)	Redox	Dark Surface	(F6)			
	eted Below Dark St		Deplet	ed Dark Surfa	ce (F7)			
_	Dark Surface (A12		Redox	Depressions	(F8)			
_	ly Mucky Mineral (S		Iron-M	anganese Ma	sses (F12)			
	N, MLRA 147, 148			N, MLRA 136)				
•	ly Gleyed Malrix (S		Umbri	c Surface (F13	3) (MLRA 136,	122)		
	ty Redox (S5)	•,	Piedm	ont Floodplair	Soils (F19) (f	VLRA 148)		
	ped Matrix (S6)		Red P	arent Material	(F21) (MLRA	127, 147)		
	ped Midlin (00)							
O Indiaa	tore of hydronhydic	venetation an	d welland hydrology	must be pres	ent, untess di	sturbed or p	roblematic.	
3 mulca	ctive Layer (if o	hearved).	<u>, , , , , , , , , , , , , , , , , , , </u>				rsyusic con	
	ctive Layer (ii c	poserveuj.				İ	Yes _>	<u>c_</u> No
ype:	(harban)					Į.		
	(inches):							
Remar	ks:		i. fan ome bede	io coil indic	atore			
Soil pro	ofile does not m	eet the criti	eria for any hydi	IC SOII ITIGIC	ators			
								Last revised: 11/14

vestigator(s): andform (hillslope) lope (%): oil Map Unit Nam re climatic/hydrol or this time of yea re Vegetation re Vegetation	Seneca Reso Holmes, Jos a, terrace, etc.): -2 Lat: te: logic conditions or?	swD Well #38268 surces Corporation sh & Lee, Mallory summit 41.619343 Long WaB - Wharton silt loog on the site typical	Local relie g: -78.1 am, 0 to 8 per	PA ownship, Range of (concave, con 821114 St	vex, none):	nd township none R - N_Datum:	NAD83
vestigator(s): andform (hillslope) lope (%): oil Map Unit Nam re climatic/hydrol or this time of yea re Vegetation re Vegetation	Holmes, Jose, terrace, etc.): -2 Lat: -2 Logic conditions or	sh & Lee, Mallory summit 41.619343 Long WaB - Wharton silt los	Section, T Local relie g: -78.1 am, 0 to 8 per	ownship, Range of (concave, con 821114St	e: Highlar nvex, none): ubregion (LRR or MLRA): LR	none R - N_Datum:_	
andform (hillslope ope (%): 0-0-0-0-1 Map Unit Name climatic/hydrol r this time of yeare Vegetation re Vegetation	e, terrace, etc.): -2 Lat: -e: logic conditions or	summit 41.619343 Long WaB - Wharton silt loss	Local relie g: -78.1 am, 0 to 8 per	of (concave, con 821114Su	vex, none): ubregion (LRR or MLRA):LR	none R - N_Datum:_	
ope (%):0- bit Map Unit Nam re climatic/hydrol r this time of yea re Vegetation re Vegetation	-2 Lat: ne: logic conditions or?	41.619343 Long WaB - Wharton silt loa	g: <u>-78.9</u> am, 0 to 8 per	8 <u>21114</u> Տւ	abregion (LRR or MLRA): <u>LR</u>	R - N_Datum:_	
bil Map Unit Name climatic/hydrol r this time of yeare Vegetation re Vegetation	ne: logic conditions or?	WaB - Wharton silt loa	am, 0 to 8 per		abjegion (erates mana)		
re climatic/hydrol r this time of yea re Vegetation re Vegetation	logic conditions or?	WaB - Wharton sift loo on the site typical					a
r this time of yea re Vegetation re Vegetation	ır?	on the site typical					
r this time of yea re Vegetation re Vegetation	ır?		Yes <u>x</u> N	io (ii no,	explain in Remarks)		
re Vegetation					Normal Circumstances" pres	ent? v Yes	No
-		·	ificantly distu		eded, explain any answers in	Demarks)	
-	Soil	or Hydrologynatu	ırally problem	atic? (If ne	eded, explain ally allswers in	Kemano.,	
			10 mm m m	int leastions to	ransacts important feature	es. etc.	
UMMARY OF FI	NDINGS - Attac	ch site map showing s	ampling po	int locations, ti	ransects, important feature		
lydrophytic Veget			1.	e the Sampled	Area Within a Wetland?	No	
lydric Soil Preser		Yes x		3 tile Cumpica			
Vetland Hydrolog	y Present?	Yes x					
emarks: (Explair	ı alternative prod	cedures here or in a se	parate report	•1			
Primary Indicate Surface Water High Water Tat Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (Algal Mat or Cr Iron Deposits (Inundation Visi Imagery (B7)	(A1) ble (A2)) 31) osits (B2) (B3) rust (B4) B5)	of one is required: ch Water-Stained L Aquatic Fauna (True Aquatic Pla Hydrogen Sulfid Oxidized Rhizos Presence of Re Recent Iron Rec Thin Muck Surfa Other (Explain in	eaves (B9) B13) ants (B14) e Odor (C1) spheres on Lividuced Iron (C4 duction in Tilledace (C7)	ng Rools (C3)	Secondary Indicators (min Surface Soil Cracks Sparsely Vegetated Drainage Pattems (i Moss Trim Lines (B Dry-Season Water Craylish Burrows (C Saturation Visable of Stunted or Stressed Geomorphic Position Microtopographic R	(86) Concave Surface B10) 16) Table (C2) :8) on Aerial Imagery I Plants (D1) on (D2)	∍ (B8)
					FAC-Neutral Test (I	D5)	
Field Observa Surface Water Water Table Po Saturation Pres (includes capill	Present? resent? sent?	Yes x No Dept Yes x No Dept Yes x No Dept	h (inches): h (inches):		tland Hydrology Present		<u>x</u> No
Describe Reco	rded Data (stre	eam gauge, monitori	ng well, aeri	al photos, prev	vious inspections), if availa	ible:	
Describe Meco	Tuou Duta (on-	, , , , , , , , , , , , , , , , , , ,	_				
D				***			
Remarks:	di secondoni	wetland hydrology ir	ndicators pro	esent at the tin	ne of sampling.		
INIO PRIPAGELADI	ator secondary	Welland Hydrology II	ooro pro		• •		
INO PIRMARY ALE							
ino biningià gir							
ino pinnary air							
тчо рівпаву ат							
irao pinnary atr							
ino piniary atr							

EGETATION - Use scientific nam	es of plants		·	Sampling Point: SP-5	<u>;</u>
	Absolute %	Dom.	Indicator	Dominance Test worksheet:	
(m) 1 - l 00ls)	Cover	spp?	Status	Number of Dominant	
ee Stratum (Plot size: 30'r_)	8	Yes	FACU	Species That are OBL,	
1 Acer saccharum		163	17100	FACW or FAC: 0(/	A)
2					,
3				Total Number of Dominant	1
4				Species Across All Strata: 4 (B)
5	-			Openies / Nordour III datata	,
6				Percent of Dominant	
7	····			Percent of Bollmant	
	8 =Total			Species That are OBL,	
50% of To	otal Cover4	20% of Total	Cover 1.6		(A/B)
	Absolute %	Dom.	Indicator	FACW, or FAC:	,,,,
apling Stratum (Plot size: 15'r)	Cover	spp?	Status		
1 Sassafras əlbidum	10	Yes	FACU	Prevalence Index worksheet:	
2 Betula lenta	15	Yes	FACU_	Total % Cover of: Multiply by	i
	12	Yes	FACU	OBL species x1=	
3 Fagus grandifolia	4	No	FACU	FACW species x2=	
4 Prunus serotina				FAC species x3=	
5			· · · · · · · · · · · · · · · · · · ·	FACU species x4=	
6				UPL species x5=	
7	44 -Total	Cover		Column Totals PI:	
	41 =Total		l Cover 8.2_		
50% of T	otal Cover 20.5				
	Absolute %	Dom.	Indicator		
Shrub Stratum (Plot size; 15'r)	Cover	spp?	Status	Hydrophytic Vegetation Indicators:	
1				Hydrophytic Vegetation indicators.	
2				no Rapid Test for Hydrophytic Vegetation	
3				no Dominance Test is >50%	
4				Prevalence Index is < 3.0*	
5				Morphological Adaptations* (Provide	
				supporting data in Remarks or on sep	arate
6				sheet)	
7	=Tota	I Cover		Problematic Hydrophytic Vegetation*	
50P/ -57			al Cover	(Explain)	
50% 01 1	Total Cover	Dom.	Indicator		
	Absolute %	spp?	Status		
Herb Stratum (Plot size: 5'r)	Cover	shb t	Otatus	* Indicators of hydric soil and wetland	
1	· · · · · · · · · · · · · · · · · · ·			hydrology must be present, unless	
2				disturbed or problematic.	
3			. 	distalled of programme.	
4				Definitions of Vegetation Strata	
5					
6				Tree - Woody plants, excluding woody vir	ies,
				approximately 20 ft (6 m) or more in heigh	nt an
7				3 in. (7.6 cm) or larger in diameter at brea	nt an Ist
8				approximately 20 it (6 m) of fillore in neigh 3 in. (7.6 cm) or larger in diameter at brea height (DBH)	nt an est
8 9				3 in. (7.6 cm) or larger in diameter at brea height (DBH) Sanling Woody plants, excluding woody	ast y
9 10				3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more it	ast y
8 9 10 11				3 in. (7.6 cm) or larger in diameter at brea height (DBH)	ast y
9 10				3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	ast y in
8 9 10 11 12	0 =Tot	al Cover		3 in. (7.6 cm) or larger in diameter at brea height (OBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more i height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody	ast y in vine:
8 9 10 11 12		20% of To	tal Cover 0	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	ast y in vine:
8 9 10 11 12	0 =Tot	20% of To Dom.	Indicator	3 in. (7.6 cm) or larger in diameter at brea height (OBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more i height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody	ast y in vine:
8 9 10 11 12 50% of	0 =Tot	20% of To		3 in. (7.6 cm) or larger in diameter at breatheight (OBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in height and less than 3 in the figure woody) plants.	y in vines int.
8 9 10 11 12 50% of Woody Vine Stratum (Plot size; 30'r.)	0 =Tot Total Cover 0 Absolute % Cover	20% of To Dom.	Indicator	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in heigh the model of the model. Herb Ali herbaceous (non-woody) plantincluding herbaceous vines, regardless of the significance of the model.	y in vines jht. ts, of size
8 9 10 11 12 50% of Woody Vine Stratum (Plot size: 30'r.)	0 =Total Cover 0 Absolute % Cover	20% of To Dom.	Indicator	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling — Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub — Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in height and less than 3 in. (7.6 cm) approximately 3 to 20 ft (1 to 6 m) in heigh and woody plants, except woody vines, to and woody plants, except woody vines, to and woody plants, except woody vines, to a second woody plants.	y in vines jht. ts, of size
8 9 10 11 12 50% of Woody Vine Stratum (Plot size: 30'r.)	0 =Total Cover 0 Absolute % Cover	20% of To Dom.	Indicator	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in heigh the model of the model. Herb Ali herbaceous (non-woody) plantincluding herbaceous vines, regardless of the significance of the model.	y in vines int. ts, of size
8 9 10 11 12 50% of Woody Vine Stratum (Plot size: 30'r) 1 2 3	0 =Total Cover 0 Absolute % Cover	20% of To Dom.	Indicator	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling — Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub — Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in height and woody plants, except woody vines, to and woody plants, except woody vines, to than approximately 3 ft (1 m) in height.	y in vines ght. ts, of size
8 9 10 11 12 50% of Woody Vine Stratum (Plot size: 30'r.)	0 =Total Cover 0 Absolute % Cover	20% of To Dom. spp?	Indicator	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling — Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub — Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in height and less than 3 in. (7.6 cm) approximately 3 to 20 ft (1 to 6 m) in heigh and woody plants, except woody vines, to and woody plants, except woody vines, to and woody plants, except woody vines, to a second woody plants.	y in vines ght. ts, of size
8 9 10	0 =Tot Total Cover 0 = 0 Absolute % Cover 0 = Tot	20% of To Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling — Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub — Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in height and woody plants, except woody vines, to and woody plants, except woody vines, to than approximately 3 ft (1 m) in height.	y in vines ght. ts, of size
8 9 10	0 =Total Cover 0 Absolute % Cover	20% of To Dom. spp?	Indicator	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling — Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub — Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in height and woody plants, except woody vines, regardless of and woody plants, except woody vines, than approximately 3 ft (1 m) in height. Woody vine — All woody vines, regardless.	y in vines ght. ts, of size
8 9 10	0 =Tot Total Cover 0 = Total Cover 0 = Total Total Cover 0 = Total Cover 0	20% of To Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling — Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub — Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in height and woody plants, except woody vines, regardless of and woody plants, except woody vines, than approximately 3 ft (1 m) in height. Woody vine — All woody vines, regardless.	y in vines ght. ts, of size
8 9 10	0 =Tot Total Cover 0 = Total Cover 0 = Total Total Cover 0 = Total Cover 0	20% of To Dom. spp?	Indicator Status	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling — Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub — Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in height and woody plants, except woody vines, regardless of and woody plants, except woody vines, than approximately 3 ft (1 m) in height. Woody vine — All woody vines, regardless.	y in vines ght. ts, of size
8 9 10 11 11 12 50% of Woody Vine Stratum (Plot size: 30'r) 1 2 3 4 50% of Remarks: (include photo numbers here of	0 =Tot Total Cover 0 Absolute % Cover 0 =Tot Total Cover 0 r on separate sheet.)	20% of To Dom. spp? spp? tal Cover 20% of To	Indicator Status	3 in. (7.6 cm) or larger in diameter at brea height (DBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more i height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in heighter All herbaceous (non-woody) plant including herbaceous vines, regardless of and woody plants, except woody vines, it than approximately 3 ft (1 m) in height. Woody vine All woody vines, regardless height.	y y in vines sht. ts, of size ess
8 9 10 11 11 12 50% of Woody Vine Stratum (Plot size: 30'r) 1 2 3 4 50% of Remarks: (include photo numbers here of	0 =Tot Total Cover 0 Absolute % Cover 0 =Tot Total Cover 0 r on separate sheet.)	20% of To Dom. spp? spp? tal Cover 20% of To	Indicator Status	3 in. (7.6 cm) or larger in diameter at breatheight (DBH) Sapling — Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub — Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in height and woody plants, except woody vines, regardless of and woody plants, except woody vines, than approximately 3 ft (1 m) in height. Woody vine — All woody vines, regardless.	y y in vines sht. ts, of size ess
8 9 10	0 =Tot Total Cover 0 Absolute % Cover 0 =Tot Total Cover 0 r on separate sheet.)	20% of To Dom. spp? spp? tal Cover 20% of To	Indicator Status	3 in. (7.6 cm) or larger in diameter at brea height (DBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more i height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in heighter All herbaceous (non-woody) plant including herbaceous vines, regardless of and woody plants, except woody vines, it than approximately 3 ft (1 m) in height. Woody vine All woody vines, regardless height.	y y in vines sht. ts, of size ess
8 9 10 11 11 12 50% of Woody Vine Stratum (Plot size: 30'r) 1 2 3 4 50% of Remarks: (include photo numbers here of	0 =Tot Total Cover 0 Absolute % Cover 0 =Tot Total Cover 0 r on separate sheet.)	20% of To Dom. spp? spp? tal Cover 20% of To	Indicator Status	3 in. (7.6 cm) or larger in diameter at brea height (OBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more i height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in heighter All herbaceous (non-woody) plant including herbaceous vines, regardless of and woody plants, except woody vines, than approximately 3 ft (1 m) in height. Woody vine All woody vines, regardles height. Hydrophytic Vegetation Pres	y y in vines sht. ts, of size ess
8 9 10 11 11 12 50% of Woody Vine Stratum (Plot size: 30'r) 1 2 3 4 50% of Remarks: (include photo numbers here of	0 =Tot Total Cover 0 Absolute % Cover 0 =Tot Total Cover 0 r on separate sheet.)	20% of To Dom. spp? spp? tal Cover 20% of To	Indicator Status	3 in. (7.6 cm) or larger in diameter at brea height (DBH) Sapling Woody plants, excluding woody vines, approximately 20 ft (6 m) or more i height and less than 3 in. (7.6 cm) DBH. Shrub Woody plants, excluding woody approximately 3 to 20 ft (1 to 6 m) in heighter All herbaceous (non-woody) plant including herbaceous vines, regardless of and woody plants, except woody vines, it than approximately 3 ft (1 m) in height. Woody vine All woody vines, regardless height.	y y in vines sht. ts, of size ess

OILS		<u> </u>				Sampling		SP-5
rofile Description: (De	scribe to the	depth needed t	o docume	nt the indica	tor or con	firm the absence	of indicators.)	
	SCHOOL TO THE	, doptii noodod .	Redox Fe	atures				
oper	07	Color (maist)	%	Type *1	Loc *2	Texture	Remarks	
nches) Color (moist)	% 400	Color (Incist)	70	136-		Silt Loam		
0-2 10YR 2/1	100					Silt Loam		
2-6 10YR 4/2	100					Silt Loam		
-20 10YR 4/4	<u> 100</u>			_		One Louis		
							,	
Type: C=Concentration, D	 D=Depletion, R	M=Reduced Matrix,	MS=Masked	Sand Grains.	*2 Location:	PL=Pore Lining, M=	Matrix	
ydric Soil Indicators:		Dark St	ırface (S7)			indicators for the	objetitatio riyano c	Solls *3
Histosol (A1)				S9) (MLRA 147	, 148)	2 cm Muck (A10)(MLRA 147)	
Histic Epipedon (A2)			ue Below Su			Coast Prairie Re	edox (A16) (MLRA 14	7, 148)
			147, 148)			Piedmont Flood	lplain Soils (F19)(MLF	RA 136,147)
_ Black Histic (A3)			Gleyed Matri	ix (F2)		Very Shallow Da	ark Surface (TF12)	
Hydrogen Sulfide (A4)			d Matrix (F3			Other (Explain i	n Remarks)	
_ Stratified Layers (A5)			Dark Surface					
_2 cm Muck (A10) (LRR			ed Dark Surfa					
Depleted Below Dark S								
Thick Dark Surface (A1			Depressions					
Sandy Mucky Mineral (\$	S1)		nganese Ma					
(LRR N, MLRA 147, 14	8)		I, MLRA 136		400\			
Sandy Gleyed Matrix (S	54)	Umbrid	Surface (F1	3) (MLRA 136,	122)			
Sandy Redox (S5)				n Solls (F19) (N				
Stripped Matrix (S6)		Red Pa	erent Materia	l (F21) (MLRA	127, 147)			
_								
				t unloca dis	sturbed or n	mblematic		
3 Indicators of hydrophytic	vegetation an	d wetland hydrology	must be pre	sent, unless us	Rui Dea Oi P	Hydric Soil	Present?	
Restrictive Layer (if	observed):					Yes _ <u>x</u>		
Гуре:							_140	
Depth (inches):								
Zamarke,								
Soil profile does not n	neet the req	uirements for an	y hydric so	oil indicators	•			
1								
							Last revis	ed: 11/14
Datasheet entered by	r: Holmes,	Josh					Lastievis	

pplicant/Owner: Sen envestigator(s): andform (hillslope, ter	neca Reso	SWD Well #38268		City/Cou					
nvestigator(s): andform (hillslope, ter	oera rest	surcae Cornorat	ion	State:		PA	Sampling Point:	Wetland A	
andform (hillslope, ter	Holman !-	ources Corporates & Lee, Mailory	1011		Township,			lighland	
				Local reli	ief (concav	e, convex,	none):	Concave)
			Long:		.820868	Subreal	ion (LRR or MLRA): LI	RR - N Datu	m: NAD 83
lope (%): 11	Lat:	41.619205	_ L.Orig. Cp		.020000		NWI classification	-	PEM
ioil Map Unit Name:		on the aite funical	x Ye		No	(if no expl	ain in Remarks)		
re climatic/hydrologic	conditions	on the site typical	<u> </u>		NO	(ii iio, oxpi	40.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1		
or this time of year?				the dist	urbod2	Are "Morm	al Circumstances" pre	sent? x `	res No
		or Hydrology		cantly dist		Af needed	, explain any answers i	n Remarks.)	
re Vegetation	Soil	or Hydrology	_natura	illy probler	riauGr	(II HEEGEG	CAPIBILI CITY CITOMOTOL	,	
LIMMARY OF FINDS	NGS - Atta	ch site map shov	ving sa	mpling po	oint location	ons, transe	ects, important featur	es, etc.	
lydrophytic Vegetation	n Present?	x Yes	No) I					
lydric Soil Present?	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	x Yes	N	, l	Is the Sar	npled Area	a Within a Weltand?		'es
Netland Hydrology Pro	esent?	x Yes	No	, l					
Remarks: (Explain alte	ernative pro				1.)				
temarks. (⊏xpiam aite	SISTALIVE PIO	ccaares note of m	р.		,				
		17 14 - 14 - Hamad A							
Depression formed fro	om logging a	activity, vvetiand A	`						
IYDROLOGY									
Vetland Hydrology	Indicators:					0	ndary Indicators (mir	imum of had	required)
rimary Indicators (<u>minimum (</u>	of one is required	<u>d: chec</u>	k all that	apply)	or Seco			3 required?
X Surface Water (A1)		Water-Sta	ined Lea	ves (B9)			Surface Soil Cracks		
X High Water Table (A	(2)	Aquatic Fa	auna (B1	3)			Sparsely Vegetated		race (BB)
X Saturation (A3)	,	True Aqua	itic Plant	s (B14)			Drainage Patterns		
Water Marks (B1)		Hydrogen	Suifide (Odor (C1)			Moss Trim Lines (B	116)	
Sediment Deposits (/B9\	X Oxidized F			ing Roots (0	23)	Dry-Season Water	Table (C2)	
	(DZ)			ced Iron (C			Crayfish Burrows (6	C8)	
Drift Deposits (B3)	D.43	- Pocent in	n Podu	tion in Title	d Soils (C8)		Saturation Visable	on Aerial Imag	ery (C9)
Algai Mat or Crust (I	84)				u 00110 (00)		Stunted or Stresse		
Iron Deposits (B5)		Thin Muck					X Geomorphic Position		
Inundation Visable of	on Aenai	Other (Ex	plain in r	(emarks)			Shallow Aquitard (I		
Imagery (B7)							Microtopographic F		
<u> </u>									
							X FAC-Neutral Test (D5)	
Field Observation	s:								
Surface Water Pres		YesNo I	Depth (inches):	_1_				
Water Table Prese			Depth (inches):	6				
Saturation Present				(inches):	20	Wetland	l Hydrology Presen	t? <u>x</u> Ye	sNo
		_ 103 119 .	Dopu	(•		
(includes capillary f	Deta (etc	sam gauge mor	itoring	well aer	ial nhotos	previous	inspections), if avail	able:	
	Data (Sire	ain gauge, moi	litoralg	won, acr	iai piiotoo	, p			
N/A									
							···		
Remarks:									
Multiple primary an	id seconda	ary hydrology ind	licators	were me	et.				

GETATION - Use scientif	ic names of plants			Sampling Point: Wetland A
OF IMPORT OF STREET	Absolute %	Dom.	Indicator	Dominance Test worksheet:
- Cleature (Dial size: 30)	Cover	spp?	Status	Number of Dominant
e Stratum (Plot size: 30)	0010.			Species That are OBL,
				FACW or FAC: 2 (A)
				Total Number of Dominant
				Species Across All Strata:Z(B)
		_		
				Percent of Dominant
	0 =Tota	d Cover		Species That are OBL,
F	50% of Total Cover 0		Cover 0	l'
•	·	Dom.	Indicator	FACW, or FAC:
48	Absolute %	spp?	Status	
oling Stratum (Ptot size: 15)	Cover		Olditas	Prevalence Index worksheet:
				Total % Cover of: Multiply by:
				10tai 70 9971 110
				OBE 050000
				FACW species x2=
				FAC species x3=
				FACU species x4=
				UPL species x5=
		al Causer		Column Totals PI:
		al Cover	al Cover O	
	50% of Total Cover 0		al Cover0	
	Absolute %	Dom.	Indicator	
rub Stratum (Plot size; 15)	Cover	spp?	Status	
	5	Yes	FAC	Hydrophytic Vegetation Indicators:
Lindera benzoin				No Rapid Test for Hydrophytic Vegetation
				Yes Dominance Test is >50%
				Prevalence Index is < 3.0*
				Morphological Adaptations* (Provide
i				supporting data in Remarks or on separa
<u> </u>		•		supporting data in Remarks of on separa
5				sheet)
7	5 =To	tal Cover		Problematic Hydrophytic Vegetation*
			tal Cover1	(Explain)
	50% of Total Cover 2.5			1 ' ' '
	Absolute %	Dom.	Indicator	
erb Stratum (Plot size: 5)	Cover	spp?	Status	* Indicators of hydric soil and wetland
· · · · · · · · · · · · · · · · · · ·	2	No	FACW	
2 Juncus effusus	2	No	FACW	hydrology must be present, unless
	1	No	OBL.	disturbed or problematic.
3 Scirpus atrovirens	45	Yes	FACW	
4 Poa palustris				Definitions of Vegetation Strata:
5			_	
6				Tree - Woody plants, excluding woody vines approximately 20 ft (6 m) or more in height a
				approximately 20 ft (6 ft) of more in neight
7				3 in. (7.6 cm) or larger in diameter at breast
8				height (DBH)
9				Sapling - Woody plants, excluding woody
0				vines, approximately 20 ft (6 m) or more in
1				height and less than 3 in. (7.6 cm) DBH.
2				1 *
	50 =Te	otal Cover		Shrub – Woody plants, excluding woody vir
	50% of Total Cover 25	20% of To	otal Cover 10_	approximately 3 to 20 ft (1 to 6 m) in height
		-	Indicator	, , , , , ,
	Absolute %	spp?	Status	
Voody Vine Stratum (Plot size:	30) Cover	- shb t	<u> </u>	Herb – All herbaceous (non-woody) plants,
1				including herbaceous vines, regardless of
2				and woody plants, except woody vines, les
3				than approximately 3 ft (1 m) in height.
				1
4	Λ =Τ	otal Cover		Woody vine All woody vines, regardless
			otal Cover 0	height.
	50% of Total Cover 0	_ ZU76 UI II	July 20101	
				
				1
Pomarke: finclude photo numbe	rs here or on separate sheet.)		
Remarks: (include photo numbe	rs here or on separate sheet.)		
Remarks: (include photo numbe	rs here or on separate sheet.)		Hydronhytic Vegetation Prese
Remarks: (include photo numbe	rs here or on separate sheet.)		Hydrophytic Vegetation Preser
Remarks: (include photo numbe	rs here or on separate sheet.)		Hydrophytic Vegetation Preser
Remarks: (include photo numbe	rs here or on separate sheet.)		Hydrophytic Vegetation Preset

							Sampling	Point: Wetland A
OILS	escription: (Des	cribe to the	depth needed to	o documen	t the indica	tor or conf	irm the absence	of indicators.)
	Malrix	ON IDO TO THE	Copullination	Redox Feat	ures			
epth		%	Color (moist)	%	Type *1	Loc *2	Texture	Remarks
ches)	Color (moist)		Color (Molocy		-31		Silt Loam	
0-3	10YR 3/2	100	7.5YR 4/6	28	C	M	Clay Loam	
<u>3-8</u>	10YR 4/1	<u>72</u>		20			Clay	
-20	2.5Y 5/1	80	7.5YR 5/8			141	Olay	
								
	C=Concentration, D	D - 1-8' D'	M-Dadusad Makév I	MS-Macked S	Sand Grains	*2 Location:	PL=Pore Lining, M=	Matrix
		Depletion, R	M=Reduced Matrix, I	-for- (CZ)	Jana Granio.	_ coodaio	ndicators for Pro	oblematic Hydric Soils *3
ydric S	Soil Indicators:			rface (S7)	S		2 cm Muck (A10	
Histo	sol (A1)			rk Surface (S		, 140)	— Coost Proide Pr	edox (A16) (MLRA 147, 148)
— Histic	: Epipedon (A2)			ie Below Surfa	ace (S8)	-	Coast Plaine Ri	-leie Callo (E10)(MI DA 136 1/
Black	k Histic (A3)		(MLRA	147, 148)		-		plain Soils (F19)(MLRA 136,14
 Hvdr	ogen Sulfide (A4)		Loamy	Gleyed Matrix	(F2)	_		ark Surface (TF12)
	ified Layers (A5)		X Deplete	d Matrix (F3)		-	Other (Explain i	n Remarks)
	Muck (A10) (LRR N	IY.	Redox	Dark Surface ((F6)			
	eted Below Dark Su			d Dark Surfac				
_				Depressions (
	k Dark Surface (A12)		_	nganese Mas				
	dy Mucky Mineral (S			, MLRA 136)	,			
•	R N, MLRA 147, 148				AM DA 126	122)		
Sand	dy Gleyed Matrix (S4	-)	Umbric	Surface (F13)) (WILIXA 100,	122) ALDA 1491		
Sand	dy Redox (S5)		Piedmo	nt Floodplain	5011S (F 19) (II	ALIXA 170)		
Strip	ped Matrix (S6)		Red Pa	rent Material ((F21) (MLKA	127, 147)		
3 Indica	itors of hydrophytic v	regetation and	d wetland hydrology	must be prese	ent, unless dis	sturbed or pro	oblematic.	
Restric	ctive Layer (if o	bserved):				l	Hyaric Soil	
	our						x_Yes	_No
						1		
Туре:	(inchas):							
Type: Depth	(inches):							
Type: Depth	·ks·		to a few Deminto	d Matrice ES	•			
Type: Depth		ic Soil Indic	cator for Deplete	d Matrix: F3	3.			
Type: Depth	·ks·	ic Soil Indic	cator for Deplete	d Matrix: F3	3.			
Type: Depth	·ks·	ic Soil Indic	cator for Depleted	d Matrix: F3	3.			
Γype: Depth Remar	·ks·	ic Soil Indic	cator for Deplete	d Matrix: F3	3.			
Γype: Depth Remar	·ks·	ic Soil India	cator for Deplete	d Matrix: F3	3.			
Γype: Depth Remar	·ks·	ic Soil India	cator for Deplete	d Matrix: F3	3.			
Γype: Depth Remar	·ks·	ic Soil Indic	cator for Depleted	d Matrix: F3	3.			
Γype: Depth Remar	·ks·	ic Soil Indid	cator for Depleted	d Matrix: F3	3.			
Type: Depth	·ks·	ic Soil India	cator for Depleted	d Matrix: F3	3.			
Type: Depth	·ks·	ic Soil India	cator for Depleted	d Matrix: F3	3.			
Type: Depth	·ks·	ic Soil India	cator for Depleted	d Matrix: F3	3.			
Type: Depth	·ks·	ic Soil India	cator for Depleted	d Matrix: F3	3.			
Type: Depth	·ks·	ic Soil India	cator for Depleted	d Matrix: F3	3.			
Type: Depth	·ks·	ic Soil Indid	cator for Depleted	d Matrix: F3	3.			
Γype: Depth Remar	·ks·	ic Soil India	cator for Depleted	d Matrix: F3	3.			Last revised: 11

Devis - MCita	mes City SWD Well #38268	City/Cou	intv:	Elk	Date: 3/17/2014
			P/	Sampling Poir	nt: Wetland B
	eca Resources Corporation	Section	Township, Ra		Highland
	olmes, Josh & Lee, Mallory			convex, none):	concave
Landform (hillslope, terra			B.820752	Subregion (LRR or MLRA):	LRR - N Datum: NAD-83
Slope (%): 1	Lat: 41.619072	CpB	0.020132	NWI classifica	
Soil Map Unit Name:	The state to be a second		No (if	no, explain in Remarks)	
	onditions on the site typical	x Yes	140 (31	no, explain in rections,	
for this time of year?		(te	turbod A	e "Normal Circumstances	nresent? x Yes No
Are VegetationS	o"	significantly dist		needed, explain any answ	ers in Remarks.)
Are VegetationS	ailor Hydrology	naturally proble	mauc <i>t</i> (r	needed, explain any anon-	,
CLIMARA DV OE CINDINI	GS - Attach site map show	ina samplina p	oint location	s, transects, important fe	atures, etc.
Hydrophytic Vegetation F	Present? x Yes	No			
Hydric Soil Present?	x Yes	— No	ls this Sam	oled Area Within a Wetla	ind? <u>Yes</u>
		No	i '		
Wetland Hydrology Pres	native procedures here or in		rt)		***
Remarks, (Explain alten	lative procedures note of in-		,		
1					
m - m - 1 e - 141-1	N-wei D				
Reference Point for Wet	land 6.				
HYDROLOGY					
Wetland Hydrology In	dicators:	1 111.454		n Cocondany Indicators	(minimum of two required)
Primary Indicators (m	inimum of one is required	: cneck all that	(apply) c	Surface Soil C	
Surface Water (A1)		ied Leaves (B9)			etated Concave Surface (B8)
X High Water Table (A2)	Aquatic Fau				
x Saturation (A3)	True Aquat	ic Plants (B14)		Drainage Patte	
Water Marks (B1)		Sulfide Odor (C1)		Moss Trim Lin	
Sediment Deposits (B)		hizospheres on Li		<u> </u>	Vater Table (C2)
Drift Deposits (B3)	Presence o	f Reduced Iron (C	(4)	Crayfish Burro	
Algal Mat or Crust (B4) Recent iron	Reduction in Tille	ed Soils (C8)		able on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck	Surface (C7)			ressed Plants (D1)
Inundation Visable on	Aerial Other (Exp'	lain in Remarks)		Geomorphic P	
Imagery (B7)				Shallow Aquili	•
- inagery (b.)				Microlopograp	ohic Relief (D4)
				x FAC-Neutral	l'est (D5)
Field Observations					
Field Observations:		epth (inches):	1		
Surface Water Prese	···· — —	epth (inches):			
Water Table Present	·	epth (inches):		Netland Hydrology Pre	sent? x Yes No
Saturation Present?		eptii (inches).		notana nyaronogy i ri	
(includes capillary fri	nge)		م معقم ما مراد	ravious inenactions) if a	vailable:
Describe Recorded [Data (stream gauge, moni	toring well, aei	nai priotos, p	itealons irrsheerrous), ir s	redikabio.
N/A					
Remarks:					
1					
Depression formed f	rom logging activity.				
- 50.000.00					
1					
1					

GETATION - Use scientific r	names of plants			Sampling Point: Wetland B
	Absolute %	Dom.	Indicator	Dominance Test worksheet:
e Stratum (Plot size:)	Cover	spp?	Status	Number of Dominant
	 			Species That are OBL,
				FACW or FAC:(A)
				1
				Total Number of Dominant
				Species Across All Strata: (B)
				<u> </u>
				Percent of Dominant
7				
	<u>0</u> =Total			Species That are OBL,
50%	of Total Cover 0		l Cover 0	FACW, or FAC:(A/B
	Absolute %	Dom.	Indicator	PACVI, OF FAC.
pling Stratum (Plot size:)	Cover	spp?	Status	Prevalence Index worksheet:
				1
2				Total % Cover of: Multiply by:
				OBL species x1=
3				FACW species x2=
4				FAC species x3=
5				FACU species x4=
3				UPL species x5=
7		Cover		Column Totals PI:
	0 =Total		d Cover 0	
50%	of Total Cover 0		al Cover 0	I
	Absolute %	Dom.	Indicator	1
rub Stratum (Plot size:)	Cover	spp?	Status	Hydrophytic Vegetation Indicators:
				Hydrophytic vegetation indicators.
2				Yes Rapid Test for Hydrophytic Vegetation
3				Dominance Test is >50%
				Prevalence Index is < 3.0*
				Morphological Adaptations* (Provide
5				supporting data in Remarks or on separa
6				sheel)
7		Course		Problematic Hydrophytic Vegetation*
	<u>0</u> =Tota		al Cavor D	(Explain)
50%	6 of Total Cover 0		al Cover 0	(=//
	Absolute %	Dom.	Indicator	
erb Stratum (Plot size:)	Cover	spp?	Status	* Indicators of hydric soil and wetland
1 Poa palustris	12	Yes	FACW	hydrology must be present, unless
2 Thelypteris palustris	5	No	FACW	
3 Onoclea sensibilis	40	Yes	FACW	disturbed or problematic.
4	<u> </u>			
				Definitions of Vegetation Strata:
5				Tree - Woody plants, excluding woody vines
6				approximately 20 ft (6 m) or more in height a
7				3 in. (7.6 cm) or larger in diameter at breast
8				height (DBH)
9				Sapling – Woody plants, excluding woody
10				vines, approximately 20 ft (6 m) or more in
1				height and less than 3 in. (7.6 cm) DBH.
2				
	57 =Tot	al Cover		Shrub – Woody plants, excluding woody vin
50'	% of Total Cover 28.5	20% of To	tal Cover 11.4	approximately 3 to 20 ft (1 to 6 m) in height.
<u></u>	Absolute %	Dom.	Indicator	1
Vender Vine Stratum (Diet eizer		spp?	Status	III All Laborator from transfer along
Voody Vine Stratum (Plot size:)				Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of s
1				and woody plants, except woody vines, less
				than approximately 3 ft (1 m) in height.
2				men approximately out (1 m) in magnin
				.
2				Moody vine - All woody vines regardless o
2	0_=Tot	al Cover		•
2 3 4			otal Cover 0	Woody vine – All woody vines, regardless on height.
2 3 4	0_=Tot		otal Cover 0	•
2 3 4 50	0 =Total Cover 0		otal Cover 0	•
2 3 4 50	0 =Total Cover 0		otal Cover0	•
2 3 4 50	0 =Total Cover 0		otal Cover0	height.
2 3 4	0 =Total Cover 0		otal Cover0	Woody vine – All woody vines, regardless o height. Hydrophytic Vegetation Presen
2 3 4 50	0 =Total Cover 0		otal Cover 0	height.
2 3 4 50	0 =Total Cover 0		otal Cover 0	height.

OILS				·			Sampling I	Point: Wetland B
ofile D	escription: (Desc	cribe to the	e depth needed t	o document	the indica	tor or con	irm the absence	of indicators.)
pth	Matrix			Redox Feat	ures			
ches)	Color (maist)	%	Color (moist)	%	Type *1	Loc*2	Texture	Remarks
)-6	10YR 4/1	82	7,5YR 4/6	18	С	<u>M</u>	Silt Loam	
-10	10YR 6/1	70	7.5YR 5/6	30	C	M	Sandy Clay	
-10	TOTIC OF							
		<u> </u>						-
								•
	C=Concentration, D=		Motov	MS-Mackad S	and Grains	2 Location:	PL=Pore Lining, M=I	xintatvi
		Depletion, R	M=Reduced Matrix,	urfono (P7)	dia Giano		Indicators for Pro	blematic Hydric Soils *3
	Soil Indicators:			ırface (S7) ırk Surface (S9	A /MI DA 147		2 cm Muck (A10	
_	sol (A1)					, 140)	Coast Prairie Re	dox (A16) (MLRA 147, 148)
_Histic	: Epipedoп (A2)			ue Below Surfa	ice (20)	•	Pierimont Flood	plain Soils (F19)(MLRA 136,147)
_Black	(Histic (A3)		•	147, 148)	(E0)		Voru Shallow Da	urk Surface (TF12)
Hydro	ogen Sulfide (A4)			Gleyed Matrix	(F2)	•	Other (Explain in	
Strati	fied Layers (A5)			ed Matrix (F3)			Ottes (Explain ii	Monday
	Muck (A10) (LRR N			Dark Surface (
Deplo	eted Below Dark Sur	face (A11)		ed Dark Surfac				
— Thick	Dark Surface (A12))		Depressions (I				
 Sand	ty Mucky Minerał (S1)		anganese Mas	ses (F12)			
— (LRR	N, MLRA 147, 148))		I, MLRA 136)				
Sano	ty Gleyed Matrix (S4))	Umbrid	Surface (F13)	(MLRA 136,	122)		
Sand	ly Redox (S5)		Piedm	ont Floodplain	Solls (F19) (N	(LRA 148)		
— Strip	ped Malnx (S6)		Red Pa	arent Material (F21) (MLRA	127, 147)		
					المحمدات ا	durbad ar ar	oblomatic	
		egetation an	d wetland hydrology	must be prese	ent, unless al	Rurbea or pr	Hydric Soil	Dresent?
3 Indica	tors of hydrophylic v					1	_x_Yes	
3 Indica Restric	itors of hydrophylic v ctive Layer (if ol	bservea):					<u>~</u> 163 —	_110
Restric	tors of hydrophylic v ctive Layer (if ol	bservea):						
Restric	ctive Layer (if ol	bservea):						
Restric ype: Depth	ctive Layer (if ol (inches):	pserved):						
t estric ype: epth	ctive Layer (if ol (inches):	bserved):						
t estric ype: epth	ctive Layer (if ol (inches):	bserved):						
t estric ype: epth	ctive Layer (if ol (inches):	bserved):						
t estric ype: epth	ctive Layer (if ol (inches):	bserved):						
t estric ype: epth	ctive Layer (if ol (inches):	bserved):						
t estric ype: epth	ctive Layer (if ol (inches):	bserved):						
Restric Type: Depth Remar	ctive Layer (if ol (inches): ks:		actor for Donlet	od Matriy: F	3. Soils are	compact	ed due to logging	activity.
Restric Type: Depth Remar	ctive Layer (if ol (inches):		cator for Deplete	ed Matrix: F	3. Soils are	compacte	ed due to logging	activity.
Restric Type: Depth Remar	ctive Layer (if ol (inches): ks:		cator for Deplete	ed Matrix: F	3. Soils are	compacte	ed due to logging	activity.
Restric Type: Depth Remar	ctive Layer (if ol (inches): ks:		cator for Deplete	ed Matrix: F	3. Soils are	compacte	ed due to logging	activity.
Restric Type: Depth Remar	ctive Layer (if ol (inches): ks:		cator for Deplete	ed Matrix: F3	3. Soils are	compacte	ed due to logging	activity.
Restric Type: _ Depth Remar	ctive Layer (if ol (inches): ks:		cator for Deplete	ed Matrix: F3	3. Soils are	compacte	ed due to logging	activity.
Restric Type: Depth Remar	ctive Layer (if ol (inches): ks:		cator for Deplete	ed Matrix: F	3. Soils are	compacte	ed due to logging	activity.
Restric Type: Depth Remar	ctive Layer (if ol (inches): ks:		cator for Deplete	ed Matrix: F	3. Soils are	compacte	ed due to logging	activity. Last revised: 11/1

	0.00	CIAID IAIGH #38361	2	City/Cou	intv:		Elk	Date:	3/17/2014
roject/Site:	James City	SWD Well #38268	ion	State:		PA	Sampling Point:	Upland	A&B
	Seneca Res	ources Corporat	1011		Township		_ ' ' '	Highland	
vestigator(s):		osh & Lee, Mallory		Localre	lief (conca	ve, convex, n	one):	concave	
ındform (hillslop		Depression	Longi		8,820796	Subregio	n (LRR or MLRA):	LRR - N Datu	m: NAD-83
ohe (1/4):	1 Lat:	41.619168	_Long:		8,020730	Gubitgio	NWI classificati	on:	PEM
oil Map Unit Nan	ne:	a di di di minal	Ср		No	/if no explai	n in Remarks)		
re climatic/hydro	logic conditions	on the site typical	_x_Ye	·s	INO	(II IIO, explai	11 111 1 10111011101		
r this time of yea	ar?			O. alla	4	Aro "Norma	l Circumstances" p	resent? x `	res No
re Vegetation	Soil	or Hydrology	_signifi	cantly dis	r Dearun	(If needed	explain any answer	s in Remarks.)	
re Vegetation	Soil	or Hydrology	_natura	ily proble	emaucr	(II fieeded,	explain any anome	•	
LINARA A DVI A E	INDINGS - Affa	ch site map shov	ving sa	mpling p	oint locat	ions, transec	cts, important feat	ures, etc.	
ydrophytic Vege	tation Present?	Yes	x No)					NI
lydric Soil Prese	nt?	— Yes	× N	D	Is the Sa	ımpled Area	Within a Wetland	17	No
Vetland Hy <u>drolog</u>	nv Present?	— Yes	_x N	0					
	n alternative pro	cedures here or ir	n a sepa	rate repo	ort.)				
HYDROLOGY Wetland Hydrol	logy Indicators	í.	d: abou	t all the	it anniv)	or Secon	dary Indicators (r	ninimum of tw	o required)
Primani Indicat	ors (minimum	of one is require	d: ched	k all tha	t apply)	or <u>Secon</u>	<u>dary Indicators (r</u>	<u>ninimum of tw</u>	o reguirea)
Surface Water		Water-Sta	ined Lea	ives (B9)			Surface Soil Cra	cks (B6)	f (DO)
High Water Ta		Aquatic F						ited Concave Sui	Tace (Do)
Saturation (A3		True Aqua					Drainage Patten		
Water Marks (Hydrogen	Sulfide	Odor (C1)			Moss Trim Lines		
Sediment Dep		Oxidized	Rhizospi	neres on L	iving Roots	(C3)	Dry-Season Wa		
Drift Deposits		Presence	of Redu	iced Iron (C4)		Crayfish Burrow	s (C8)	(00)
Algal Mat or C		Recent In	on Redu	ction in Til	led Soils (Cl	3)		ole on Aerial Imaç	jery (Ca)
Iron Deposits		Thin Muc						ssed Plants (D1)	
Inundation Vis		Other (Ex					Geomorphic Po		
Imagery (B7)			•				Shallow Aquitar		
Illiagery (b1)							Microtopograph		
							FAC-Neutral Te	st (D5)	
Field Observa	ations:								
Surface Water	Present? _	_Yes <u>x</u> No	Depth	(inches)	: ——				
Water Table P	resent?	_Yes <u>x</u> No	Depth	(inches)	:	Madand	Hydrology Pres	ent? Ye	s x No
Saturation Pre	sent?	_Yes <u>x</u> No	Depth	(inches)	· —	wettand	riyulology i les		<u> </u>
(includes capil	lary fringe)						inamantiana) if ay	ailahle:	
Describe Reco	orded Data (st	eam gauge, mo	nitoring	ı weil, ac	erial photo	s, previous	inspections), if av	allabic.	
N/A									
Remarks:									
Kemarks.									
No Primary or	Secondary w	etland Hydrology	Indica	tors wer	e present				
[======	· ·							
								· · · · · · · · · · · · · · · · · · ·	
				_					

EGETATION - Use scient	fic names of plants			Sampling Point: Upland A&B
	Absolute %	Dom.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size:)	Cover	spp?	Status	Number of Dominant
1 Betula lenta	17	Yes	FACU	Species That are OBL,
2 Acer saccharum	23	Yes	FACU	FACW or FAC:0(A)
3				Total Number of Dominant
4				4
5				Species Across Ali Strata: 4 (B)
6				Percent of Dominant
7		C=		
	40 =Total		al Cover 8	Species That are OBL,
		Dom.		FACW, or FAC: 0 (A/B)
	Absolute % Cover	spp?	Indicator Status	
apling Stratum (Plot size:)	32	Yes	FACU	Prevalence Index worksheet:
1 Fagus grandifolia 2 Acer pensylvanicum	8	Yes	FACU	Total % Cover of: Multiply by:
3				OBL species x1=
4				FACW species x2=
5				FAC species x3=
6				FACU species x4=
7				UPL species x5= Column Totals PI:
	40 =Total			Column Totals PI:
	50% of Total Cover 20		al Cover 8	Ì
	Absolute %	Dom.	Indicator	
Shrub Stratum (Piot size:)	Cover	spp?	Status	Hydrophytic Vegetation Indicators:
1				No Rapid Test for Hydrophytic Vegetation
2	<u></u>			No Dominance Test is >50%
3				Prevalence Index is < 3.0*
4				Morphological Adaptations* (Provide
5				supporting data in Remarks or on separate
6				sheel)
·	0 =Total	Cover		Problematic Hydrophytic Vegetation*
	50% of Total Cover 0	20% of Tol	al Cover 0	(Explain)
	Absolute %	Dom.	Indicator	
Herb Stratum (Ptot size: _)	Cover	spp?	Status	the three set had so call and wattend
1				* Indicators of hydric soil and wetland
2				hydrology must be present, unless
3	·			disturbed or problematic.
4				Definitions of Vegetation Strata:
5				
6				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height an
7				3 in. (7.6 cm) or larger in diameter at breast
8				height (DBH)
9			,	Sapling – Woody plants, excluding woody
10				vines, approximately 20 ft (6 m) or more in
11				height and less than 3 in. (7.6 cm) DBH.
12	0 =Tota	al Cover		Shrub – Woody plants, excluding woody vines
	50% of Total Cover 0		tal Cover 0	approximately 3 to 20 ft (1 to 6 m) in height.
	Absolute %	Dom.	Indicator	Approximately 2 to 22 to (1) to 2 to (1)
Woody Vine Stratum (Plot size:		spp?	Status	Herb – All herbaceous (non-woody) plants,
1				including herbaceous vines, regardless of size
2				and woody plants, except woody vines, less
3				than approximately 3 ft (1 m) in height.
4				hat the death of the state of t
		al Cover		Woody vine – Ali woody vines, regardless of height.
	50% of Total Cover 0	20% of To	otal Cover 0	neither
		<u>.</u>		
Remarks: (include photo numbe	rs here or on separate sheet.)			
				l
1				Hydrophytic Vegetation Present?
L				Yes x No
This area was recently timbered	•			<u> </u>

							Sampling	Point: Upland A&B	
OILS rofile De	scription: (Des	cribe to the	depth needed t	o documer	nt the indica	tor or con	firm the absence	of indicators.)	
epth	Matrix			Redox Fea	itures				
iches)	Color (moist)	%	Color (moist)	%	Type *1	Loc *2	Texture	Remarks	
0-3	10YR 2/1	100	, ,				Silt Loam		
3-6	10YR 5/3	100					Sandy Clay		
-20	7.5YR 5/6	100					Sandy Clay		
-20	7,0110								
		····			0 10-1-	to Langtion:	DI -Boro Lining Mal	Matrix	
		Deptetion, R	M=Reduced Malrix,	MS=Masked	Sand Grailis,	Z EUCAROII.	PL=Pore Lining, M=I	oblematic Hydric Soils *3	
ydric So	il Indicators:			rface (S7)			2 cm Muck (A10		
Histoso	ol (A1)				9) (MLRA 147	, 148)	Z CM MUCK (A TO	MON (A16) (MI DA 147 148)	
Histic E	pipedon (A2)			ie Below Sur	face (S8)	•	Coast Prairie Redox (A16) (MLRA 147, 148)		
Black H	fistic (A3)		•	147, 148)			Piedmont Floodplain Solis (F19)(MLRA 136,147)		
– Hydrog	jen Sulfide (A4)		Loamy	Gleyed Maln	(F2)	,	Very Shallow Dark Surface (TF12)		
Stratifie	ed Layers (A5)		Deplete	d Matrix (F3)			Other (Explain in	i Remarks)	
 2 cm M	luck (A10) (LRR N)	Redox l	Dark Surface	(F6)				
— Deplete	ed Below Dark Sur	face (A11)	Deplete	d Dark Surfa	ce (F7)				
	Dark Surface (A12)		Redox	Depressions ((F8)				
	Mucky Mineral (S1		Iron-Ma	nganese Ma	sses (F12)				
– ′	N, MLRA 147, 148)		(LRR N	, MLRA 136)					
	Gleyed Matrix (S4) (MLRA 136,	122)			
	Redox (S5)	,	—— Piedmo	nt Floodplain	Soils (F19) (N	#LRA 148)			
	ed Matrix (S6)				(F21) (MLRA				
3 Indicato	rs of hydrophytic v	egetation and	i wetland hydrology	must be pres	ent, unless dis	sturbed or pr	oblematic.		
Costrict	ive Layer (if ol	oserved):					Hyaric Soil		
ype:	ito najoi (ii o					1	Yes <u>x</u>	_No	
Depth (ir	nches):								
Remarks			· · · · · · · · · · · · · · · · · · ·						
to bude	s. ic Soil Indicator	e ware nhe	served						
NO FIYUI	ic Soil fildicator	3 WOLC ON							
								Last revised: 11/1	

Project/Site: James City SWD Well #38268 City/County	: Elk Co., PA Date:	3/18/2014
Applicant/Owner: Seneca Resources Corporation State:		SP-4
	wnship, Range: Highland Township	
investigator(c):	(concave, coпvex, none): none	
To an	21633 Subregion (LRR or MLRA): LRR - N Datum:	NAD83
Olope (70): 4 070	Carregion (and the first of the	VA.
Soil Map Unit Name: CpB - Cookport channery loam 8 to 5 percent s	stopes, very storry	
Are climatic/hydrologic conditions on the site typical Yes x No	(II IIO, explain in Itematics)	1
for this time of year?	ed? Are "Normal Circumstances" present? _x_Yes	s No
Are VegetationSoilor Hydrologysignificantly disturb		' —··· l
Are Vegetation Soil or Hydrology naturally problema	tic? (If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sampling poin	t locations, transects, important features, etc.	
Hydrophytic Vegetation Present?Yesx_No		
	the Sampled Area Within a Wetland? No	
Wetland Hydrology Present? × Yes No		
Remarks: (Explain alternative procedures here or in a separate report.)		
Remarks; (Explain alternative procedures here of in a separate report)		
		Į.
Sample point is located on a slight hillslope that is located within a recei	ntly timbered area. Atypical hydrology conditions were pre-	sent due to
approximatey 12 inches of snow melt within the last week. Excessive w	ater was present within the project location.	
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required: check all that ap	ply) OR Secondary Indicators (minimum of two re	eguired)
X Surface Water (A1) Water-Stained Leaves (B9)	Surface Soil Cracks (B6)	
X 04/100 / 14/10 / 17/	Sparsely Vegetated Concave Surface	e (B8)
	X Drainage Patterns (B10)	, ,
X Saturation (A3) True Aquatic Plants (B14)	Moss Trim Lines (B16)	
Water Marks (B1) Hydrogen Sulfide Odor (C1)		;
Sediment Deposits (B2) Oxidized Rhizospheres on Living		
Drift Deposits (B3) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)	(00)
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled S		(09)
Iron Deposits (B5) Thin Muck Surface (C7)	Stunted or Stressed Plants (D1)	
Inundation Visable on Aerial Other (Explain in Remarks)	Geomorphic Position (D2)	
Imagery (B7)	Shallow Aquitard (D3)	
	Microtopographic Relief (D4)	
	FAC-Neutral Test (D5)	
Field Observations:		
Field Observations: Surface Water Present? x Yes No Depth (inches):	2	
		
Water Table Present? Yes x No Depth (inches):	12 Wetland Hydrology Present? _x Yes	No
Saturation Present? <u>x</u> Yes No Depth (inches):	Wethand Hydrology Freschit.	—
(includes capillary fringe)	the North Adams of the Control of th	
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspections), it available:	
Remarks:		
Multiple wetland hydrology indicators present at the time of sam	pling. Excessive water was present due to snow me	lt.
Interchio noncina rijeroregi merenere f	•	

VEGETATION - Use scientific na	ames of plants			Sampling Point:	SP-4
	Absolute %	Dom.	Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size: 30'r_)	Cover	spp?	Status	Number of Dominant	
1				Species That are OBL,	
2				FACW or FAC:	1(A)
3				T-1-1-1-1	
4				Total Number of Dominant	•
5				Species Across All Strata:	3(B)
6				Doront of Domisors	
7				Percent of Dominant	
	0 =Total (d Count 0	Species That are OBL,	
50% o	f Total Cover 0		al Cover 0	FACW, or FAC:	33% (A/B)
Continue Christian (Dict since After)	Absolute %	Dom. spp?	Indicator Status	I NOVI, OF FAU.	(AD)
Sapling Stratum (Plot size: 15'r)	Cover	appi	Ordida	Prevalence Index wor	ksheet:
1				Total % Cover of:	Multiply by:
				OBL species	x1=
	•			FACW species	x2=
5	-			FAC species	x3=
6				FACU species	x4=
7				UPL species	x5=
	0 =Total (Cover		Column Totals	PI:
50% o	f Total Cover 0	20% of Tola	al Cover 0		
	Absolute %	Dom.	Indicator		
Shrub Stratum (Plot size: 15'r)	Cover	spp?	Status		
1 Rubus allegheniensis	12	Yes	FACU	Hydrophytic Vegetation	
2				no Rapid Test for Hydrophy	_
3				no Dominance Test is >50%	
4				Prevalence Index is < 3.	
5				Morphological Adaptation supporting data in Remains	
6					arva or our sebarate
7				sheet) Problematic Hydrophytid	: Vegetation*
	12 =Total		al Cours 2 4	(Explain)	
50% o	f Total Cover 6		al Cover <u>2.4</u>	(САРІСІП)	
Horb Stratum (Diat size: 51-1)	Absolute % Cover	Dom. spp?	Indicator Status		
Herb Stratum (Plot size: 5'r) 1 Juncus effusus	35	Yes	FACW	* Indicators of hydric soi	l and wetland
2 Scirpus atrovirens		No	OBL	hydrology must be pres	
3 Dennstaedtia punctilobula	36	Yes	FACU	disturbed or problemation	
4				,	
				Definitions of Vegeta	tion Strata:
5 6				Tree - Woody plants, exclud	
7				approximately 20 ft (6 m) or	more in height and
8				3 in. (7.6 cm) or larger in dia	meter at breast
9				height (DBH)	
10				Sapling – Woody plants, exc	
11				vines, approximately 20 ft (6	
12				height and less than 3 in. (7	.o cinj voH.
	83 =Total			Shrub - Woody plants, excl	uding woody vines.
50% c	of Total Cover 41.5		al Cover <u>16.6</u>	approximately 3 to 20 ft (1 to	
	Absolute %	Dom.	Indicator	1	
Woody Vine Stratum (Plot size: 30'r)	Cover	spp?	Status	Herb – All herbaceous (non-	-woody) plants,
1				including herbaceous vines,	regardless of size,
2				and woody plants, except w	
3				than approximately 3 ft (1 m	ı) in neight.
4	0 =Total	Cover	<u> </u>	Woody vine – All woody vin	es, regardless of
EUG/	of Total Cover 0	20% of Tot	al Cover 0	height.	55, 1084101000 01
30%	J. (VIA) GOVE)	2078 OF 100			
Remarks: (include photo numbers here o	or an congrete cheet)			\dashv	
remarks, (include prioto numbers nere o	n vii sehalare sileer)				
				10.4	41 Du 10
Sample Point does not meet hydrop	hytic vegetation tests.			Hydrophytic Vegeta	ition Present?
Sumple : Will does not moverydiep	.,				
				Yes <u>x</u> No	

SOILS							Sampling	Point:	SP-4
Profile L	Description: (Des	cribe to the	depth needed t	o documer	nt the indica	tor or con	firm the absence	e of indicators.)	
Depth	Matrix		•	Redox Fea				•	
(inches)	Color (moist)	%	Color (moist)	%	Type *1	Loc *2	Texture	Remarks	
0-2	10YR 4/2	100	, ,		••		Silt Loam		
2-10	10YR 5/3	88	7.5YR 5/6	12	С	M	Silt Loam		
10-20	10YR 5/6	100					Silty Clay		
\vdash									
							***************************************	•	
							•		
									
tt Type: (C=Concentration, D=	Donlation Di	4=Dodugod Matrix N	4C=Maskad C	Cond Croins *	O Logoliopa F	DI Doro Lining M		
		Deptetion, Riv			Sanu Grains.				C - !! - #2
	ioil Indicators:			face (S7)				blematic Hydric	Solis "3
	sol (A1)			•) (MLRA 147,	148) _	2 cm Muck (A10	• •	7 440)
	Epipedon (A2)			e Below Surfa	ice (58)	_		dox (A16) (MLRA 14	
	Histic (A3)		(MLRA 1	-	(FO)	_		olain Soils (F19)(MLF	(A 130,147)
_	gen Sulfide (A4)			Bleyed Matrix	(F2)			rk Surface (TF12)	
	fied Layers (A5)			Matrix (F3)	E0)	-	Other (Explain in	i Kemarks)	
_	Muck (A10) (LRR N)			ark Surface (I					
_	ted Below Dark Surf	ace (ATT)		Dark Surface					
	Dark Surface (A12)			epressions (F	•				
	y Mucky Mineral (S1)			ganese Mass	ses (F12)				
	N, MLRA 147, 148)			MLRA 136)	## DI 400 4	001			
_	y Gleyed Matrix (S4)				(MLRA 136, 1				
_	y Redox (S5)			•	Soils (F19) (Mi				
— Stripp	ed Matrix (S6)		Red Par	ent Matenai (F	F21) (MERA 1:	(7, 147)			
+0 101							isla 15a		
	ors of hydrophytic ve	· · · · · · · · · · · · · · · · · · ·	welland nydrology n	iust de preser	nt, uniess aisti	noed or pro		3	
	tive Layer (if ob	servea):					Hydric Soil F		
Type:							Yes <u>x</u>	140	
Depth (i									
Remark									
Soil proi	file does not mee	it the criter	ia for any nydric	soil indicat	ors				
ł									
1									
1									
1									
1									
Datashe	eet entered by: I	Holmes, Jo	sh					Last revise	d: 11/14/13

Project/Site: James City SWD Well #38268 City	//County: Elk Co., PA Date: 3/18/2014
Applicant/Owner: Seneca Resources Corporation State	5 July 2014
	Campang Forth
	of rolinf (and
Slope (%): 0-2 Lat: 41.619343 Long:	
Soil Map Unit Name: WaB - Wharton silt loam, 0 to	2 8 porcont donos
Are climatic/hydrologic conditions on the site typical Yes	
for this time of year?	x No (if no, explain in Remarks)
Are VegetationSoil or Hydrology significantly	/ disturbed? Are "Normal Circumstances" present? Ves No.
Are Vegetation Soil or Hydrology naturally pro	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing samplin	ng point locations, transects, important features, etc.
Tydrophytic vegetation Present? Yes x No	, and the state of
Hydric Soil Present? Yes x No	Is the Sampled Area Within a Wetland? No
Wetland Hydrology Present? Yes x No	
Remarks: (Explain alternative procedures here or in a separate re	eport.)
'	• ,
Sample point located within a recently timbered area. Atmigal by	drology present due to excessive snow melt. Approximately 12 inches of
snow melt within the past week.	arology present due to excessive snow melt. Approximately 12 inches of
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required: check all the	not apply on Considerable Visit of Asia
Surface Water (A1) Water-Stained Leaves (B0	
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
Sediment Deposits (B2) Oxidized Rhizospheres on Drift Deposits (B3) Presence of Reduced Iron	
	Oldyson Darrows (GD)
Algal Mat or Crust (B4)Recent Iron Reduction in T Iron Deposits (B5) Thin Muck Surface (C7)	Tilled Soils (C8) Saturation Visable on Aerial Imagery (C9)
foundation Visable as A	Stunted or Stressed Plants (D1)
· (Geomorphic Position (D2)
Imagery (B7)	Shallow Aquitard (D3)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present?Yes _x_No Depth (inches)) :
Water Table Present? Yes X No Depth (inches)	j:
Saturation Present? Yes x No Depth (inches)	Wetland Hydrology Present? Yes x No
includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, ae	rial photos, previous inspections), if qualitable.
t Sanga, manag mang ua	and photos, previous inspections), it available:
Remarks:	
No primary and/or secondary wetland hydrology indicators p	proposit at the time of
parameter secondary mentand nyurology indicators p	resent at the time of sampling.

VEGETATION - Use scientific n	ames of plants			Sampling Point: SP-5
Free Stratum (Plot size: 30'r)	Absolute %	Dom.	Indicator	Dominance Test worksheet:
1 Acer saccharum	Cover	spp?	Status	Number of Dominant
2	8	Yes	FACU	Species That are OBL,
				FACW or FAC:0 (A
4				
				Total Number of Dominant
······································				Species Across All Strata: 4 (B)
6 7				<u> </u>
	0 -7-4-1	0		Percent of Dominant
50% of	8 =Total Total Cover 4			Species That are OBL,
5570 61			af Cover 1.6	
pling Stratum (Plot size; 15'r)	Absolute % Cover	Dom.	Indicator	FACW, or FAC:0 (A/
Sassafras albidum	10	spp? Yes	Status	
Betula lenta	15	Yes	FACU	Prevalence Index worksheet:
Fagus grandifolia	12	Yes	FACU	Total % Cover of: Multiply by:
Prunus serotina	4	No	FACU	OBL species x1=
	·	140	FACU	FACW species x2=
				FAC species x3=
				FACU species x4=
	41 =Total 6	Cover		UPL species x5=
50% of 1	Total Cover 20.5		l Cover8.2_	Column Totals PI:
2010 0,	Absolute %	Dom,		
rub Stratum (Plot size: 15'r)	Cover	spp?	Indicator	
111	00761	app:	Status	
	·			Hydrophytic Vegetation Indicators:
				no Rapid Test for Hydrophytic Vegetation
	······································			no Dominance Test is >50%
			·	Prevalence Index is < 3.0*
			 	Morphological Adaptations* (Provide
				supporting data in Remarks or on separate
	=Total C	OVER		sheet)
50% of T	otal Cover	20% of Total	Cover	Problematic Hydrophytic Vegetation*
	Absolute %	Dom.		(Explain)
b Stratum (Ptot size: 5'r)	Cover	spp?	Indicator Status	
		эррт	Oldius	* Indicators of hydric soil and wetland
				hydrology must be present, unless
				disturbed or problematic.
			·	Definitions of Vand (Co. Co.
				Definitions of Vegetation Strata:
				Tree - Woody plants, excluding woody vines,
				approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast
				height (DBH)
				- ` '
				Sapling – Woody plants, excluding woody
				vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
	0 =Total Co	over		gar and loss than 5 lit. (1,0 cm) DBH.
50% of To	otal Cover 0	20% of Total (over 0	Shrub – Woody plants, excluding woody vines,
33700110		Dom.		approximately 3 to 20 ft (1 to 6 m) in height.
dy Vine Stratum (Plot size: 30'r)	Absolute % Cover		Indicator	
		spp?	Status	Herb – All herbaceous (non-woody) plants,
				including herbaceous vines, regardless of size,
				and woody plants, except woody vines, less
				than approximately 3 ft (1 m) in height,
	0 =Total Co	wor		.
50% of To			·	Woody vine - All woody vines, regardless of
35.00110		20% of Total C	over 0	height.
arks: (include photo numbers here or on	congrate sheet \	***		
and the decision of the state of our	separate sneet.)			
ple Point does not meet hydropl	udio vocat-ti : :	1		
ipio i oiti does not meet nydropt	iyuc vegetation test	IS.		Hydrophytic Vegetation Present?
				1 an obusing Andergood Present?
				Yes _x_No

SOILS				""			0 #		
Profile D	escription: (Des	cribe to the	heheen dtgeb	n docume	nt the indice	05 05 000	Sampling firm the absence	Point:	SP-5
Depth	Matrix			Redox Fe	annae an me meres	rot of con	irm the absence	of indicators.)	
(inches) 0-2 2-6 6-20	Color (moist) 10YR 2/1 10YR 4/2 10YR 4/4	% 100 100 100	Color (moist)	%	Type *1	Loc *2	Texture Silt Loam Silt Loam	Remarks	
Titype; C⊨	Concentration, D=E il Indicators:	epietion, RM	=Reduced Matrix, M	IS=Masked S	and Grains. *2	Location: Pi	L=Pore Lining, M=M	atrix	
Histoso Histic E Black H Hydroge Stratified 2 cm Me Deplete Thick De Sandy Me (LRR N, Sandy R			Thin Dark Polyvalue (MLRA 14 Loamy Gl Depleted Redox De Jepleted Redox De Jron-Mang (LRR N, M Umbric Su	race (S7) (Surface (S9) Below Surfa 17, 148) leyed Matrix (F3) Matrix (F3) Mick Surface (F Dark Surface pressions (F panese Massi LRA 136) Irface (F13) (F Floodplain Si) (MLRA 147, 1 ce (S8) F2) -6) (F7) B)	48)	dicators for Prob _2 cm Muck (A10)(_Coast Prairie Red	olematic Hydric S MLRA 147) ox (A16) (MLRA 147 ain Soils (F19)(MLRA Surface (TF12)	148)
*3 Indicators	of hydrophytic yeae	tation and we	elland hydrology mu	of he necessary	t. He s				
Restrictive	Layer (if obse	rved):	sacria nyarology ma	at be present	, uniess disturb	ed or proble			
Type:							Hydric Soil Pre		
Depth (incl	nes):		· · · · · · · · · · · · · · · · · · ·				Yes <u>x</u> N	o .	
			ments for any hy	/dric soil in	dicators.				
vatasneet e	entered by: Holi	mes, Josh						Last revised:	11/14/13

APPENDIX E STAFF QUALIFICATIONS



Staff Qualifications

Chad Lobley has over ten years of experience as a Biologist working with field ecology, wetlands, fisheries, aquatics and wildlife. Mr. Lobley has an MA in Environmental Geography and Planning. He has prepared and submitted PADEP permitting documents for several confidential clients which entailed surface water withdrawal, utility line crossings, and any other features involved to assure compliance with state and federal regulations. These projects involved activities such as wetland delineation, stream and aquatic life assessment, threatened and endangered species surveys, and other various siting and habitat assessments.

Joshua Holmes is a Biologist with over six years of wetland delineation experience. He has been trained in the utilization of the 1987 Corps Wetland Delineation Manual and its regional supplements. Mr. Holmes has successfully completed numerous wetland delineations in Kentucky, New York, Ohio, Pennsylvania and West Virginia.

Mallory Lee has five years of experience as an Environmental Scientist. Ms. Lee has a BS in Environmental Sciences and specializes in preparing letters, reports and applications for capital projects in the energy industry. She can conduct wetland and stream delineations, rapid bio assessments, and perform GPS operation/data collection. She has attended the Wetland Institute's 40 hour wetland delineation course