Survey Description	n								
Project Name:		Waterbody Na	me:		N	/aterbody ID:		Da	ate:
Atlantic Coast Pipel	ine	UNT to Dry I	Fork		s	poe018		5/	6/2016
State:	County:		Company:		Crew I	Member Initials:	P	hotos:	
West Virginia	Pocahontas		NRG		CG, ł	<0	1	-3	
Tract Number(s):	1		Nearest Mile	epost:	1	Associated We	tland II	D(s):	
05-001-E085; Unname	ed tract south of (	05-001-E085	67.7			none			
Survey Type:			Pouto		1				
			Noule						
Stream Classification:	S								
(check one)	Ephemera	al 🗌 Inte	rmittent	Perennial					
Waterbody Type: (check one)	]River ⊠ Str	eam 🗆 Dite	ch 🗆 C	anal 🗌 Other	:				
		4 a m-							
Width: <u>1</u> ft.	(check all that appl	tor: /)	□ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	□S	Scouring	□Water staining
Height:	⊠Bent.r	natted, or missir	ng ⊟Wrack li	ne 🖂 itter ar	nd	□Abrupt plant	Г	∃Soil cha	racteristic change
ft.	vegetatio	n	.9	debris	10	community cha	ange		actorione enange
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth o	f Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(.	Approx.)		
<u>_2_</u> ft.	_	<u>1_</u> ft.			_ <u>1_</u> ft.			(	<u>).1_</u> ft.
Sinuosity	Water	velocity:		N/A∟ Bank beight		F	NAL Rank slo	one	
(check one)	(Approx.)	velocity.		Right:		-		Right:	
		<u>_0.2</u> _fps	S	L oft:	<u>2</u> ft.			L oft	<u>80</u> degrees
□Meanderin	ng N/A□			Leit.	<u>2</u> ft.			Leit. -	80 degrees
Qualitative Attribu	tes								
Water Appearance:									
	No water ⊠0	Jear ⊔lur	old LISP on	neen ⊔Sul n surface sci	rface um	□ Algal □ mats	Other:		
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobl	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic	□ Ot	her:	
% of Substrate:	_%	%	<u>% 20 %</u>	<u>60</u> %	<u>20_</u> %	%		%	
Width of Riparian Zone	: Vegetative	e Lavers:							
	(check all that	apply)	□ Trees	s: [	Sapli	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>π</u> . N/A⊠	Avg. DBH (approx.)	of Dominants:	<u></u>	_in	-	_in.			
Dominant Bank Vegeta	tion (list):								
Plantain, grasses									
Aquatic Habitats (ex: su	ubmerged or emerged	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, de	eep pools):	
none									
Aquatic Organisms Ob	served (list):								
insects									
T&E Species Observed	l (list):								
none									
Disturbances (ex: livesto	ock access, manure i	n waterbody, wast	e discharge pipe	es):					
Pasture, culverted b	peneath road								
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High		oderate	⊠ Low					

Spoe018

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

### Notes:

Heavy rainfall recently





Waterbody SPOE018 facing south upstream



Waterbody SPOE018 facing north downstream



Waterbody SPOE018 facing west across

Survey Description	on							
Project Name:		Waterbody Na	ame:		W	laterbody ID:		Date:
Atlantic Coast Pipe	eline	Big Spring I	Fork		S	poe046		7/19/2016
State:	County:	1	Company:		Crew I	Member Initials:	Pho	tos:
West Virginia	Pocahontas		NRG		CG, A	AS	1-3	3
Tract Number(s):			Nearest Mile	Nearest Milepost:			etland ID(s	5):
unknown			NA			none		
Survey Type:			Pouto	MAaaaa Baad				
			-Roule	Access Road				
Physical Attribute Stream Classification	es							
(check one)	Ephemer	ral □Inte	ermittent	⊠Perennial				
Waterbody Type:								
(check one)	□River ⊠ St	ream 🗆 Di	tch 🗆 C	anal 🗌 Other:	:			
ОНШМ	OHWM Indica	ator:						
Width: 16 ft.	(check all that app	ny)	Clear lir on bank		g	UV rested vegetation	⊠Sco	ouring ⊠Water staining
Height:	⊠Bent	matted or missi	ng ⊡Wrack li	ne ⊠Litter ar	hd	 □ Abrunt plant		Soil characteristic change
<u>5</u> ft.	vegetati	on		debris	lu	community cha	ange	on characteristic change
Width of Waterbody -	Top of Width	of Waterbody	Toe of Slope	Width of Waterbo	odv - W	ater Edge to	Depth of V	Vater:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:	,	(	(Approx.)	
<u>35</u> ft.		<u>6 ft.</u>		_	<u>8</u> ft.			<u>2</u> ft.
				N/A 🗆			N/A 🗆	
Sinuosity: (check one)	Water (Approx.	velocity:		Bank height			Bank slop	e Diaht:
⊠Straight		1 fps	3	Kight.	<u>7_</u> ft.		Г	<u>55</u> degrees
□Meander				Left:	7 ft			Left:
					<u></u>			
Qualitative Attrib	utes							
(check one)	□No water ⊠	Clear 🗆 Tu	bid □Sh or	neen ⊡Sui nisurface scu	rface um	□Algal [ mats	∃Other:	
Substrate:	Bedrock 🛛 🖾 B	oulder 🛛 🖾 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic	□ Othe	r:
(check all that apply) % of Substrate:	% 30	% <u>40 %</u>	<u>24</u> %	<u>   5  </u> %	1_%	%		_%
Width of Pinarian Zor	Vogotativ							
	(check all the	at apply)	□ Trees	:	⊠ Sapliı	ngs/Shrubs:	⊠ He	rbs
<u>45 ft</u> .	Avg. DBH	l of Dominants	in.	-	<u>1</u> in.			
Dominant Bank Veget	tation (list):							
Willow, grasses, se	edges							
Aquatic Habitats (ex:	submerged or emerge	ed aquatic vegetati	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):
Pools	0 0			•		ů .	•	. ,
Aquatic Organisms O	bserved (list)							
none								
	• /// ->							
T&E Species Observe	ed (list):							
none								
Disturbances (ex: lives	stock access, manure	in waterbody, was	te discharge pip	es):				
Bridged and adjac	ent to public ro	ad						
Tributary is: (check one)	⊠ Natural		rtificial, man-m	ade 🗆 Manipi	ulated			
Stream Quality <sup>a</sup> : (check one)	□ High	× N	loderate	□ Low				

### Spoe046

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:





Waterbody spoe046 facing east upstream



Waterbody spoe046 facing west downstream



Waterbody spoe046 facing north across

Survey Description	n								
Project Name:		Waterbody N	ame:		v	Vaterbody ID:		C	late:
Atlantic Coast Pipel	ine	Big Spring	Fork		S	poe007		3	/11/2016
State:	County:		Company:		Crew I	Member Initials	: 1	Photos:	
West Virginia	Pocahontas		NRG		CG, /	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-E023			69.2			none			
Survey Type: (check one)	⊠Centerlin	e ⊡Re	-Route	□Access Road		□Other:			
Physical Attributes	S								
Stream Classification: (check one)	□Ephemer	al ⊡Int	ermittent	Perennial					
Waterbody Type:									
(check one)	River St	ream 🗆 D	itch 🗆 C	anal 🗌 Other	:				
OHWM	OHWM Indica	ator:						Coordination	
<u>20 ft.</u>	(check an that app	(v)	on bank		g		X	Scouring	staining
Height:	⊠Bent,	matted, or miss	ing DWrack li	ine ⊠Litter ar	nd	⊠Abrupt plan	t	⊠Soil ch	aracteristic change
_ <u>3_</u> ft. N/A□	vegetati	on		debris		community ch	ange		
Width of Waterbody - T	op of Width	of Waterbody	- Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water:	
вапк то тор от вапк:	to loe	of Slope:		water Edge:			(Approx.)		
<u>_35_</u> ft.		<u>15</u> ft.			<u>15_</u> ft.		N/A□	-	<u>2</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.	)		Right:				Right:	
		<u>_2_</u> fp	S	l eft:	<u>5</u> ft.			l eft <sup>.</sup>	<u>85</u> degrees
⊠Meanderir	ng N/A□				<u>3_</u> ft.				25 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	No water	Clear □Tu	rbid □Sł or	neen ⊡Su n surface scu	rface um	□Algal [ mats	□Other	:	
Substrate:	Bedrock 🛛 🛛 B	oulder 🛛 Col	bble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ d	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	<u>% 15</u>	% <u>35</u> %	<u>35</u> %	<u> 15 </u> %		_%%		_%	
Width of Riparian Zone	: Vegetativ	e Lavers:							
	(check all tha	t apply)	☑ Trees	: D	🛛 Sapli	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>200 ft</u> ∘ N/A□	Avg. DBF (approx.)	l of Dominants	:: <u>8</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Vegeta	tion (list):								
Beech, rose, galax									
Aquatic Habitats (ex: su	Ibmerged or emerge	ed aquatic vegetat	tion, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, o	deep pools	):
Riffles, runs, large v	woody debris,	overhanging	veg						
Aquatic Organisms Ob	served (list):								
Insects, invertebrate	es, small fish								
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, wa	ste discharge pip	es):					
Livestock runoff									
Tributary is: (check one)	⊠ Natural		Artificial, man-m	nade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	⊠ High		Noderate	□ Low					

Spoe007

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody SPOE007 facing east upstream



Waterbody SPOE007 facing west downstream



## Waterbody SPOE007 facing north across

Survey Descriptio	n								
Project Name:		Waterbody Na	me:		v	Vaterbody ID:		Date:	
Atlantic Coast Pipe	line	UNT to Big S	Spring Fork	ζ.	s	poa442		8/25/2016	
State:	County:		Company:		Crew	Member Initials:	Photos:		
West Virginia	Pocahontas		NRG - ER	М	GB, A	AS	3 phot	OS	
Tract Number(s):			Nearest Mile	epost:		Associated Wetland ID(s):			
Unnamed access r	bad; 05-001-E0	)24	69.2			wpoa422			
Survey Type: (check one)		e □Re-F	Route	⊠Access Road	1	□Other:			
Physical Attribute	S 🛛								
Stream Classification: (check one)	Ephemera	al 🛛 🖾 Inter	rmittent	Perennial					
Waterbody Type:									
(check one)	∃River ⊠ Str	eam 🗌 Dito	ch □C	anal 🗌 Other	:				
OHWM Width: <u>3.0</u> ft	OHWM Indica (check all that apply	<b>tor:</b> /)	□ Clear lin on bank	ne 🗆 Shelvin	g	⊠Wrested vegetation	Scourin	g ⊡Water staining	
Height:0.50ft		natted, or missin n	ng 🗆 Wrack	line ⊠Litter aı debris	nd	⊠Abrupt plant community change	⊡Soil c	haracteristic change	
N/A Width of Waterbody - 1	on of Width (	of Waterbody -	Too of Slope	Width of Waterh	ody - M		th of Wate	r	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:	ouy n	(Appro	ох.)		
<u>6.0</u> ft.	-	<u>2.0</u> ft.		N/A□	2.5 _ 1	ft. N/AE		<u>0.25 _</u> ft.	
Sinuosity:	Water	velocity:		Bank height		Banl	k slope		
Straight	(Approx.)	0.50	foc	Right:	3.5	ft.	Right	: 75 degrees	
□Meanderi		0.50	<u>-193</u>	Left:	15		Lef	t:	
				<u> </u>	1.0	_n.		<u> </u>	
Water Appearance:	lies								
(check one)	No water ⊠C	Clear 🗆 Turb	oid ⊡Sł or	neen DSu nisurface sci	rface um	□Algal □Otł mats	ner:		
Substrate:	Bedrock 🗆 Bo	ulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🛛 Organic 🗌	Other:		
% of Substrate:	%%	% <u>20 </u> %	% <u>15</u> %	% <u>15</u> %	<u>40 </u> %	<u>   10   %</u>	%		
Width of Riparian Zone	e: Vegetative	Eayers:							
ft.	(check all that	apply) of Dominants:	□ Trees	: 0	⊠ Sapli	ngs/Shrubs:	⊠ Herbs		
N/A 🛛	(approx.)				1.0_				
Dominant Bank Vegeta Shining willow, mul	ation <i>(list)</i> : tiflora rose, hop	sedge, white	e cut grass	, fescue, black	bent,	boneset, monke	y flower,	soft rush	
Aquatic Habitats (ex: s	ubmerged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	e submerged wood, riffle	s, deep poo	ls):	
Patches of emerge	nt vegetation, le	eaf packs							
Aquatic Organisms Ob	oserved (list):								
none									
T&E Species Observed	l (list):								
none									
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pip	es):					
Vehicles are driven	through stream	n, severely tra	ampled by	livestock					
Tributary is: (check one)	⊠ Natural	□ Ari	tificial, man-m	nade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	🗆 Mo	oderate	⊠ Low					

### spoa442

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap: natural vegetation extends 1/3-1/2 of the active channel width on each side: filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Stream continues out of corridor in both directions; no culvert or bridge present for existing dirt road crossing; flows through PSS wetland wpoa422; stream is extremely trampled by livestock.





Form Rev. 07/09/2014



Waterbody spoa442 facing south upstream



Waterbody spoa442 facing north downstream



Waterbody spoa442 facing west across

Survey Descriptio	n							
Project Name:		Waterbody Na	me: UNT to E	Big Spring Fork	w	aterbody ID:		Date:
Atlantic Coast Pipel	ine				s	poe006		03/10/2016
State:	County:		Company:		Crew N	Member Initials:	Pho	tos:
West Virginia	Pocahontas		NRG		CG, A	4S	1-3	3
Tract Number(s):			Nearest Mile	epost:		Associated We	tland ID(s	s):
05-001-E023			69.3			Wpoe007		
Survey Type: (check one)	⊠Centerlin	e □Re-	Route	□Access Road		□Other:		
Physical Attribute	S							
Stream Classification: (check one)	□ Ephemer	al ⊠Inte	rmittent	Perennial				
Waterbody Type:	-							
(check one)	River St	ream 🗆 Dit	ch 🗆 Ca	anal 🛛 Other	:			
ОНШМ		ator:						
Width: _ <u>5</u> ft.	(crieck all that app	"Y)	on bank		g	vegetation	× Scc	staining ⊡Water
Height:	⊠Bent,	matted, or missir	ng ⊡Wrack li	ine ⊠Litter ar	nd	□Abrupt plant	□S	Soil characteristic change
ft. N/A□	vegetatio	on		debris		community cha	inge	
Width of Waterbody - 1 Bank to Ton of Bank	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth of V	Vater:
Ballk to Top of Ballk.	to roe	or Stope:		water Euge.		()	100.)	
<u>8</u> ft.	-	_4_ft.			<u>5</u> ft.	N	I/A□	<u>_0.2_</u> ft.
Sinuosity:	Water	velocity:		Bank height		Ē	ank slop	e
(check one)	(Approx.	)		Right:			R	light:
		<u>_0.75_</u> fp	S	Left:	<u>2</u> ft.			<u>35</u> degrees
Meanderi	ng N/A□				<u>3_</u> ft.			_25_degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	No water ⊠	Clear □Turl	oid □Sh on	neen ⊡Su n surface sci	rface um	□Algal □ mats	Other:	
Substrate:	Bedrock 🗆 Be	oulder 🛛 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic	□ Othe	 r:
(check all that apply) % of Substrate:	<u>10 </u> %	% <u>_50 </u> %	<u> 15 </u> %	<u> 5 </u> %	<u>20 </u> %	%		_%
Width of Riparian Zone	e: Vegetativ	e Lavers:						
	(check all tha	at apply)	□ Trees	: D	⊠ Saplir	ngs/Shrubs:	⊠ He	rbs
<u>40 ft</u> - N/A□	Avg. DBH (approx.)	f of Dominants:	<u>6</u> in.	-	_ <u>1.5_</u> in			
Dominant Bank Vegeta	tion (list):							
Hawthorne, sugar n	naple, pasture	rose, skunk o	cabbage, be	eech				
Aquatic Habitats (ex: se	ubmerged or emerge	ed aquatic vegetation	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools)
Aquatic Organisms Ob	served (list):							
Insects								
T&E Species Observed	l (list):							
none								
Disturbances (ex: liveste	ock access, manure	in waterbody, wast	e discharge pipe	es):				
Livestock access								
Tributary is: (check one)	⊠ Natural		tificial, man-m	nade 🗆 Manip	ulated			
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low				

Spoe006

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody SPOE006 facing south upstream



Waterbody SPOE006 facing north downstream



# Waterbody SPOE006 facing east across

Survey Descriptio	n								
Project Name:		Waterbody Na	ame:		N	Vaterbody ID:			Date:
Atlantic Coast Pipe	line	Big Spring I	Fork		S	poe022		6	5/21/2016
State:	County:		Company:		Crew I	Member Initials:	F	hotos:	
West Virginia	Pocahontas		NRG		CG, S	SA		1-3	
Tract Number(s):			Nearest Mile	epost:	1	Associated W	etland	ID(s):	
05-001-E023			NA			none			
Survey Type: (check one)		e ⊡Re	Route	⊠Access Road	l	□Other:			
Physical Attribute	S								
Stream Classification:	_								
(check one)		al 🗌 Inte	ermittent	Perennial					
Waterbody Type: (check one)	∃River ⊠ Sti	ream 🗆 Di	tch 🗆 C	anal 🛛 Other	:				
онwм	OHWM Indica	tor:						<b>0</b>	
Width:ft.	(check all that appl	y)	on bank		g		X	Scouring	staining
Height:	⊠Bent, r	matted, or missi	ng 🗆 Wrack li	ne 🗆 Litter ar	nd	□Abrupt plant	t	⊠Soil ch	aracteristic change
_ <u>1_</u> ft. N/A□	vegetatio	on		debris		community cha	ange		
Width of Waterbody -	Top of Width	of Waterbody	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth o	of Water:	1
валк то тор ог валк:	to Toe	of Slope:		water Edge:		(	Αρριοχ.)		
<u>55</u> ft.	-	<u>30</u> ft.		N/A 🗆 🗕	<u>35</u> ft.		N/A□	_	<u>0.75_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)	)		Right:				Right:	
		<u>_1_</u> fps	3	Left:	<u>2</u> ft.			Left:	20 degrees
□Meanderi	ng N/A□				<u>2</u> ft.				20 degrees
Qualitative Attribu	ites								
Water Appearance:									
				n surface sci	um	mats	⊔Other		
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ o	clay 🗆 Organic		ther:	
% of Substrate:	% <u>5</u> %	<u>50</u> %	<u>   35  </u> %	<u>   10  </u> %		_%%		%	
Width of Riparian Zone	e: Vegetativ	e Layers:							
	(check all that	t apply)		s: D	🛛 Saplii	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>п</u> . N/A⊠	Avg. DBH (approx.)	of Dominants		_in	<u>1</u> in.				
Dominant Bank Vegeta	ation (list):								
Rose, goldenrod, w	villow								
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetati	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, c	leep pools	):
riffles									
Aquatic Organisms Ob	oserved (list):								
none									
T&E Species Observed	d (list):								
none									
Disturbances (ex: livest	ock access, manure	in waterbody, was	te discharge pip	es):					
Road crossing									
Tributary is: (check one)	⊠ Natural	□ A	rtificial, man-m	iade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	× N	loderate	□ Low					

Spoe022

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

### Notes:





Waterbody SPOE022 facing south upstream



Waterbody SPOE022 facing north downstream



Waterbody SPOE022 facing east across

Survey Description	on							
Project Name:		Waterbody Na	ame:		W	/aterbody ID:		Date:
Atlantic Coast Pipe	eline	Mill Run			S	poe045		7/19/2016
State:	County:		Company:		Crew I	Member Initials:	Phot	os:
West Virginia	Pocahontas		NRG		CG, A	AS	1-3	
Tract Number(s):			Nearest Mile	epost:	1	Associated W	etland ID(s	):
unknown			NA			none		
Survey Type:			Devite		1			
		ne ⊔Re-	Route	Access Road		UOtner:		
Physical Attribute Stream Classification	es							
(check one)	Epheme	eral ⊠Inte	ermittent	□Perennial				
Waterbody Type: (check one)	□River ⊠ S	Stream 🗆 Dit	ich 🗆 C	anal 🛛 Other:	:			
OHWM Width:	OHWM Indic (check all that ap	ator:	□ Clear lir	ne ⊡Shelvin	a	□Wrested	Sco	uring ⊠Water
<u>8</u> ft.			on bank		5	vegetation		staining
Height:	⊠Bent,	, matted, or missi	ng	ine ⊠Litter ar	nd	□ Abrupt plan	t ⊠S	oil characteristic change
<u></u> n. N/A□	vegetat	ion		debris		community ch	ange	
Width of Waterbody - Bank to Top of Bank:	Top of Width	n of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth of W	ater:
Ballk to Top of Ballk.		e of Slope.		water Euge.			(Approx.)	
<u>30</u> ft.		<u>6</u> ft.			ft.		N/A⊠	ft.
Sinuosity:	Wate	r velocity:		Bank height			Bank slope	•
(check one)	(Approx	x.)		Right:			R	ight:
0		fps		Left:	<u>4_</u> ft.			<u>30</u> degrees
⊠Meande	ring N/A⊠	]			<u>4_</u> ft.			<u>30</u> degrees
Qualitative Attrib	utes							
Water Appearance:								
			or	n surface scu	um	mats		
Substrate:		Boulder 🛛 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🛛 Organic	□ Other	:
% of Substrate:	%30	<u>_% 40_%</u>	<u>24</u> %	<u>   5  </u> %	<u>1_</u> %	%		%
Width of Riparian Zor	ne: Vegetati	ve Lavers:						
	(check all th	nat apply)	□ Trees	: D	🛛 Sapli	ngs/Shrubs:	⊠ Her	bs
<u>100 ft</u> · N/A□	Avg. DB (approx.)	H of Dominants:	<u>in.</u>	-	_ <u>1_</u> in.			
Dominant Bank Vege	tation (list):							
Queen Anne's Lac	ce, White Clove	er, Grasses						
Aquatic Habitats (ex:	submerged or emerg	jed aquatic vegetati	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):
none								
Aquatic Organisms C	Observed (list):							
none								
T&E Species Observe	ed (list):							
none								
Disturbances (ex: lives	stock access, manure	e in waterbody, was	te discharge pip	es):				
Livestock access,	dirt 2-track cro	osses stream i	n places					
Tributary is: (check one)	⊠ Natural	□ A	rtificial, man-m	nade 🗆 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	□ High	× N	oderate	□ Low				

### Spoe045

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:



X



Waterbody spoe045 facing southwest upstream



Waterbody spoe045 facing northeast downstream



Waterbody spoe045 facing southeast across

Survey Descriptio	n										
Project Name:		Waterb	ody Nam	e:			w	aterbody ID:		I	Date:
Atlantic Coast Pipe	line	UNT to	o Mill Ru	JN			S	роу004			7/13/2016
State:	County:		C	Company:			Crew N	Member Initials	5:	Photos:	
West Virginia	Pocahonta	S	C	Dominion			KO, A	AS		1-3	
Tract Number(s):			r	learest Mile	epost:			Associated W	etland	ID(s):	
05-001-E025			7	70				none			
Survey Type: (check one)		erline	⊠Re-Ro	oute	□Ac	cess Road		□Other:			
Physical Attribute	S										
Stream Classification: (check one)	Epher	neral	⊠Interm	littent	□P€	erennial					
Waterbody Type:											
(check one)	□River ⊠	Stream	Ditch	□ Ca	anal	□ Other:					
онwм	OHWM Ind	dicator:								<b>10</b>	
Width: _ <u>5</u> ft.	(Check all that	αρριγ)		on bank	ie		g	vegetation	L	Scouring	l ⊠Water staining
Height:	⊠Be	nt, matted, o	or missing	□Wrack li	ne	□Litter ar	nd	⊠Abrupt plar	nt	⊠Soil cł	naracteristic change
_ <u>9_</u> ft. N/A□	vege	tation				debris		community ch	nange		
Width of Waterbody -	Top of Wig	dth of Water	body - To	be of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to	foe of Slope	<b>e:</b>		water	Edge:			(Approx.	)	
<u>    9   </u> ft.		<u>6</u> ft.				-	<u>5_</u> ft.		N/A 🗆		<u>05</u> ft.
Sinuosity:	Wa	ter velocity:	:		Bank	height			Bank	slope	
(check one)	(Арр	prox.)				Right:				Right	:
g		-	<u>.05_</u> fps			Left:	<u>2</u> ft.			Left	<u>10</u> degrees
□Meanderi	ng N/A						<u>4_</u> ft.				25 degrees
Qualitative Attribu	ites										
Water Appearance: (check one)	<sup>□</sup> No water	⊠Clear	□Turbic	l ⊡Sh on	een surface	⊡Sui e scu	face Im	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder		e 🛛 Grave	el 🛛	Sand 2	⊠ Silt/ c	ay 🗆 Organic	; []	Other:	
(check all that apply) % of Substrate:	%	%	<u>60</u> %	<u>15_</u> %	5	<u>%</u>	<u>20_</u> %	%	,	%	
Width of Riparian Zone	e: Vegeta	ative Layers	:								
<u>3 ft</u> -	(check a Avg. D	<i>ll that apply)</i> ) <b>BH of Dom</b> i	inants:	⊠ Trees: 8 in.		D	Saplir <ol> <li>I in.</li> </ol>	ngs/Shrubs:	Σ	I Herbs	
N/A <sup>II</sup> Deminent Benk Veret	(approx.)	)		_ <u>_</u> _		-					
Sugar Maple, Hoph	iorn Beam, I	N. Red Oa	ak, A. Be	ech, Carl	oines	caroliniar	na, Dry	yopterus sp.			
Aquatic Habitats (ex: s	ubmerged or eme	erged aquatic	vegetation,	overhanging	banks/ro	oots, leaf pac	ks, large	submerged wood	l, riffles,	deep pools	s):
none											
Aquatic Organisms Ob	oserved (list):										
macro invertebrates	s, salamand	ers									
T&E Species Observed	d (list):										
none											
Disturbances (ex: livest	ock access, man	ure in waterbo	ody, waste o	discharge pipe	es):						
none											
Tributary is: (check one)	⊠ Natur	ral		icial, man-m	ade	Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□High		⊠ Mod	erate		⊠ Low					

Spoy004

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

### Notes:

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)

alt of coll the



Waterbody spoy004 facing east upstream



Waterbody spoy004 facing west downstream



# Waterbody spoy004 facing south across

Survey Description	on	-						
Project Name:		Waterbody Na	me:		w	aterbody ID:		Date:
Atlantic Coast Pipe	eline	Mill Run			S	poe044		7/18/2016
State:	County:		Company:		Crew M	lember Initials:	Pho	itos:
West Virginia	Pocahontas		NRG		CG, A	AS	1-3	3
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s	s):
05-001-C007.AR			NA			none		
Survey Type: (check one)		e □Re-	Route	⊠Access Road		Other:		
Physical Attribute	es							
Stream Classification: (check one)	Ephemer	al ⊠Inte	rmittent	Perennial				
Waterbody Type: (check one)	□River ⊠ Str	ream 🗆 Dit	ch 🗆 Ca	anal 🗌 Other	:			
OHWM Width:	OHWM Indica (check all that appl	ntor: <sub>(y)</sub>	Clear lir     on bank	ne 🗆 Shelvin	g	⊠Wrested vegetation	⊠Sco	ouring ⊟Water staining
Height:ft.	⊠Bent, i vegetatio	matted, or missir	ng ⊡Wrack li	ne ⊠Litter ar debris	nd	Abrupt plant	t ⊠S ange	Soil characteristic change
N/A 🗆								
Width of Waterbody - Bank to Top of Bank:	Top of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth of W (Approx.)	Vater:
<u>ft</u> .	-	<u>_10_</u> ft.			f	t.	N/A 🖂	ft.
Sinuosity:	Water	velocity:		Bank height			Bank slop	e
(check one) Straight	(Approx.)	)		Right:			R	Right:
, , , , , , , , , , , , , , , , , , ,		f	ps	Left:	<u>2</u> ft.			
	ing N/A⊠				<u>2</u> ft.			40 degrees
Qualitative Attrib	utes							
Water Appearance: (check one)	$^{ imes}$ No water $\Box$	Clear □Turl	bid □Sh on	neen ⊡Su i surface sci	rface um	□Algal [ mats	]Other:	
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cob	ble 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	□ Othe	r:
(check all that apply) % of Substrate:	% <u>5</u> %	<u>35_</u> %	<u>30</u> %	<u>   30  </u> %		_%%		_%
Width of Riparian Zon	e: Vegetativ	e Layers:						
<u>ft</u> .	(check all tha <b>Avg. DBH</b>	<sup>t apply)</sup>   <b>of Dominants:</b>		s: D	Saplir 0.5 in	ngs/Shrubs:	⊠ He	erbs
N/A⊠ Dominant Bank Veget	(approx.)							
Rose, timothy gras	s, queen Anne'	s lace, clove	r, vernal gra	ISS				
Aquatic Habitats (ex: s	submerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):
none								
Aquatic Organisms O	bserved (list):							
none								
T&E Species Observe	d (list):							
none								
Disturbances (ex: lives	tock access, manure	in waterbody, wast	e discharge pipe	es):				
Cattle access, road	d crossing							
Tributary is: (check one)	□ Natural	□ Ai	rtificial, man-m	ade 🛛 Manip	ulated			
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ M	oderate	□ Low				

Spoe044

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

### Notes:






Waterbody spoe044 facing south upstream



Waterbody spoe044 facing north downstream



Waterbody spoe044 facing west across

Survey Description	n								
Project Name:	_	Waterbody Na	me:		W	aterbody ID:		D	ate:
Atlantic Coast Pipel	ine	UNT to Mill I	Run		S	poe043		7	/18/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:	1	Associated W	etland	ID(s):	
05-001-C007.AR			NA			none			
Survey Type: (check one)		e □Re-	Route	⊠ Access Road		□Other:			
Physical Attribute	S								
Stream Classification:									
(check one)		al ⊠Inte	rmittent	Perennial					
Waterbody Type: (check one)	River 🛛 Sti	ream 🗆 Dite	ch 🗆 Ca	anal 🗌 Other:	:				
ОНѠМ	OHWM Indica	tor:							
Width: _ <u>5_</u> ft.	(спеск ан тпат аррі	<i>y)</i>	Clear lir on bank	ne ⊡Shelvin	g	☐Wrested vegetation		Scouring	⊔Water staining
Height:	□Bent, r	matted, or missir	ng ⊡Wrack li	ne 🗆 Litter ar	nd	□Abrupt plan	t	□Soil ch	aracteristic change
_ <u>_</u> π. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody - T Bank to Top of Bank:	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water:	
Bank to Top of Bank.	10 100	of Slope.		water Luge.			(10010)		<i>u</i>
<u>_10_</u> ft.	-	<u>4_</u> ft.			t	ft.	N/A⊠		π.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)	)		Right:	0 (1			Right:	00 10 000 00
		f	ps	Left:	<u> </u>			Left:	<u>80</u> degrees
	ng N/A⊠				<u>4_</u> ft.				45 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	No water	Clear □Turb	oid ⊡Sh on	leen ⊡Sui i surface sci	rface um	□Algal [ mats	□Other	:	
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ o	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	% 10 9	% 20 %	30 %	30 %		% %		%	
		<u></u> ,0		<u></u> ,,,		_/0/0		/0	
Width of Riparian Zone	c: Vegetative (check all that	e Layers: t apply)	⊠ Trees	:	⊲ Sapliı	nas/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> .	Avg. DBH	of Dominants:	<u>5</u> in.	-	_ <u>1_</u> in.	.g.,			
N/A⊠ Dominant Bank Vegeta	tion (list):								
Birch, rose, fern, go	Idenrod								
Aquatic Habitats (ex: su	Ibmerged or emerge	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	e submerged wood,	, riffles, o	deep pools	):
none									
Aquatic Organisms Ob	served (list):								
amphibians									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, wast	e discharge pipe	es):					
Culverted beneath	od								
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 🖾 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	× M	oderate	□ Low					

Spoe043

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody spoe043 facing west upstream



Waterbody spoe043 facing east downstream



Waterbody spoe043 facing north across

<b>Survey Description</b>	1								
Project Name:		Waterbody Na	me:		N	aterbody ID:		Ľ	Date:
Atlantic Coast Pipeli	ne	UNT to Mill I	Run		S	poe040		7	7/18/2016
State:	County:		Company:		Crew I	Member Initials:	Р	hotos:	
West Virginia	Pocahontas		NRG		CG, A	AS	-	1-3	
Tract Number(s):			Nearest Mile	epost:		Associated We	tland I	D(s):	
05-001-C007.AR			NA			fringe			
Survey Type: (check one)		e □Re-	Route	⊠Access Road		□Other:			
<b>Physical Attributes</b>	5								
Stream Classification: (check one)		al 🛛 Inte	rmittent	Perennial					
Waterbody Type:									
(check one)	River 🛛 Str	eam 🗆 Dite	ch 🗆 Ca	anal 🗌 Other	:				
OHWM Width: _ <u>10_</u> ft.	OHWM Indica (check all that apply	<b>tor:</b> /)	□ Clear lir on bank	ne ⊡Shelvin	g	⊠Wrested vegetation	$\boxtimes$	Scouring	□Water staining
Height: ft.	⊠Bent, n vegetatio	natted, or missir	ng ⊡Wrack li	ne 🗆 Litter ar debris	nd	□Abrupt plant community cha	ange	⊠Soil ch	aracteristic change
N/A						(-1 <b>-</b>	<u></u>	<u>()</u>	
Bank to Top of Bank:	to Toe	of Waterbody - of Slope:	Toe of Slope	Water Edge:	oay - w	ا ater Edge to	Approx.)	of water:	
<u>30_</u> ft.	-	<u>2_</u> ft.			<u>2</u> ft.			-	<u>0.1_</u> ft.
Sinuosity:	Water	velocity:		Bank height		E	Bank sl	ope	
(check one)	(Approx.)			Right:				Right:	
Bollaight		<u>_0.4_</u> fp:	S	l eft:	<u>8_</u> ft.			l eft	<u>70</u> degrees
	9 N/A□			2011	<u>8_</u> ft.			2011	50 degrees
Qualitative Attribut	es								
Water Appearance:									
	No water 🖂			neen ⊔Sul n surface scu	um	⊔Algai ∟ mats	JOtner:		
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobl	ble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic		ther:	
% of Substrate:	%	% <u>10 %</u>	<u>   75  </u> %	<u>   10   </u> %	<u>5</u> %	%		%	
Width of Riparian Zone:	Vegetative	Lavers:							
indin of hipanian zono.	(check all that	apply)	☑ Trees	: 2	🛛 Saplii	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>20 ft</u> · N/A□	Avg. DBH (approx.)	of Dominants:	<u>_12_</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Vegetat		-1							
birch, maple, lem, s	euge, nettie, jew	elweed							
Aquatic Habitats (ex: sub	bmerged or emerged	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, d	leep pools	):
Emergent veg									
Aquatic Organisms Obs	served (list):								
None but likely prese	ent								
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ck access, manure i	n waterbody, wast	e discharge pipe	es):					
Culverted beneath re	oad								
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ M	oderate						

Spoe040

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody spoe040 facing west upstream



Waterbody spoe040 facing east downstream



Waterbody spoe040 facing north across

Survey Descriptio	n								
Project Name:		Waterbody Nar	ne:		v	laterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Mill F	Run		S	poe041		1	7/18/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C007.AR			NA			none			
Survey Type: (check one)		e □Re-F	Route	□ Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)	⊠Ephemera	al 🗌 Inter	mittent	Perennial					
Waterbody Type:	·								
(check one)	□River ⊠ Str	eam 🗆 Dito	h 🗆 Ca	anal 🛛 Other:	:				
онwм	OHWM Indica	tor:							
Width: _2_ft.	(check all that apply	V)	Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	×	Scouring	I □Water staining
Height:	⊠Bent, r	natted, or missin	g ⊡Wrack li	ne 🗆 Litter ar	nd	□Abrupt plan	ıt	⊠Soil cł	naracteristic change
ft. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - 1 Bank to Ton of Bank	Top of Width	of Waterbody -	Foe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to loe	of Slope:		water Edge:			(Approx.)		
<u>_4_</u> ft.	-	<u>1_</u> ft.		N/A 🖂	f	ït.	N/A⊠	_	ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	slope	
(check one) Straight	(Approx.)			Right:				Right	
		fr	S	Left:	<u>1_</u> ft.			Left	<u>20</u> degrees
□Meanderi	ng N/A⊠				<u>4_</u> ft.				70 degrees
Qualitative Attribu	ites								
Water Appearance: (check one)	<sup>⊴</sup> No water □0	Clear □Turb	id □Sh on	neen ⊡Sui n surface scu	rface um	□Algal   mats	□Othe	r:	
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobb	le 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	; □0	Other:	
(check all that apply) % of Substrate:	%	<u>% 40</u> %	<u>40</u> %	<u> 10 </u> %	<u>10 </u> %	%		%	
Width of Riparian Zone	e: Vegetative	e Layers:							
ft.	(check all that	apply)	Trees	s: D	⊠ Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	AV <b>G. DBH</b> (approx.)	of Dominants:	_	_in	<u>1</u> in.				
Dominant Bank Vegeta	ation (list):								
Birch, coltsfoot, ma	ple								
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	s):
none									
Aquatic Organisms Ob	oserved (list):								
caddisfly									
T&E Species Observed	d (list):								
none									
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	discharge pipe	es):					
Roadside ditch for	a stretch								
Tributary is: (check one)	Natural	□ Art	ificial, man-m	iade 🛛 Manipi	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High	□ Mo	derate	⊠ Low					

Spoe041

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody spoe041 facing south upstream



Waterbody spoe041 facing north downstream



Waterbody spoe041 facing west across

Survey Description	n	<b>.</b>							
Project Name:		Waterbody Nar	ne:		W	/aterbody ID:		D	ate:
Atlantic Coast Pipel	ine	UNI to Mill F	lun		S	poe042		<i>(</i> )	/18/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		G, AS	6		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05001-C007.AR			NA			fringe			
Survey Type:			louto	MAccoss Road					
	- Centenine		Joule	Access Road					
Physical Attributes Stream Classification:	S								
(check one)	⊠Ephemera	al 🗌 Inter	mittent	Perennial					
Waterbody Type: (check one)	]River ⊠ Sti	ream 🗆 Ditc	h □C	anal 🗌 Other:					
онwм	OHWM Indica	tor:							
Width: <u>1</u> ft.	(спеск ан тпат аррі	<i>y)</i>	☐ Clear lir on bank	ne ⊡Shelving	g	☐Wrested vegetation	×	Scouring	□Water staining
Height:	⊠Bent, r	matted, or missing	g ⊡Wrack li	ine 🛛 Litter ar	nd	□Abrupt plan	t	⊠Soil cha	aracteristic change
ft. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody - T	op of Width	of Waterbody - 1	oe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water:	
ванк то тор ог ванк:	to Toe	of Slope:		water Edge:			(Approx.)		
<u>_3 ft</u> .	-	<u>1_ft</u> .		N/A 🗆 –	<u>1</u> ft.		N/A□		<u>0.1_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)	)		Right:				Right:	
		<u>_0.2</u> _fps		Left:	<u>1</u> ft.			Left:	<u>80</u> degrees
	ng N/A□				<u>3_</u> ft.				80 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	<sup>]</sup> No water ⊠0	Clear □Turb	id □Sh or	neen ⊡Sur n surface scu	face Im	□Algal [ mats	□Other	:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	le 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 20</u> %	<u>   50  </u> %	<u> 15 </u> %	<u>15_</u> %	%		%	
Width of Riparian Zone	e: Vegetativ	e Layers:							
"	(check all that	t apply)	□ Trees	s: 🛛 🛛	🛛 Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u> </u>	Avg. DBH (approx.)	of Dominants:		_in	_ <u>1_</u> in.				
Dominant Bank Vegeta	tion (list):								
Black locust, birch,	rose, goldenro	d							
Aquatic Habitats (ex: su	ubmerged or emerge	d aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools)	:
none									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, waste	discharge pipe	es):					
Roadside ditch for a	a stretch								
Tributary is: (check one)	□ Natural	□ Art	ificial, man-m	nade 🛛 🛛 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	□ Mo	derate	⊠ Low					

Spoe042

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Fed by seep ppoe016





Waterbody spoe042 facing south upstream



Waterbody spoe042 facing north downstream



Waterbody spoe042 facing west across

Survey Descriptio	n										
Project Name:		Waterbody	Name:				w	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to M	ill Run				S	роу003			7/13/2016
State:	County:		Com	ipany:			Crew I	Member Initials	::	Photos:	
West Virginia	Pocahontas		Don	ninion			KO, A	AS		1-3	
Tract Number(s):			Near	rest Mile	epost:			Associated W	etland	ID(s):	
05-001-C013			70.4	1				none			
Survey Type: (check one)		e ⊠F	Re-Route		□Ac	cess Road	d	□Other:			
Physical Attribute	S										
Stream Classification: (check one)		al 🖂	ntermitte	nt	□Pe	erennial					
Waterbody Type:	Ephomo										
(check one)	∃River ⊠ St	ream 🗆	Ditch	□ Ca	anal	□ Other	r:				
онwм	OHWM Indica	ator:									
Width:ft.	(check all that app	ly)	□ on	Clear lir bank	ne	□Shelvir	ng	☐Wrested vegetation		Scouring	g ⊠Water staining
Height:	□Bent,	matted, or mi	ssing 🗆	Wrack li	ne	□Litter a	nd	⊠Abrupt plar	naracteristic change		
<u>.05_</u> ft. N/A□	vegetatio	on				debris		community ch	nange		
Width of Waterbody - 1 Bank to Top of Bank	Top of Width	of Waterbod	y - Toe o	of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	•
Ballk to Top of Ballk.	to roe	or Slope:			vvaler	Euge.			(Approx.)		<i>c</i> .
<u>_15_</u> ft.	-	<u>8_</u> ft.					<u>3</u> ft.		N/A⊠		_ft.
Sinuosity:	Water	velocity:			Bank	height			Bank s	slope	
(check one)	(Approx.	)				Right:				Right	:
			_fps			l eft	<u> </u>			l eft	40 degrees
□Meanderi	ng N/A⊠					Lon.	<u>3</u> ft.			Lon	_ <u>40_</u> degrees
Qualitative Attribu	ites										
Water Appearance: (check one)	<sup>⊲</sup> No water □	Clear 🛛	Furbid	⊡Sh on	een surface	⊟Su e sc	irface sum	□Algal mats	□Othe	r:	
Substrate:	Bedrock 🛛 B	oulder 🛛 🖾 C	obble	Grave	el 🗆	Sand	Silt/ c	lay 🗆 Organic	: □ (	Other:	
(check all that apply) % of Substrate:	%	<u>% 60</u>	<u>%</u>	<u>10_</u> %		%	<u>30</u> %	%	·	%	
Width of Riparian Zone	e: Vegetativ	e Lavers:									
	(check all tha	t apply)		⊠ Trees	:	ĺ	🛛 Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u> </u>	Avg. DBH (approx.)	l of Dominan	ts:	<u>6</u> in.			<u>1_</u> in.				
Dominant Bank Vegeta Sugar Maple trees and s	ation (list): shrubs, dryopteris	sp., striped m	aple her	bs, Cana	adian w	ood nettle,	Green a	ash			
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vege	tation, ove	rhanging	banks/ro	oots, leaf pao	cks, large	submerged wood	, riffles,	deep pool	s):
none											
Aquatic Organisms Ob	oserved (list):										
Macro invertebrates	s, salamanders	s (Dusky)									
T&E Species Observed	d (list):										
none											
Disturbances (ex: livest	ock access, manure	in waterbody, w	vaste disch	narge pipe	es):						
none											
Tributary is: (check one)	⊠ Natural		Artificial	, man-m	ade	🗆 Manip	oulated				
Stream Quality <sup>a</sup> : (check one)	⊠ High		Moderat	te		□ Low					

Spoy003

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody spoy003 facing east upstream



Waterbody spoy003 facing west downstream



Waterbody spoy003 facing north across

Survey Descriptio	n	<b>-</b>							
Project Name:		Waterbody Na	me:		W	/aterbody ID:		Da	ite:
Atlantic Coast Pipe	line	UNI to Mill	Run		S	poe039		()	18/2016
State:	County:		Company:		Crew I	Member Initials	: 1	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C006			NA			fringe			
Survey Type:			Poute	MAccess Road		□ Other:			
			Noule	Access Road					
Stream Classification:	S								
(check one)	Ephemer	al ⊠Inte	rmittent	Perennial					
Waterbody Type: (check one)	∃River ⊠ St	ream 🗆 Dit	ch □C	anal 🗌 Other:	:				
OHWM Width: 3 ft.	OHWM Indica (check all that app	ator: ly)	Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	$\boxtimes$	Scouring	□Water staining
Height:	⊠Bent,	matted, or missir	ng ⊡Wrack li	ine 🗆 Litter ar	nd	□Abrupt plan	t	⊠Soil cha	racteristic change
<u>0.4</u> .n. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody -	Top of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water:	
Dank to Top of Dank.	10 100	of Stope.		Water Luge.			(,,pp,o,a)		4
<u>_8_</u> ft.	-	<u>_2.5_</u> ft.		N/A⊠	f	t.	N/A⊠		11.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.,	)		Right:	2 4			Right:	60 degrees
		1	ps	Left:	<u> </u>			Left:	<u>oo</u> degrees
	ng N/A⊠				<u>2</u> ft.			_	<u>35</u> degrees
Qualitative Attribu	ites								
Water Appearance: (check one)	<sup>⊠</sup> No water □	Clear □Turl	oid □Sh or	neen 🗆 Sui n surface scu	rface um	□Algal [ mats	□Other	:	
Substrate:	Bedrock 🛛 B	oulder 🛛 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	<u>% 10 </u>	% <u>40</u> %	<u>40</u> %	<u> 10 </u> %		_%%		_%	
Width of Riparian Zone	e Vegetativ	e Lavers:							
main of raparian zone	(check all tha	t apply)	<sup>⊠</sup> Trees	: 🛛 🛛	🛛 Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> . N/A⊠	Avg. DBH (approx.)	l of Dominants:	<u>   5   </u> in.	-	_ <u>1_</u> in.				
Dominant Bank Vegeta	ation (list):								
Birch, maple, rose,	goldenrod								
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vegetation	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, o	deep pools):	
none									
Aquatic Organisms Ob	oserved (list):								
none									
T&E Species Observed	d <i>(list)</i> :								
none									
Disturbances (ex: livest	ock access, manure	in waterbody, wast	e discharge pipe	es):					
Culverted at road									
Tributary is: (check one)	□ Natural	□ Ai	tificial, man-m	nade 🛛 Manipi	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ M	oderate	□ Low					

Spoe039

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody spoe039 facing west upstream



Waterbody spoe039 facing east downstream



# Waterbody spoe039 facing south across

<b>Survey Description</b>									
Project Name:		Waterbody Na	me:		v	aterbody ID:			Date:
Atlantic Coast Pipelir	ne	UNT to Mill F	Run		S	poe038		1	7/18/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C006			NA			none			
Survey Type: (check one)		e □Re-F	Route	⊠Access Road		□Other:			
Physical Attributes									
Stream Classification: (check one)		al 🛛 🖾 Inter	mittent						
Waterbody Type:	Ephomole								
(check one)	River 🛛 Str	eam 🗆 Dito	ch 🗆 Ca	anal 🛛 🗆 Other:	:				
онwм	OHWM Indicat	tor:							
<b>Width:</b> ft.	(check all that apply	/)	Clear lir on bank	ne ⊡Shelvin	g	☐Wrested vegetation	X	Scouring	l □Water staining
Height:	⊠Bent, n	natted, or missin	ig	ne 🗆 Litter ar	nd	□Abrupt plan	t	⊠Soil cł	naracteristic change
tt. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - To Bank to Top of Bank:	p of Width o	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water	:
Ballk to Top of Ballk.	to Toe	or Stope:		water Euge.			(Appiox.)	,	
<u>_20_</u> ft.	-	<u>2</u> ft.		N/A⊠	f	ft.	N/A⊠	_	π.
Sinuosity:	Water	velocity:		Bank height			Bank s	slope	
(check one)	(Approx.)			Right:				Right	
		fr	os	Left:	<u>/_</u> ft.			Left	<u>80</u> degrees
	N/A⊠				<u>7_</u> ft.				60 degrees
Qualitative Attribut	es								
Water Appearance: (check one)	No water □C	Clear □Turb	oid □Sh on	neen ⊡Sui n surface scu	rface um	□Algal [ mats	Othe	r:	
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	clay 🗆 Organic	: 🗆 (	Other:	
(check all that apply) % of Substrate:	%	<u>% 10</u> %	<u>   80  </u> %	<u>   10  </u> %		_%%		%	
Width of Riparian Zone:	Vegetative	e Layers:							
ft.	(check all that	apply)	⊠ Trees	: 🛛 🛛	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(approx.)	of Dominants.	<u>8_</u> IN.	-	_	<u>_</u> in.			
Dominant Bank Vegetati Maple, birch, jewelwe	i <b>on</b> <i>(list)</i> : eed. blackberi	rv							
	merged or emerged	d aquatic vegetatio	n overbanding	hanks/roots leaf nac	ke large	submerged wood	rifflos	deen nools	.).
none	inciged of emerged				ks, large	Submerged wood	, 111103,		·)•
Aquatic Organisms Obs	erved (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livestoc	k access, manure i	n waterbody, waste	e discharge pipe	es):					
Culverted beneath ro	bd								
Tributary is: (check one)	□ Natural	□ Art	tificial, man-m	ade 🛛 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	□ Low					

Spoe038

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody spoe038 facing west upstream



Waterbody spoe038 facing east downstream



Waterbody spoe038 facing north across

Survey Description	า								
Project Name:		Waterbody Na	me:		v	aterbody ID:		I	Date:
Atlantic Coast Pipeli	ine	UNT to Mill I	Run		S	poy002			7/12/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		Dominion		KO, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C013			70.4			Wpoy003e_	W		
Survey Type: (check one)		e ⊠Re-I	Route	□ Access Road		□Other:			
Physical Attributes	6								
Stream Classification: (check one)	⊠Ephemera	al 🗆 Inte	rmittent	Perennial					
Waterbody Type: (check one)	River 🛛 Str	eam 🗆 Dite	ch 🗆 Ca	anal 🗌 Other	:				
		tor:							
Width: _4_ft.	(check all that apply	<i>(</i> )	Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	$\boxtimes$	Scouring	y ⊟Water staining
Height:	□Bent, n	natted, or missir	ng	ne ⊠Litter ar	nd	Abrupt plan	t	□Soil cł	naracteristic change
N/A□	vegetatio	11		debits		community ch	ange		
Width of Waterbody - T Bank to Top of Bank:	op of Width of to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth (Approx.)	of Water	:
8 ft		Δ ft			f	ft		_	_ ft.
!		<u> </u>		N/A⊠			N/A⊠		
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height			Bank s	slope	
⊠Straight		f	ns	Right:	1_ ft.			Right	20 degrees
□Meanderin			<b>P0</b>	Left:	1 #			Left	:
					<u> </u>				
Qualitative Attribut	tes								
(check one)	No water	Clear □Turk	oid ⊡Sh on	leen □Su i surface sci	rface um	□Algal [ mats	Othe	r:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobl	ole 🗆 Grav	el 🗆 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	_% <u>50</u> %		%%	<u>50 </u> %	%		%	
Width of Riparian Zone	: Vegetative	e Layers:							
ft.	(check all that	apply)	⊠ Trees	:	⊠ Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(approx.)	or Dominants.	<u>_6</u> _in.	-	<u>1</u> in.				
Dominant Bank Vegeta	tion (list):	// h							
Acer Saccharum, He	oney Locust, v	viola, Aster, w	vood sorrei,	, pa sedges, jev	wei we	eed, Canadia	n woo	od nettle	Э.
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles,	deep pools	3):
nonw									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure i	n waterbody, wast	e discharge pipe	es):					
none									
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low					

Spoy002

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

2002

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)

ita Point

jol-E025



Waterbody spoy002 facing east upstream



Waterbody spoy002 facing west downstream



## Waterbody spoy002 facing north across

Survey Description	n	•							
Project Name:		Waterbody Na	me:		w	laterbody ID:		Dat	e:
Atlantic Coast Pipel	ine	UNT to Mill F	Run		S	poy001		7/1	2/2016
State:	County:		Company:		Crew I	Member Initials:	Р	hotos:	
West Virginia	Pocahontas		Dominion		KO, A	AS	1	-3	
Tract Number(s):	·		Nearest Mile	epost:		Associated We	etland I	D(s):	
05-001-C013			70.5			Wpoy002e_	W		
Survey Type: (check one)		e ⊠Re-F	Route	□ Access Road		□Other:			
Physical Attributes	S								
Stream Classification:									
(check one)		al 🛛 Inter	rmittent						
Waterbody Type: (check one)	River 🛛 Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:	:				
ОНWM	OHWM Indica	tor:							
Width: _ <u>3_</u> ft.	(check all that apply	/)	Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	$\boxtimes$ S	Scouring	□Water staining
Height:	□Bent, n	natted, or missin	ng ⊡Wrack li	ne ⊠Litter ar	nd	⊠Abrupt plant		⊠Soil chara	acteristic change
ft. N/A□	vegetatio	n	0	debris		community cha	ange		0
Width of Waterbody - T	op of Width o	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth o	f Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(-	Approx.)		
<u>5</u> ft.	_	<u>4_</u> ft.			<u>3</u> ft.			0	<u>5_</u> ft.
Sinuccitur	Wator	volocityr		N/A 🗆		۲ F	N/ALL Bank el	000	
(check one)	(Approx.)	velocity.		Right:		E	Jank Si	Right:	
⊠Straight		<u>05_</u> fps	6		<u>2</u> ft.			<u></u>	0 degrees
□Meanderir	ng N/A□			Left:	<u>2</u> ft.			Left:	0 degrees
Qualitative Attribu	tes								-
Water Appearance:									
(check one)	No water □0	Clear ⊠Turb	oid □Sh on	leen □Sul I surface scu	rface um	□Algal □ mats	Other:		
Substrate:	Bedrock 🛛 Bo	ulder 🛛 Cobb	ole 🛛 Grav	el 🗆 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	🗆 Ot	her:	
% of Substrate:	<u>% 10 %</u>	% <u>25</u> %	<u> 10 </u> %	%	<u>55_</u> %	%		_%	
Width of Rinarian Zone	. Vegetative	lavers							
	(check all that	apply)	⊠ Trees	: D	🛛 Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> .	Avg. DBH	of Dominants:	<u>6</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Vegeta	tion (list):								
Sugar Maple, Greer	n Ash, Crataeg	us Crush-gal	li, Black Ch	nerry, jewel wee	ed, As	ter, False net	tle, Be	ech	
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, de	eep pools):	
none									
Aquatic Organisms Ob	served (list):								
Macro invertebrate	S								
T&E Species Observed	l (list):								
none									
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	e discharge pipe	es):					
none									
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	□ Low					
Spoy001

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:





Waterbody spoy001 facing east upstream



Waterbody spoy001 facing west downstream



# Waterbody spoy001 facing north across

Survey Description	า										
Project Name:		Waterbody	/ Name	):			w	aterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to M	/ill Ru	n			S	роу006		,	7/16/2016
State:	County:		C	ompany:			Crew N	Member Initials	5:	Photos:	
West Virginia	Pocahontas		D	ominion			KO, A	AS, SA		1-3	
Tract Number(s):			N	earest Mile	epost:			Associated W	etland	ID(s):	
05-001-C013-AR2			7	0				none			
Survey Type: (check one)		e 🗆	Re-Ro	ute	⊠Ac	cess Road		□Other:			
Physical Attributes	\$										
Stream Classification: (check one)		al 🛛	Intermi	ttent	□Pe	erennial					
Waterbody Type:											
(check one)	River Sti	ream 🗆	Ditch	🗆 Ca	anal	□ Other	:				
OHWM Width:	OHWM Indica (check all that appl	itor: ly)		Clear lin	ne	□Shelvin	g	□Wrested	×	Scouring	y ⊠Water
<u> </u>											Stairing
<u>.01_</u> ft. N/A□	⊠Bent, i vegetatio	matted, or m on	issing	⊔Wrack li	ne	⊠Litter ar debris	nd	□ Abrupt plar community ch	nt nange	Soil ch	aracteristic change
Width of Waterbody - T	op of Width	of Waterboo	dy - To	e of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to Toe	of Slope:			Water	Edge:			(Approx.,	)	
<u>_5_</u> ft.	-	<u>3 ft</u> .					<u>2</u> ft.		N/∆ □		<u>.1_</u> ft.
Sinuosity:	Water	velocity:			Bank I	heiaht			Banks	slope	
(check one)	(Approx.)	)				Right:				Right	:
≥ Otraight		_0.1	_fps			l oft	<u>2_</u> ft.			l oft	<u>20</u> degrees
	ng N/A□					2011	<u>2</u> ft.			2011	40 degrees
Qualitative Attribu	tes										
Water Appearance: (check one)	No water	Clear 🗆	Turbid	□Sh	een	□Su	rface	□Algal	□Othe	r:	
Substrato:		ouldor 🕅 (	Cobblo			Sond [				Othor:	
(check all that apply)			SODDIE			Sanu			,	ouler.	
% of Substrate:	%	<u>_% 50</u>	_%	<u>25</u> %		%	<u>25_</u> %	%	'	%	
Width of Riparian Zone	: Vegetativ	e Layers:		Traca		Γ	7 Conlin	ac/Chruba	N	7 Horbo	
<u> </u>	Avg. DBH	l of Domina	nts:	≊ frees. 6 in.		Ľ	⊴ Sapiir 1 in.	igs/Shrubs:	Ľ		
N/A⊠ Dominant Bonk Vanata	(approx.)			_ <u>_</u>		-					
N. Red Oak, Yellow	Birch, Sugar I	Maple, As	ter, G	oldenrod	, Dryo	pteris, Lo	obellia	, hog peanut	t		
Aquatic Habitats (ex: su	bmerged or emerge	d aquatic vege	etation, o	overhanging	banks/rc	oots, leaf pac	ks, large	submerged wood	l, riffles,	deep pools	\$):
none											
Aquatic Organisms Ob	served (list):										
Caddisfly											
T&E Species Observed	(list):										
none											
Disturbances (ex: livesto	ock access, manure	in waterbody,	waste di	ischarge pipe	es):						
Cow manure											
Tributary is: (check one)	□ Natural	[	□ Artific	cial, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		⊠ Mode	erate		□ Low					

### Spoy006

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:



Waterbody spoy006 facing north upstream



Waterbody spoy006 facing south downstream



Waterbody spoy006 facing east across

Survey Description	on									
Project Name:		Waterbody	Name:			w	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Mi	ll Run			S	poe037		-	7/18/2016
State:	County:		Company	r:		Crew N	lember Initials	:	Photos:	
West Virginia	Pocahontas		NRG			CG, A	<b>N</b> S		1-3	
Tract Number(s):			Nearest N	lilepost:			Associated W	etland	ID(s):	
05-001-C013			NA				none			
Survey Type: (check one)		ne 🗆 R	e-Route	⊠Acce	ess Road		□Other:			
Physical Attribute	s									
Stream Classification: (check one)	Epheme	ral ⊠Ir	ntermittent	□Pere	nnial					
Waterbody Type:	-									
(check one)	□River ⊠ S	tream	Ditch 🗆	Canal	Other:					
ОНѠМ	OHWM Indic	ator:						_		
Width: <u>8</u> ft.	(check all that ap	ply)	Clear on bank	r line	Shelving	9	⊠Wrested vegetation	$\boxtimes$	Scouring	y □Water staining
Height:	⊠Bent,	matted, or mis	sing ⊡Wrac	k line	Litter an	d	□Abrupt plan	ıt	⊠Soil cł	naracteristic change
_ <u>1_f</u> t. N/A□	vegetat	ion	0	d	ebris		community ch	ange		0
Width of Waterbody -	Top of Width	of Waterbody	y - Toe of Slo	pe Width of	Waterbo	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to To	e of Slope:		Water Ed	dge:			(Approx.)		
<u>30_</u> ft.		<u>7_</u> ft.				f	t.		_	ft.
Sinuosity:	Wate	r velocity:		N/A⊠ Bank be	iaht			Rank s	lone	
(check one)	(Approx	<i>.)</i>		Bankine	Right:			Dank	Right	:
⊠Straight			_fps		1.044	<u>5_</u> ft.			1.044	<u>30</u> degrees
□Meander	ing N/A⊠	l			Len:	<u>5_</u> ft.			Len	<u>20</u> degrees
Qualitative Attribu	utes			<b>4</b>						
Water Appearance: (check one)	<sup>⊠</sup> No water □	]Clear □T	urbid 🗆	Sheen	□Sur	face	□Algal	□Othe	r:	
				on surface	scu	im	mats			
Substrate:	Bedrock 🛛 E	Boulder 🛛 🗠 C	obble 🛛 🖾 Gr	avel 🗆 S	and [	∃ Silt/ c	lay 🗆 Organic	; □0	Other:	
% of Substrate:	%10	<u>% 20</u>	% <u>70</u> %	, 	%		_%%		%	
Width of Riparian Zon	e: Vegetativ	ve Layers:								
4	(check all th	at apply)	⊠ Tre	es:	$\boxtimes$	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u></u> . N/A⊠	(approx.)		<b>.s.</b> <u>10</u>	in.	-	<u>2</u> in.				
Dominant Bank Veget	ation (list):									
Birch, maple, rose,	jewelweed,fer	'n								
Aquatic Habitats (ex: s	ubmerged or emerg	ed aquatic veget	ation, overhangi	ng banks/roots	s, leaf pack	ks, large	submerged wood	, riffles,	deep pools	5):
none										
Aquatic Organisms Ol	bserved (list):									
none										
T&E Species Observe	d (list):									
none										
Disturbances (ex: lives	tock access, manure	e in waterbody, w	aste discharge p	pipes):						
Culverted beneath	road									
Tributary is: (check one)	□ Natural		Artificial, man	-made	⊠ Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High	$\boxtimes$	Moderate	C	Low					

Spoe037

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





## Waterbody spoe037 facing west upstream



Waterbody spoe037 facing east downstream



Waterbody spoe037 facing north across

Survey Description	n								
Project Name:		Waterbody Na	me:		W	/aterbody ID:		D	ate:
Atlantic Coast Pipel	ine	UNI to Mill I	Kun		S	poe036		1	/18/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C013			NA			none			
Survey Type: (check one)		e □Re-I	Route	⊠Access Road		□Other:			
Physical Attributo									
Stream Classification:	3								
(check one)	⊠Ephemera	al 🗌 Inter	mittent	Perennial					
Waterbody Type: (check one)	River Str	ream 🗆 Dite	ch 🗆 C	anal 🛛 Other:	:				
онwм	OHWM Indica	tor:					_		
Width: _2_ft.	(спеск ал тат аррі	<i>y)</i>	Clear III on bank	ne ⊡Shelvin	g	☐Wrested vegetation	X	Scouring	⊡Water staining
Height:	⊠Bent, r	matted, or missir	ig	ne 🗆 Litter ar	nd	□Abrupt plan	t	⊠Soil cha	aracteristic change
ft. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water:	
вапк то тор от вапк:	to Toe	of Slope:		water Edge:			(Approx.)		
<u>_7_</u> ft.	-	<u>2</u> ft.			ft.		N/A 🖂		ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one) Straight	(Approx.)	)		Right:				Right:	
Ŭ		f	ps	Left:	<u>2</u> ft.			Left:	<u>70</u> degrees
	ng N/A⊠				<u>4_</u> ft.				<u>65</u> degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	<sup>3</sup> No water □0	Clear □Turb	oid □Sr or	neen ⊡Sui n surface scu	rface um	□Algal [ mats	□Othe		
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 10</u> %	<u>   75  </u> %	<u> 10 </u> %	<u>5</u> %	%		%	
Width of Riparian Zone	e: Vegetative	e Layers:							
	(check all that	t apply)		s: D	🛛 Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>π</u> · N/A⊠	Avg. DBH (approx.)	of Dominants:		_in	_ <u>1_</u> in.				
Dominant Bank Vegeta	tion (list):								
Birch, jewelweed, c	oltsfoot, nettle								
Aquatic Habitats (ex: su	ubmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools)	:
none									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure i	in waterbody, wast	e discharge pip	es):					
Roadside ditch for a	a stretch								
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low					

Spoe036

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

### Notes:

Flows northwest along the edge of the access road, flows into stream spoe037 near the culvert





Waterbody spoe036 facing southeast upstream



Waterbody spoe036 facing northwest downstream



# Waterbody spoe036 facing southwest across

Survey Description	<u>1</u>	•			<u> </u>				
Project Name:		Waterbody Na	me:		N	aterbody ID:		D	ate:
Atlantic Coast Pipeli	ne	UNT to Mill F	Run		S	poy007		7	/16/2016
State:	County:		Company:		Crew I	Member Initials	: F	Photos:	
West Virginia	Pocahontas		Dominion		KO, A	AS, SA		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C013-AR2			70			none			
Survey Type: (check one)		e □Re-F	Route	⊠Access Road	ł	□Other:			
Physical Attributes	5								
Stream Classification: (check one)	⊠ Ephemera	al 🗌 Inter	mittent	Perennial					
Waterbody Type:									
(check one)	River 🛛 Str	eam 🗆 Dito	ch 🗆 C	anal 🛛 🗆 Other	:				
онwм	OHWM Indica	tor:					_		
Width: <u>1</u> ft.	(спеск ан тпат аррі)	/)	Clear lir on bank	ne ∐Shelvin	ıg	☐Wrested vegetation	$\boxtimes$	Scouring	⊡Water staining
Height:	⊠Bent, r	natted, or missin	ig	ine ⊠Litter a	nd	□Abrupt plan	t	□Soil cha	aracteristic change
<u>.01_</u> ft. N/A□	vegetatio	n		debris		community ch	lange		
Width of Waterbody - T Bank to Top of Bank:	op of Width of to Too	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth (	of Water:	
Bank to rop of Bank.	10 100	oi Siope.		Water Luge.			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		f4
<u>_3</u> ft.	-	<u>_3 f</u> t.		N/A⊠	ft.		N/A⊠		1t.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)			Right:	o 4			Right:	20. desees
		fr	os	Left:	<u></u> II.			Left:	<u>20</u> degrees
	lg N/A⊠				<u>2</u> ft.				<u>15</u> degrees
Qualitative Attribut	tes								
Water Appearance: (check one)	No water	Clear □Turb	oid □St or	neen ⊡Su n surface sci	rface um	□Algal mats	□Other	:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🛛 Grav	el 🗆 Sand I	⊠ Silt/ o	clay 🗆 Organic	: 🗆 C	Other:	
(check all that apply) % of Substrate:	%	_% <u>30</u> %	<u>   25  </u> %	%	<u>45_</u> %	%		%	
Width of Riparian Zone	: Vegetative	e Layers:							
ft.	(check all that	apply)	⊠ Trees	:	⊠ Sapliı	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(approx.)	of Dominanton	<u>4</u> .m.	-	<u>1</u> in.				
Dominant Bank Vegeta Yellow Birch, Sugar	tion (list): Maple, Aster,	wood-nettle.	Drvopteris	iewelweed					
Aquatic Habitats (ex. su	bmerged or emerged	d aquatic vegetatio	n overhanging	hanks/roots leaf par	sks large	submerged wood	riffles (	teen nools)	•
none	binerged of emerged		n, overhanging	banks/roots, real pac	no, large	Submerged wood	, 111105, 0		
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pip	es):					
none									
Tributary is: (check one)	⊠ Natural	□ Ari	tificial, man-m	nade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High		oderate	⊠ Low					

### Spoy007

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:



Waterbody spoy007 facing east upstream



Waterbody spoy007 facing west downstream



# Waterbody spoy007 facing north across

Survey Description	า								
Project Name:		Waterbody Na	ame:		v	aterbody ID:		I	Date:
Atlantic Coast Pipeli	ne	UNT to Mill	Run		S	poe035		-	7/18/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C013			NA			none			
Survey Type: (check one)		e ⊡Re-	-Route	⊠Access Road		□Other:			
<b>Physical Attributes</b>	3								
Stream Classification: (check one)	Ephemera	al 🛛 Inte	ermittent	Perennial					
Waterbody Type:									
(check one)	River 🛛 Str	ream 🗆 Dir	tch 🗆 Ca	anal 🗌 Other:					
ОНШМ	OHWM Indica	tor:					5	10 ·	
Width:ft.	(спеск ал тат арр	y)	Clear lir on bank	ne 🗆 Shelvin	g	☐Wrested vegetation	×	Scouring	l ∐Water staining
Height:	⊠Bent, r	matted, or missi	ng 🗆 Wrack li	ne 🗆 Litter ar	nd	□Abrupt plan	t	⊠Soil cł	naracteristic change
_ <u>_1_</u> ft. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:			(Approx.)	)	
<u>_10_</u> ft.	_	<u>2</u> ft.			<u>2</u> ft.			-	<u>0.2</u> ft.
Sinuosity:	Water	velocity:		N/AL			Banks	slope	
(check one)	(Approx.)			Right:			Dunit	Right	:
		<u>_0.2_</u> fp	S	Loft	<u>2</u> ft.			Loft	<u>35</u> degrees
	g N/A□			Leit.	<u>2</u> ft.			Len	<u>35</u> degrees
Qualitative Attribut	tes								
Water Appearance: (check one)	No water ⊠0	Clear □Tur	bid □Sh on	leen ⊡Sui surface scu	rface um	□Algal [ mats	□Othe	r:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cob	ble 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 15</u> %	<u>   70  </u> %	<u> 10 </u> %	<u>5_</u> %	%		%	
Width of Riparian Zone	: Vegetativ	e Layers:							
25 ft	(check all that	t apply)	⊠ Trees	:	Saplir	ngs/Shrubs:	$\geq$	I Herbs	
<u></u> N/A□	(approx.)	or Dominants.	<u>_6_</u> in.	-	<u>1</u> in.				
Dominant Bank Vegeta	tion (list):								
Birch, nettle, violet									
Aquatic Habitats (ex: su	bmerged or emerge	d aquatic vegetati	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles,	deep pools	:(٤
cobble									
Aquatic Organisms Obs	served (list):								
Salamander, insects	3								
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ck access, manure	in waterbody, was	te discharge pipe	es):					
Culverted beneath r	oad								
Tributary is: (check one)	□ Natural		rtificial, man-m	ade 🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	× N	loderate	□ Low					

Spoe035

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody spoe035 facing south upstream



Waterbody spoe035 facing north downstream



# Waterbody spoe035 facing east across

Survey Descriptio	n								
Project Name:		Waterbody Na	ne:		w	aterbody ID:		Da	ate:
Atlantic Coast Pipe	line	UNT to Mill F	Run		S	poy009		7/	16/2016
State:	County:		Company:		Crew I	Member Initials	: PI	hotos:	
West Virginia	Pocahontas		Dominion		KO, A	AS, SA	1	-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland II	D(s):	
05-001-C013-AR2			70			none			
Survey Type: (check one)		e □Re-F	Route	⊠Access Road	1	□Other:			
Physical Attribute	S								
Stream Classification: (check one)	□ Ephemera	al 🛛 🖾 Inter	mittent	Perennial					
Waterbody Type:	•								
(check one)	River Str	ream 🗆 Dito	h 🗆 Ca	anal 🛛 🗆 Other	:				
ОНѠМ	OHWM Indica	tor:							
Width: _2ft.	(check all that appl	<i>V)</i>	Clear lir on bank	ne ⊡Shelvin	g	□Wrested vegetation	⊠S	Scouring	□Water staining
Height:	⊠Bent, r	natted, or missin	g	ne ⊠Litter a	nd	□Abrupt plant	t 🛛	Soil cha	racteristic change
<u>01_</u> ft. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - 1	op of Width	of Waterbody -	Foe of Slope	Width of Waterb	ody - W	ater Edge to	Depth o	f Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		1	(Approx.)		
<u>_5</u> ft.	-	<u>_3 ft</u> .			<u>2</u> ft.			_(	<u>).1_</u> ft.
Sinuosity:	Water	velocity		N/A∐ Bank beight			N/A∟ Bank slø	nne	
(check one)	(Approx.)	velocity.		Right:		I	Dank Si	Riaht:	
⊠Straight		<u>0.1_</u> fps		J offi	<u>.5_</u> ft.			- ا مان <sup>-</sup>	10 degrees
□Meanderi	ng N/A 🗆			Left:	<u>1</u> ft.			Left:	45 degrees
Qualitative Attribu	ites					1			
Water Appearance:			:d 🗆 Ch		rfaaa		Other		
	INO water 🖾		id LISP	n surface sci	um	mats	_Other:		
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobb	le 🛛 Grav	el 🗆 Sand I	⊠ Silt/ c	clay 🛛 Organic	🗆 Ot	her:	
% of Substrate:	%%	<u>40</u> %	<u>   50   </u> %	%	<u>10_</u> %	%		_%	
Width of Riparian Zone	e: Vegetative	e Layers:							
	(check all that	t apply)	☑ Trees	: 0	⊠ Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> · N/A⊠	Avg. DBH (approx.)	of Dominants:	<u>6</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Vegeta	ation (list):								
Yellow Birch, Sugai	Maple, Stripe	d Maple, Bas	swood, Fal	se-nettle, Viola	a, Jewe	elweed, Dryo	pteris,	America	an Beech
Aquatic Habitats (ex: se	ubmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, de	ep pools):	
pools									
Aquatic Organisms Ob	served (list):								
Stonefly, Caddisfly									
T&E Species Observed	l (list):								
none									
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pipe	es):					
none									
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	iade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	derate	□ Low					

### Spoy009

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:



Waterbody spoy009 facing southeast upstream



Waterbody spoy009 facing northwest downstream



# Waterbody spoy009 facing southwest across

Survey Description	n								
Project Name:		WaterbodyN	ame:		N	Vaterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to Mill	Run		S	poy011			7/16/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		Dominion		KO, <i>I</i>	AS, SA		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C013-AR2			70			none			
Survey Type: (check one)		e ⊡Re	e-Route	⊠Access Road		□Other:			
Physical Attribute	s								
Stream Classification: (check one)	Ephemer	ral ⊠Int	ermittent	Perennial					
Waterbody Type:									
(check one)	River St	ream 🗆 D	itch 🗆 C	anal 🗌 Other	:				
OHWM Width: _6ft.	OHWM Indica (check all that app	ator: /y)	□ Clear liı on bank	ne ⊡Shelvin	g	□Wrested vegetation	×	Scouring	⊠Water staining
Height:ft.	⊠Bent, vegetatio	matted, or miss on	ing  □Wrack li	ine ⊠Litter ar debris	nd	□Abrupt plan community ch	t lange	⊠Soil cł	naracteristic change
N/A⊔ Width of Waterbody - T	on of Width	of Waterbody	- Toe of Slope	Width of Waterb	odv - W	ater Edge to	Depth	of Water	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:	<i>cuy</i> 11	Lugo to	(Approx.)	er mater	
<u> 10  f</u> t.		<u>_7</u> ft.			<u>6_</u> ft.			-	<u>0.1_</u> ft.
Sinuccitur	Wator	volocityr		N/A 🗆			N/AL	lono	
(check one)	(Approx.			Right:			Dalik S	Right:	
⊠ Straight		<u>0.1_</u> f	os	Loffi	<u>.5_</u> ft.			Loff	<u>10</u> degrees
	ng N/A□			Leit.	<u>1</u> ft.			Len	45 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	No water ⊠	Clear 🗆 Tu	ırbid □Sł	neen 🗆 Su	rface	□Algal	□Other	r:	
			or	n surface scu	um	mats			
Substrate:	Bedrock 🛛 B	oulder 🛛 Co	bble 🛛 Grav	el 🗆 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic	: □ C	Other:	
% of Substrate:	%	<u>% 40 %</u>	% <u>20</u> %	%	<u>15_</u> %	%		_%	
Width of Riparian Zone	e: Vegetativ	e Layers:							
ft.	(check all tha	at apply) I of Dominants	⊠ Trees	:	⊠ Sapliı	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(approx.)		<u>4_</u> in.	-	<u>1</u> in.				
Dominant Bank Vegeta Yellow Birch, Sugar	i <b>tion</b> <i>(list)</i> : <sup>·</sup> Maple, Wood	l Nettle, Bas	swood, Viola	a, Jewelweed, I	Dryopt	teris, America	an Bee	ech	
Aquatic Habitats (ex: su	ubmerged or emerge	ed aquatic vegetat	tion, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	:):
Riffles, pools						Ū.			
Aquatic Organisms Ob	served (list):								
Stonefly, Caddisfly,	Crawfish, Dus	sky Salaman	ders						
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, wa	ste discharge pip	es):					
Tributary is: (check one)	⊠ Natural		Artificial, man-m	nade 🗌 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		Moderate	□ Low					

### Spoy011

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:



Waterbody spoy011 facing southeast upstream



Waterbody spoy011 facing northwest downstream



Waterbody spoy011 facing southwest across

Survey Descriptio	n	1							
Project Name:		Waterbody Na	ne:		W	/aterbody ID:		D	late:
Atlantic Coast Pipel	ine	UNT to Mill F	Run		s	poe034		7	/18/2016
State:	County:	I	Company:		Crew I	Member Initials:	F	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated We	etland	ID(s):	
05-001-C013			NA			Wpoe218			
Survey Type: (check one)			Route		4	□ Other:			
Physical Attribute					•				
Stream Classification:	5								
(check one)		al 🛛 🖾 Inter	mittent	Perennial					
Waterbody Type: (check one)	River ⊠ Str	ream 🗆 Dito	h □Ca	anal 🛛 Other					
онwм	OHWM Indica	tor:						<u> </u>	
<b>Width:</b> ft.	(спеск ал тат аррі	<i>y)</i>	Clear lir on bank	ne ⊔Shelvin	ıg	☐Wrested vegetation		Scouring	⊔Water staining
Height:	⊠Bent, r	natted, or missin	g	ne 🗆 Litter a	nd	□Abrupt plant	t	Soil ch	aracteristic change
ft. N/A□	vegetatio	n		debris		community cha	ange		
Width of Waterbody - 1	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(	Approx.)		
<u>_15_</u> ft.	-	<u>2</u> ft.			<u>1_</u> ft.				<u>_0.1</u> ft.
Sinuosity:	Water	velocity:		N/A⊡ Bank height			Bank s	lone	
(check one)	(Approx.)	velocity.		Right:			Burne B	Right:	
		<u>_0.5_</u> fps	i	Loft	<u>3_</u> ft.			Loff	<u>55</u> degrees
□Meanderi	ng N/A 🗆			Len.	<u>3_</u> ft.			Leit.	<u>35</u> degrees
Qualitative Attribu	tes								
Water Appearance:							- 0.1		
	<sup>⊥</sup> No water ⊠0	Jiear ⊔ l'urb	id LISP	ieen ⊔Su isurface sc	rface um	□Algal □ mats	⊔Other	:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	le 🛛 Grave	el 🛛 🖾 Sand	□ Silt/ c	clay 🗆 Organic		Other:	
% of Substrate:	%	<u>% 10</u> %	<u>   80  </u> %	<u>   10  </u> %		_%%		%	
Width of Riparian Zone	e: Vegetative	e Layers:							
	(check all that	apply)	□ Trees	s: [	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>20 π</u> . N/A□	Avg. DBH (approx.)	of Dominants:		_in		_in.			
Dominant Bank Vegeta	tion (list):								
Jewelweed, blackbe	erry, fern								
Aquatic Habitats (ex: su	ubmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	cks, large	submerged wood,	riffles, c	deep pools	):
none									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	l (list):								
none									
Disturbances (ex: liveste	ock access, manure i	n waterbody, waste	e discharge pipe	es):					
Cattle access, culve	erted beneath	road							
Tributary is: (check one)	□ Natural	□ Art	ificial, man-m	ade 🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low					

Spoe034

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody spoe034 facing southwest upstream



Waterbody spoe034 facing northeast downstream



Waterbody spoe034 facing northwest across

Survey Description	on								
Project Name:		Waterbody Na	me:		N	laterbody ID:			Date:
Atlantic Coast Pipe	eline	UNT to Big S	Spring Fork	ζ.	S	poe005		1	3/9/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C013			70.5			none			
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□Access Road		□Other:			
Physical Attribute	es								
Stream Classification	:								
(check one)	⊠Ephemera	al 🗌 Inter	rmittent	Perennial					
Waterbody Type: (check one)	□River ⊠ Str	ream 🗆 Dito	ch 🗆 C	anal 🗌 Other:	:				
ОНШМ		itor:					5	· ·	
Width: _2_ft.	(Check all that appl	y)	on bank		g		×	Scouring	staining
Height:	⊠Bent, i	matted, or missin	ig ⊡Wrack li	ine 🛛 Litter ar	nd	□Abrupt plan	t	□Soil cl	naracteristic change
tt. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody -	Top of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank.	to Toe	of Slope:		water Edge:			(Approx.)		
<u>_4_ft</u> .	-	<u>1</u> ft.		N/A 🖂	1	ft.	N/A⊠	-	ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	slope	
(check one)	(Approx.,	)		Right:	~ "			Right	
		f	ps	Left:	<u>2</u> ft.			Left	<u>45</u> degrees
	ing N/A⊠				<u>2</u> ft.				45 degrees
Qualitative Attrib	utes								
Water Appearance: (check one)	$^{ extsf{N}}$ No water $\Box$	Clear 🗆 Turb	oid □St	neen ⊡Sui	rface	□Algal	□Othe	r:	
Substrato				n surrace scu				Othor	
(check all that apply)						lay 🗆 Organic		Julei.	
% of Substrate:	%	%	<u>% 10</u> %	_20_%	<u>70_</u> %	%		%	
Width of Riparian Zon	e: Vegetativ	e Layers:	57 -	5		(0)	Þ	2	
ft.	Avg. DBH	of Dominants:	⊢ I rees	: 2	⊴ Saplii 1 in	ngs/Shrubs:	×	Herbs	
N/A⊠	(approx.)		<u>_0_</u>	-	<u></u>				
Rubus, Locust, ma	iple								
Aquatic Habitats (ex: s	submerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pool	5):
none									
Aquatic Organisms O	bserved (list):								
none									
T&E Species Observe	d (list):								
none									
Disturbances (ex: lives	tock access, manure	in waterbody, waste	e discharge pip	es):					
road									
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	nade 🗆 Manipi	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low					
Spoe005

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody SPOE005 facing west upstream



Waterbody SPOE005 facing east downstream



## Waterbody SPOE005 facing south across

Survey Description	on									
Project Name:		Waterbody	Name:			w	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Bi	g Spring F	Fork		Sp	poe004			3/9/2016
State:	County:		Compar	ny:		Crew N	lember Initials	:	Photos:	
West Virginia	Pocahontas		NRG			CG, A	IS		1-3	
Tract Number(s):			Nearest	Milepost:			Associated W	etland	ID(s):	
05-001-C013			70.7				none			
Survey Type: (check one)	⊠Centerlin	e 🗆 F	Re-Route	□A	ccess Road	d	Other:			
Physical Attribute	es									
Stream Classification: (check one)	: □Ephemer	al ⊠lı	ntermittent	□P	erennial					
Waterbody Type:										
(check one)	□River	ream 🗆	Ditch	Canal	□ Othe	r:				
ОНШМ		ator:								
Width: _ <u>5</u> ft.	(спеск ал тат арр	<i>י</i> ( <i>y</i> )	□ Cle on bar	ar line nk	⊔Shelvir	ng	Wrested vegetation	X	Scouring	g ⊡Water staining
Height:	⊠Bent,	matted, or mis	sing ⊡Wra	ack line	□Litter a	nd	□Abrupt plan	t	□Soil cl	naracteristic change
ft. N/A□	vegetatio	on	-		debris		community ch	ange		-
Width of Waterbody - Bank to Top of Bank:	Top of Width	of Waterbod	y - Toe of Sl	lope Width Wate	of Waterb	ody - W	ater Edge to	Depth (Approx.)	of Water	:
					Lago.			,		0.2 #
<u>_30</u> ft.		<u>_2_</u> ft.		N/A		<u>1_</u> ft.		N/A□		<u>_0.2</u> 11.
Sinuosity:	Water	velocity:		Bank	height			Bank s	lope	
(check one)	(Approx.	)			Right:				Right	
Ŭ		0.5	fps		Left:	<u>    5    </u> ft.			Left	<u>20</u> degrees
Meander	ing N/A□					<u>5_</u> ft.				20 degrees
Qualitative Attribu	utes									
Water Appearance: (check one)	□No water 🛛	Clear 🗆 T	urbid	□Sheen on surfac	⊡Su e sc	urface sum	□Algal   mats	Other	:	
Substrate:	Bedrock B	oulder 🛛 🛛 C	obble 🛛 🕅	Gravel 🛛	Sand	⊠ Silt/ c	lay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	% 20	% 10	%	30 %	40 %	%		%	
	Negotativ									
width of Riparian Zon	(check all that	t apply)	⊠T	rees:		🛛 Saplin	gs/Shrubs:	$\boxtimes$	Herbs	
<u>20 ft</u> ⊷ N/A□	Avg. DBH (approx.)	l of Dominan	t <b>s:</b> <u>6</u>	_in.		<u>1</u> in.				
Dominant Bank Veget	ation (list):									
Maple, Hawthorne										
Aquatic Habitats (ex: s	submerged or emerge	ed aquatic veget	ation, overhar	nging banks/r	oots, leaf pa	cks, large	submerged wood	, riffles, o	deep pool	5):
none										
Aquatic Organisms Ol	bserved (list):									
none										
T&E Species Observe	d (list):									
none										
Disturbances (ex: lives	tock access, manure	in waterbody, w	aste discharge	e pipes):						
Pasture adjacent a	t centerline									
Tributary is: (check one)	⊠ Natural		Artificial, ma	an-made	□ Manip	oulated				
Stream Quality <sup>a</sup> : (check one)	□ High	$\boxtimes$	Moderate		□ Low					

Spoe004

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:





Waterbody SPOE004 facing west upstream



Waterbody SPOE004 facing east downstream



# Waterbody SPOE004 facing north across

Survey Description	n								
Project Name:		WaterbodyN	ame:		W	aterbody ID:		Da	ate:
Atlantic Coast Pipe	line	UNT to Big	Spring Fork	ζ.	S	poe031		()	13/2016
State:	County:		Company:		Crew N	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		CG, J	M		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C013			NA			none			
Survey Type: (check one)		ne ⊡Re	-Route	⊠Access Road		Other:			
Physical Attribute	s								
Stream Classification: (check one)	⊠Epheme	ral ⊡Int	ermittent	Perennial					
Waterbody Type: (check one)	⊡River ⊠ St	tream 🗆 D	tch 🗆 C	anal 🛛 Other:	:				
OHWM Width:	OHWM Indic (check all that app	ator: oly)	□ Clear lir	ne DShelving	g	□Wrested vegetation	$\boxtimes$	Scouring	□Water staining
<u>-5</u> .tt. Height: <u>1</u> .ft.	⊠Bent, vegetati	matted, or miss	ing □Wrack li	ine 🗆 Litter ar debris	nd	Abrupt plan	t lange	⊠Soil cha	racteristic change
N/A∟ Width of Waterbody - `	Top of Width	of Waterbody	- Toe of Slope	Width of Waterbo	odv - W	ater Edge to	Depth	of Water:	
Bank to Top of Bank:	to Toe	e of Slope:		Water Edge:	ouy 11	utor Lugo to	(Approx.)	or tratori	
<u>_10</u> ft.		<u>4</u> ft.		N/A⊠	ft	t.	N/A⊠		ft.
Sinuosity: (check one) ⊠Straight	Water (Approx	r velocity: .) 	<u>f</u> ps	Bank height Right: Left:	<u>4_</u> ft.		Bank s	lope Right: Left:	55 degrees
					<u>4_</u> π.			-	<u>55</u> degrees
Water Appearance:	ites								
(check one)	<sup>⊠</sup> No water □	Clear □Tu	rbid □Sh or	neen ⊡Sur n surface scu	rface um	□Algal [ mats	□Other	:	
Substrate:	Bedrock 🛛 B	oulder 🛛 Col	oble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic	: 🗆 C	Other:	
(check all that apply) % of Substrate:	%20	<u>% 50 %</u>	<u> </u>	<u>   10  </u> %	<u>10_</u> %	%		%	
Width of Riparian Zon	e: Vegetativ (check all that Avg. DBH	<b>ve Layers:</b> at apply) <b>I of Dominants</b>	□ Trees	s: D	⊠ Saplin _1_in.	ngs/Shrubs:	×	Herbs	
Dominant Bank Veget	(approx.) ation (list):								
Blackberry, birch, g	oldenrod								
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vegetat	ion, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, (	deep pools):	
none									
Aquatic Organisms Ol	oserved (list):								
none									
T&E Species Observe	d <i>(list)</i> :								
none									
Disturbances (ex: livest Culverted at road	ock access, manure	in waterbody, was	ste discharge pipe	es):					
Tributary is:									
(check one)	□ Natural		artificial, man-m	nade 🛛 🖾 Manipu	ulated				
(check one)	🗆 High	$\boxtimes$ N	Ioderate	□ Low					

Spoe031

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

(Lait growd	TN
KE Zai	031 02
	ret



# Waterbody SPOE031 facing west upstream



Waterbody SPOE031 facing east downstream



# Waterbody SPOE031 facing north across

Survey Descriptio	n								
Project Name:		Waterbody Na	me:		w	aterbody ID:		0	Date:
Atlantic Coast Pipel	ine	UNT to Big S	Spring Fork		S	poe003			3/9/2016
State:	County:		Company:		Crew I	Member Initials	: 1	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C008			71.0			wpoe002			
Survey Type: (check one)	⊠Centerline	e □Re-I	Route	□Access Road		□Other:			
Physical Attribute	s								
Stream Classification: (check one)	⊠Ephemer	al 🛛 Inte	rmittent	Perennial					
Waterbody Type:	-								
(check one)	River Sti	ream 🗌 Dite	ch 🗆 C	anal 🛛 Other:					
онwм	OHWM Indica	tor:					_		
Width: _2_ft.	(check all that appl	ly)	Clear lir on bank	ne ⊡Shelving	g	☐Wrested vegetation		Scouring	□Water staining
Height:	⊠Bent, i	matted, or missir	ng ⊡Wrack li	ne ⊠Litter ar	nd	□Abrupt plan	t	⊠Soil ch	aracteristic change
ft. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - 1	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water:	
вапк то тор от вапк:	to loe	of Slope:		water Edge:			(Approx.)		
<u>_20_</u> ft.	-	<u>1</u> ft.			_ <u>1_</u> ft.		N/A□	-	<u>0.2</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)	)		Right:				Right:	
		<u>_0.1_</u> fps	6	Left:	<u>6_</u> ft.			Left:	45 degrees
	ng N/A□			2014	<u>7_</u> ft.			2011	45 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	<sup>]</sup> No water ⊠	Clear DTurk	oid □Sr or	leen ⊡Sur i surface scu	face Im	□Algal   mats	□Other	:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 20</u> %	<u>   20  </u> %	<u>   30  </u> %	<u>30_</u> %	%		_%	
Width of Riparian Zone	e: Vegetativ	e Layers:							
ft.	(check all tha	t apply)	⊠ Trees	: 🛛	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(approx.)	or bonnants.	<u>_10_</u> in.	-	<u>1</u> in.				
Dominant Bank Vegeta	ntion (list):								
Eastern nemlock, fe	ern, maple								
Aquatic Habitats (ex: so	ubmerged or emerge	ed aquatic vegetation	n, overhanging	banks/roots, leaf pack	ks, large	submerged wood	, riffles, o	deep pools	.):
none									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	l (list):								
none									
Disturbances (ex: liveste	ock access, manure	in waterbody, waste	e discharge pipe	es):					
none									
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	□ Low					

Spoe003

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





Waterbody SPOE003 facing southwest upstream



Waterbody SPOE003 facing northeast downstream



# Waterbody SPOE003 facing southeast across

Survey Description									
Project Name:		Waterbody Na	me:		w	aterbody ID:		D	ate:
Atlantic Coast Pipeli	ne	UNT to Big S	Spring Fork		S	poe028		7,	/12/2016
State:	County:		Company:		Crew I	Member Initials:	P	hotos:	
West Virginia	Pocahontas		NRG		CG, J	JM	1	-3	
Tract Number(s):			Nearest Mile	epost:		Associated We	tland II	D(s):	
05-001-C013			NA			none			
Survey Type: (check one)		e □Re-I	Route	⊠Access Road		□Other:			
<b>Physical Attributes</b>	1								
Stream Classification: (check one)	Ephemera	al 🛛 Inter	rmittent	Perennial					
Waterbody Type:									
(check one)	River 🛛 Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:	:				
ОНШМ		tor:							
Width:ft.	(спеск ал тат аррг	()	Clear lir on bank		g	☐Wrested vegetation	×S	scouring	⊡Water staining
Height:	⊠Bent, r	natted, or missir	ng ⊡Wrack li	ne 🛛 Litter ar	nd	□Abrupt plant		⊠Soil cha	aracteristic change
<u>0.25</u> ft. N/A□	vegetatio	n		debris		community cha	nge		
Width of Waterbody - To	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	epth o	f Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(*	Approx.)		
<u>_20</u> ft.	-	<u>3_</u> ft.			_ <u>1_</u> ft.			_(	<u>).01_</u> ft.
Sinuosity:	Water	velocity:		N/AL		F	Bank slo	ope	
(check one)	(Approx.)	roloony.		Right:				Right:	
		<u>_0.2</u> _fps	S	Loft	<u>4_</u> ft.			Loft	<u>35</u> degrees
	g N/A□			Leit.	_ <u>4_</u> ft.			Lent.	<u>30</u> degrees
Qualitative Attribut	es			·					
Water Appearance: (check one)	No water	Clear 🗆 Turk	oid □Sh	ieen 🗆 Sui	rface	□Algal	Other:		
Cubetroter			on	surface scu		mats			
(check all that apply)	Bedrock 🛛 Bo	ouider 🖾 Cobr	ole 🛛 Grave			ciay 🗆 Organic		ner:	
% of Substrate:	<u>% 30 %</u>	% <u>30</u> %	<u>20</u> %	%	<u>20 </u> %	%		%	
Width of Riparian Zone:	Vegetative	e Layers:							
8 ft.	(check all that Avg. DBH	of Dominants	⊠ Trees	: [	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A 🗆	(approx.)		<u> </u>	-	_				
Dominant Bank Vegetat	ion (list): ce manle								
Amustic Hebitete (									
Aquatic Habitats (ex: sub	omerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, de	eep pools)	1
none									
Aquatic Organisms Obs	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):					
Road crossing									
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	□ Low					

Spoe028

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:





## Waterbody SPOE028 facing southwest upstream



Waterbody SPOE028 facing northeast downstream

![](_page_126_Picture_0.jpeg)

# Waterbody SPOE028 facing southeast across

Survey Description	on										
Project Name:		Waterboo	ly Name	:			W	aterbody ID:		Ľ	Date:
Atlantic Coast Pipe	eline	UNT to	Big Spi	ring Fork			S	poe027		7	7/12/2016
State:	County:	ł	Co	ompany:			Crew I	Member Initials	5:	Photos:	
West Virginia	Pocahontas		N	RG			CG, J	JM		1-3	
Tract Number(s):	1		Ne	earest Mile	epost:			Associated W	etland	ID(s):	
Unknown			N	A				Wpoe215			
Survey Type: (check one)		ine [	∃Re-Rou	ıte	⊠Ao	ccess Road	ł	□Other:			
Physical Attribute	es										
Stream Classification	:										
(check one)	□Ephem	eral D	Intermi	ttent	□Pe	erennial					
Waterbody Type: (check one)	□River ⊠ \$	Stream	] Ditch		anal	□ Other	:				
онwм	OHWM Indi	cator:							5	<b>30</b> ·	
Width: _2_ft.	(cneck all that a	ρριγ)		Clear lir on bank	ne	⊔Shelvir	ıg	☐Wrested vegetation	Þ	Scouring	□Water staining
Height:	⊠Ben	t, matted, or r	nissing	□Wrack li	ne	□Litter a	nd	□Abrupt plar	nt	□Soil ch	aracteristic change
_ <u>1</u> π. N/A□	vegeta	ition				debris		community ch	nange		
Width of Waterbody - Bank to Top of Bank:	Top of Widt	h of Waterbo	ody - Toe	e of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water:	1
Bank to Top of Bank.		be of Stope.			vvalei	Euge.			( <i>r</i> .pp.ox.	/	0.4.4
<u>_3 ft</u> .		<u>_1_</u> ft.			N/A□		<u>1_</u> ft.		N/A□	-	<u>_0.1_</u> π.
Sinuosity:	Wate	er velocity:			Bank	height			Bank	slope	
(check one)	(Appro	х.)				Right:	0 4			Right:	70 de mese
		0.1	<u>2_</u> fps			Left:	<u></u> II.			Left:	<u>_70</u> degrees
	ring N/A						<u>    1    </u> ft.				80 degrees
Qualitative Attrib	utes										
Water Appearance: (check one)	□No water	⊠Clear	□Turbid	⊡Sh on	ieen i surfac	⊡Su e sc	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder 🛛	Cobble	⊠ Grav	el 🗆	Sand	Silt/ c	lay 🗆 Organio		Other:	
(check all that apply) % of Substrate:	%	%	%	<u> 10 </u> %		%	<u>90_</u> %	%	,	%	
Width of Riparian Zor	ne: Vegetat	ive Layers:									
	(check all i	that apply)		□ Trees	3:	[	⊠ Saplir	ngs/Shrubs:	$\triangleright$	I Herbs	
<u> </u>	Avg. DE (approx.)	BH of Domina	ants:		_in.		_ <u>1_</u> in.				
Dominant Bank Vege	tation (list):										
Rice cut grass, fals	se nettle, beed	ch, maple									
Aquatic Habitats (ex:	submerged or emer	ged aquatic veg	getation, c	overhanging	banks/ro	oots, leaf pao	cks, large	submerged wood	l, riffles,	deep pools	):
none											
Aquatic Organisms O	bserved (list):										
none											
T&E Species Observe	ed (list):										
none											
Disturbances (ex: lives	stock access, manu	re in waterbody	, waste di	scharge pipe	es):						
Road crosing											
Tributary is: (check one)	□ Natura	I	Artific	ial, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		□ Mode	rate		⊠ Low					

Spoe027

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

![](_page_128_Figure_7.jpeg)

![](_page_129_Picture_0.jpeg)

Waterbody SPOE027 facing southwest upstream

![](_page_129_Picture_2.jpeg)

Waterbody SPOE027 facing northeast downstream

![](_page_130_Picture_0.jpeg)

# Waterbody SPOE027 facing southeast across

Survey Description	า									
Project Name:		Waterbody Na	me:		w	aterbody ID:		Da	Date:	
Atlantic Coast Pipeli	ne	UNT to Big S	Spring Fork		Sp	poe029		7/	12/2016	
State:	County:		Company:		Crew N	lember Initials	: F	Photos:		
West Virginia	Pocahontas		NRG		CG, J	М		1-3		
Tract Number(s):			Nearest Mile	epost:	1	Associated W	etland	ID(s):		
05-001-C008; 05-001-0	C013		NA			none				
Survey Type: (check one)		e □Re-F	Route	⊠Access Road		□Other:				
Physical Attributes	5									
Stream Classification:										
(check one)	⊠Ephemera	al 🗌 Inter	mittent	Perennial						
Waterbody Type: (check one)	River 🛛 Sti	ream 🗆 Dito	ch 🗆 C	anal 🛛 Other:	:					
онwм	OHWM Indica	tor:								
Width: <u>2</u> ft.	(спеск ал тат арр	<i>y)</i>	☐ Clear III on bank	ne Li Shelving	g	☐Wrested vegetation		Scouring	⊔Water staining	
Height:	⊠Bent, r	matted, or missin	ig	ne 🗆 Litter ar	nd	□Abrupt plan	t	□Soil cha	racteristic change	
<u> </u>	vegetatio	n		debris		community cn	ange			
Width of Waterbody - T Bank to Top of Bank:	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth (	of Water:		
Bank to rop of Bank.	10 100	of Slope.		Water Luge.			(,,pp,,c,u)		4	
<u>_3 ft</u> .	-	<u>1</u> ft.		N/A⊠	ft	t.	N/A⊠		n.	
Sinuosity:	Water	velocity:		Bank height			Bank s	lope		
(check one)	(Approx.)	)		Right:	0.75 (1			Right:	45	
		fr	os	Left:	<u>0.75_</u> π.			Left:	45 degrees	
	9 N/A⊠				<u>0.75_</u> ft.				45 degrees	
Qualitative Attribut	tes									
Water Appearance: (check one)	No water	Clear 🗆 Turb	oid ⊡Sh	neen ⊡Sur	rface		Other	:		
Cub strate.								Ndla a w		
(check all that apply)			ble 🛛 Grav	el 🗆 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic		other:		
% of Substrate:	%	%	<u>% 10</u> %	% _	<u>90_</u> %	%		%		
Width of Riparian Zone	: Vegetativ	e Layers:								
ft.	(check all that	t apply)	Trees	s: D	⊠ Saplin	ngs/Shrubs:	$\boxtimes$	Herbs		
N/A⊠	AV <b>g. DBH</b> (approx.)	of Dominants:	_	_in	<u>2</u> in.					
Dominant Bank Vegeta	tion (list):									
Hawthorn, jewelwee	d, false nettle									
Aquatic Habitats (ex: su	bmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood,	, riffles, c	deep pools):		
none										
Aquatic Organisms Ob	served (list):									
none										
T&E Species Observed	(list):									
none										
Disturbances (ex: livesto	ck access, manure	in waterbody, waste	e discharge pipe	es):						
Road crossing										
Tributary is: (check one)	□ Natural	□ Art	tificial, man-m	ade 🛛 🖾 Manipu	ulated					
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low						

Spoe029

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

![](_page_132_Figure_7.jpeg)

![](_page_133_Picture_0.jpeg)

## Waterbody SPOE029 facing south upstream

![](_page_133_Picture_2.jpeg)

Waterbody SPOE029 facing north downstream

![](_page_134_Picture_0.jpeg)

# Waterbody SPOE029 facing east across

Survey Description		•						<u> </u>	
Project Name:		Waterbody Na	ne:		v	laterbody ID:		1	Date:
Atlantic Coast Pipeli	ne	UNT to Big	Spring Forl	K	S	poe030			7/12/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		CG, J	JM		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
Unknown			NA			none			
Survey Type: (check one)		e □Re-F	Route	⊠Access Road		□Other:			
<b>Physical Attributes</b>	1								
Stream Classification: (check one)	⊠Ephemera	al 🗆 Inter	mittent	Perennial					
Waterbody Type									
(check one)	River 🛛 Str	eam 🗆 Dito	h 🗆 Ca	anal 🛛 🗆 Other:	:				
ОНѠМ	OHWM Indicat	tor:					_		
Width: _ <u>3_</u> ft.	(check all that apply	/)	Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	X	Scouring	□Water staining
Height:	⊠Bent, n	natted, or missin	g	ne 🛛 Litter ar	nd	□Abrupt plan	t	⊠Soil ch	aracteristic change
ft. N/A□	vegetatio	n	-	debris		community ch	ange		-
Width of Waterbody - To Bank to Ton of Bank	op of Width o	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water	:
валк то тор ог валк:	to Toe	of Slope:		water Edge:			(Approx.)		
<u>_5 ft</u> .	-	<u>2</u> ft.			f	't.	N/A⊠	_	ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	slope	
(check one)	(Approx.)	-		Right:				Right:	
		fr	os	Left:	<u>2</u> ft.			Left	<u>60</u> degrees
□Meanderin	g N/A⊠				<u>2</u> ft.				60 degrees
Qualitative Attribut	es								
Water Appearance: (check one)	No water □C	Clear □Turb	id □Sh on	leen ⊡Sui i surface scu	rface um	□Algal [ mats	□Othe	r:	
Substrate:	Bedrock 🛛 Bo	ulder 🛛 Cobb	le 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	<u>%30_</u> %	% <u>50</u> %	<u> 10 </u> %	<u>   10  </u> %		_%%		_%	
Width of Riparian Zone:	Vegetative	Lavers:							
	(check all that	apply)	□ Trees	s: [	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> . N/A⊠	Avg. DBH	of Dominants:		_in		_in.			
Dominant Bank Vegetat	ion (list):								
Elderberry, jewelwee	ed								
Aquatic Habitats (ex: sub	omerged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	s):
none									
Aquatic Organisms Obs	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):					
Culverted beneath re	oad								
Tributary is: (check one)	□ Natural	□ Art	ificial, man-m	ade 🛛 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	□ Low					

Spoe030

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

![](_page_136_Figure_7.jpeg)

![](_page_137_Picture_0.jpeg)

## Waterbody SPOE030 facing west upstream

![](_page_137_Picture_2.jpeg)

Waterbody SPOE030 facing east downstream

![](_page_138_Picture_0.jpeg)

# Waterbody SPOE030 facing north across

Survey Descriptio	n												
Project Name:		Waterb	ody Name	):			w	aterbody ID:			Date:		
Atlantic Coast Pipe	line	UNT to	Big Sp	ring Fork			S	poe026			7/12/2016		
State:	County:		C	ompany:			Crew N	lember Initials	5:	Photos:			
West Virginia	Pocahontas		Ν	RG			CG, J	i, JM 1-3					
Tract Number(s):			N	earest Mile	epost:			Associated Wetland ID(s):					
Unknown			N	IA				none					
Survey Type: (check one)		line	□Re-Ro	ute	⊠Acce	ss Road		□Other:					
Physical Attribute	S												
Stream Classification: (check one)	□Ephem	eral	⊠Intermi	ttent	Pere	nnial							
Waterbody Type:													
(check one)	□River ⊠	Stream	□ Ditch	□ Ca	anal	□ Other	:						
онwм	OHWM Indi	cator:							5	70			
Width:ft.	(Check all that a	ρριγ)		on bank	ie L	Shelvin	g	vegetation	Z	Scouring	g ⊡Water staining		
Height:	⊠Ben	t, matted, o	r missing	□Wrack li	ne 🗆	Litter a	nd	□Abrupt plar	nt	⊠Soil cl	naracteristic change		
ft. N/A□	vegeta	ation			de	ebris		community ch	nange				
Width of Waterbody - 1 Bank to Top of Bank:	Fop of Widt	th of Water	body - To	e of Slope	Width of	Waterb	ody - W	ater Edge to	Depth (Approx	of Water	:		
Bank to Top of Bank.		be of Slope	-		water LC	ige.			(, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	/	04 #		
<u>_10_</u> ft.		<u>4_</u> ft.			N/A	-	<u>3_</u> ft.		N/A□	-	<u>_0.1_</u> π.		
Sinuosity:	Wat	er velocity:			Bank hei	ght			Bank	slope			
(check one)	(Appr	ox.)			F	light:				Right	:		
			<u>).5_</u> fps			Left:	<u>3_</u> ft.			Left	<u>45</u> degrees		
	ng N/A						<u>3_</u> ft.				45 degrees		
Qualitative Attribu	ites												
Water Appearance: (check one)	<sup>□</sup> No water	⊠Clear	□Turbid	□Sh on	een surface	⊡Su sci	rface um	□Algal mats	□Othe	r:			
Substrate:	Bedrock	Boulder	⊠ Cobble	⊠ Grave	el 🛛 Sa	and [	⊠ Silt/ c	lay 🗆 Organio		Other:			
(check all that apply) % of Substrate:	<u>15_</u> %	%	<u>40_</u> %	<u>15</u> %	15	%	<u>15_</u> %	%		%			
Width of Riparian Zone	e: Vegetat	ive Lavers:	1										
	(check all	that apply)		□ Trees:	:		🛛 Saplir	ngs/Shrubs:	Σ	I Herbs			
<u>ft</u> · N/A⊠	Avg. Di (approx.)	3H of Domi	nants:	<u>5</u> in.		-	<u>0.5</u> in.						
Dominant Bank Vegeta	ation (list):												
Blackberry, beech,	birch, cherry												
Aquatic Habitats (ex: s	ubmerged or eme	ged aquatic v	regetation, o	overhanging	banks/roots	, leaf pac	ks, large	submerged wood	l, riffles,	deep pool	s):		
cobble													
Aquatic Organisms Ob	oserved (list):												
None but likely pres	sent												
T&E Species Observed	d (list):												
none													
Disturbances (ex: livest	ock access, manu	re in waterbo	dy, waste di	ischarge pipe	es):								
Culverted beneath	road												
Tributary is: (check one)	Natura	ıl	□ Artific	cial, man-m	ade 🛛	🛛 Manip	ulated						
Stream Quality <sup>a</sup> : (check one)	□ High		⊠ Mode	erate		Low							

Spoe026

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

![](_page_140_Picture_7.jpeg)

![](_page_141_Picture_0.jpeg)

Waterbody SPOE026 facing south upstream

![](_page_141_Picture_2.jpeg)

Waterbody SPOE026 facing north downstream

![](_page_142_Picture_0.jpeg)

# Waterbody SPOE026 facing west across

<b>Survey Description</b>	I								
Project Name:		Waterbody Na	me:		v	/aterbody ID:		I	Date:
Atlantic Coast Pipelir	ne	UNT to Clove	er Creek		S	poe002			3/8/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-C010			71.7			none			
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□ Access Road		□Other:			
Physical Attributes									
Stream Classification: (check one)	⊠Ephemera	al 🗆 Inter	mittent	Perennial					
Waterbody Type:	·								
(check one)	River 🛛 Str	eam 🗆 Dito	ch 🗆 C	anal 🛛 Other:					
онwм	OHWM Indicat	tor:					_		
Width: _2_ft.	(check all that apply	/)	Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	$\ge$	Scouring	I □Water staining
Height:	⊠Bent, n	natted, or missin	ig	ne ⊠Litter ar	nd	□Abrupt plan	t	□Soil cł	naracteristic change
ft. N/A□	vegetatio	n		debris		community ch	lange		
Width of Waterbody - To Bank to Ton of Bank	op of Width o	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to Toe	of Slope:		water Edge:			(Approx.,	)	
<u>_15_</u> ft.		<u>1_</u> ft.			<u>1</u> ft.		N/A 🗆	-	<u>_0.1_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Banks	slope	
(check one)	(Approx.)			Right:				Right	:
		<u>_0.2_</u> fps	6	Left <sup>.</sup>	<u>4_</u> ft.			l eft	<u>30</u> degrees
□Meandering	Ø N/A□				<u>4_</u> ft.				<u>30</u> degrees
Qualitative Attribut	es								
Water Appearance: (check one)	No water ⊠C	Clear 🗆 Turb	oid □St	neen 🗆 Sur	face	□ Algal	□Othe	r:	
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobh	ole 🗆 Grav	el 🛛 Sand 🛛	 ⊠.Silt/ c		· □ (	Other:	
(check all that apply)									
% of Substrate:	%	%	_%	% <u>20</u> %	<u>80 </u> %	%		%	
Width of Riparian Zone:	Vegetative	e Layers:	Troos		7 Sanlii	nac/Shruhe			
<u> </u>	Avg. DBH	of Dominants:	≊ nees 8 in.	. 2	⊴ Sapiii 1 in.	ngs/Sniubs.			
N/A⊠ Dominant Bank Varatati	(approx.)		<u> </u>	-					
Easter hemlock, Bee	ch, fern								
Aquatic Habitats (ex: sub	merged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	3):
none									
Aquatic Organisms Obs	erved (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livestoc	k access, manure i	n waterbody, waste	e discharge pip	es):					
road									
Tributary is: (check one)	⊠ Natural	□ Art	tificial, man-m	ade 🗌 Manipi	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low					
Spoe002

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody SPOE002 facing northwest upstream



Waterbody SPOE002 facing southeast downstream



## Waterbody SPOE002 facing southwest across

Survey Description	on										
Project Name:		Waterbo	dy Name:	:			M	laterbody ID:			Date:
Atlantic Coast Pipe	eline	UNT to	Clover	Creek			S	poe001			3/8/2016
State:	County:		Co	ompany:			Crew	Member Initials	5:	Photos:	
West Virginia	Pocahontas	3	N	RG			CG, /	AS		1-3	
Tract Number(s):			Ne	earest Mile	epost:			Associated W	etland	I ID(s):	
05-001-C010			71	1.8				none			
Survey Type: (check one)	⊠Center	line	□Re-Rou	ite		ccess Road	ł	□Other:			
Physical Attribut	es										
Stream Classification (check one)	ı: ⊠Epherr	neral	□Intermit	tent	□P	erennial					
Waterbody Type:											
(check one)	□River ⊠	Stream	□ Ditch		anal	□ Othe	r:				
онwм	OHWM Ind	icator:									
Width: _ <u>4_</u> ft.	(check all that a	apply)	[ (	Clear lir on bank	ne	□Shelvir	ng	□Wrested vegetation	Þ	Scouring	g ⊟Water staining
Height:	⊠Ber	nt, matted, or	missing	□Wrack li	ne	□Litter a	nd	□Abrupt plar	nt	⊠Soil cl	naracteristic change
ft. N/A□	vegeta	ation	-			debris		community ch	nange		-
Width of Waterbody -	Top of Wid	th of Waterb	ody - Toe	e of Slope	Width	of Waterk	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to T	oe of Slope:			Water	Edge:			(Approx.	)	
<u>_12_</u> ft.		<u>2</u> ft.					<u>2</u> ft.			-	<u>0.2</u> ft.
Sinuosity:	Wat	er velocity:			N/A⊔ Bank	height			N/A∟ Bank	slone	
(check one)	(Appr	rox.)			Bank	Right:			Dank	Right	:
			<u>).1_</u> fps			L offi	_ <u>4_</u> ft.			L off	45 degrees
□Meande	ring N/A					Left:	<u>3_</u> ft.			Leit	<u>35</u> degrees
Qualitative Attrib	utes				1				I		
Water Appearance:		⊠Clear					urfago			. <b>p</b> .	
				on	surfac	e so	um	mats		H.	
Substrate:	□ Bedrock □	Boulder	Cobble	Grav	el 🛛	Sand	Silt/ o	clay 🗆 Organio		Other:	
% of Substrate:	%	%	%		% <u>t</u>	<u>50_</u> %	<u>50</u> %	%	,	%	
Width of Riparian Zor	ne: Vegeta	tive Layers:									
4	(check all	that apply)	anto.	⊠ Trees	:		🛛 Sapli	ngs/Shrubs:	Σ	d Herbs	
<u> </u>	(approx.)		iants:	<u>6</u> in.			<u>1</u> in.				
Dominant Bank Vege	tation (list):										
Eastern hemlock,	fern, moss										
Aquatic Habitats (ex:	submerged or eme	rged aquatic v	egetation, o	verhanging	banks/r	oots, leaf pa	cks, large	submerged wood	l, riffles,	deep pool	s):
none											
Aquatic Organisms C	<b>Observed</b> (list):										
none											
T&E Species Observe	ed (list):										
none											
Disturbances (ex: lives	stock access, manu	ire in waterbod	y, waste dis	scharge pipe	es):						
roads											
Tributary is: (check one)	⊠ Natura	al	□ Artific	ial, man-m	ade	🗆 Manip	oulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High		⊠ Mode	rate		□ Low					

Spoe001

**High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)



Waterbody SPOE001 facing northwest upstream



Waterbody SPOE001 facing southeast downstream



# Waterbody SPOE001 facing northeast across

Survey Description											
Project Name:		Wat	erbody Nar	ne:			w	aterbody ID:			Date:
Atlantic Coast Pipeline	tlantic Coast Pipeline UNT to Slaty			/ Fork				boa418		6/1/2016	
State:	County:			Company:			Crew N	Member Initials	s: F	Photos:	
West Virginia	Pocahont	as		NRG/ERM			GB, K	(0		4 phot	os
Tract Number(s):				Nearest Mile	post:			Associated W	/etland	ID(s):	
05-001-C006; access roa	ad 05-001-C0	008.AR1		71.2				none			
Survey Type: (check one)		erline	□Re-Ro	oute	⊠Access I	Road	[	Other:			
Physical Attributes											
Stream Classification: (check one)	⊠Epher	meral	□Interm	ittent	□Perennia	al					
Waterbody Type:											
(check one)	River 🛛	Stream	Ditch	□ Car	al 🗆 C	Other:					
OHWM Width: <u>3.0</u> ft.	OHWM In (check all th	ndicator: hat apply)		□ Clear lin on bank	e □S	helvin	g	□Wrested vegetation	$\boxtimes$	Scourine	g ⊟Water staining
Height: ft. N/A□	□B veg	Bent, matte Jetation	d, or missin	g	ne ⊠L deb	itter ar ris	nd	□Abrupt plar community cl	nt hange	□Soil c	haracteristic change
Width of Waterbody - To to Top of Bank:	p of BankW to	/idth of Wa Toe of SI	aterbody - 1 ope:	Foe of Slope	Width of W Water Edg	/aterbo e:	ody - W	ater Edge to	Depth ( (Approx.)	of Water	:
_6.0 ft.		_1.5_	ft.				ft.			-	ft.
					N/A⊠				N/A⊠		
Sinuosity: (check one)	<b>W</b> (A	Ater veloc	;ity:		Bank heigi	nt			Bank s	lope	
⊠Straight			fne		Riç	ght:	2.5 ft.			Right:	65 degrees
Moondoring			ips		L	.eft:	<u></u>			Left	dog.000
	N,	/A⊠				-	<u>3.0_</u> ft.				<u>_75</u> degrees
Analysis of Bank Stabili Banks exhibit loose soil	ty (i.e. root	structure, ed roots; f	vegetation he channe	i, substrate o I may have b	haracteris een excava	tics): ated to	o impro	ve storm wate	er contro	bl	
Qualitative Attribute	es										
Water Appearance:											
(check one)	No water	□Clear	□Turbid	l □She on s	en [ urface	Surfa Scun	ace n	□Algal □ mats	]Other:		
Substrate:	Bedrock	Boulder	⊠ Cobble	e 🛛 Gravel	⊠ Sand	$\boxtimes$	Silt/ cla	ay 🛛 Organic	□ Otł	ner:	
% of Substrate:	%	_%	_ <u>50</u> _%	_1 <u>5</u> _%	<u> 10 </u> %		<u>15</u> %	10_%	%	6	
Width of Riparian Zone:	Vege	tative Lay	ers:								
ft-	(cneck Ava.	DBH of D	ominants:	⊠ Irees: 12.0. ir		⊵	Saplır ⊵ 2 0 in	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(appro.	x.)		<u>    12.0   </u> li		-	<u>_ 2.0 </u> III	•			
Dominant Bank Vegetati Sugar maple, vellow	on (list): birch. bee	ch. white	e ash. hav	vthorn. ma	v-apple, b	ee ba	alm. w	ood aster. v	iolet. b	uttercu	up. anise root
Aquatic Habitats (ex: sub	merged or eme	erged aquat	c vegetation.	overhanging ba	anks/roots. lea	af packs	s. large s	ubmerged wood.	riffles, de	ep pools)	:
Leaf packs		9	<del>g</del> ,		,,		,g	g,			-
Aquatic Organisms Obs	erved (list):										
none											
T&E Species Observed	(list):										
none											
Disturbances (ex: livestoc	k access, man	ure in water	body, waste o	discharge pipes	):						
Culvert crossing for e	existing gra	avel roac	l; 18" corr	ugated me	tal culver	t					
Tributary is: (check one)	Nature	ral	⊠ Artifi	cial, man-ma	de 🗆 M	anipul	ated				
						•					

#### spoa418

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap: natural vegetation extends 1/3-1/2 of the active channel width on each side: filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Begins within the proposed access road corridor at headcut at the outlet of an 18" corrugated metal culvert; culvert receives concentrated storm water from ditch along existing road; mature second growth mixed hardwood forest.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) Stream Quality a: ⊠ Moderate

check one)

□ High

□ Low





Waterbody spoa418 facing south upstream



Waterbody spoa418 facing north downstream



# Waterbody spoa418 facing west across

Survey Description	on									
Project Name:	Name: Waterbody			me:		W	aterbody ID:		Date:	
Atlantic Coast Pipeline		UN	T to Slaty	FOLK			boa425		6/2/2	016
State:	County:			Company:		Crew M	Member Initials	: Ph	otos:	
West Virginia	Pocaho	ontas		NRG/ERN	1	GB, K	(0	3	photos	
Tract Number(s):				Nearest Mile	epost:		Associated W	etland ID	)(s):	
access road 05-001-C	008.AR1			72.0			wpoa411			
Survey Type: (check one)	□c	enterline	□Re-F	Route	⊠Access Road		□Other:			
Physical Attribute	es									
Stream Classification (check one)	: □E	phemeral	⊠Inter	mittent	Perennial					
Waterbody Type: (check one)	□River	⊠ Stream	Ditc	ch □Ca	anal 🗌 Other	:				
OHWM Width: <u>3.0_</u> ft.	OHWN (check a	Indicator: Ill that apply)		⊠ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	⊡S	couring	□Water staining
Height: ft. N/A□		☐Bent, matter regetation	d, or missin	g    □Wrack li	ne ⊠Litter a debris	nd	⊠Abrupt plan community ch	t 🗆	Soil characte	eristic change
Width of Waterbody - Bank to Top of Bank:	Top of	Width of Wa to Toe of SI	aterbody - <sup>-</sup> ope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth of (Approx.)	Water:	
<u>4.0</u> ft.		3.0	_ft.		N/A□	<u>2.5 _</u> ft	t.	N/A□	0.15	ft.
Sinuosity:		Water veloc	;ity:		Bank height			Bank slo	ре	
Straight		(Approx.)	0.05		Right:	10 #			Right:	dogroop
		-	0.251	fps	Left:	<u>    1.0      </u> n.			Left:	degrees
	ring	N/A□			-	<u>1.0_</u> ft.			40	degrees
Analysis of Bank Stal No evidence of bank	bility (i.e. r instability	oot structure observed	e, vegetatio	on, substrate	e characteristics)	:				
Qualitative Attrib	utes									
Water Appearance:										
(check one)	<sup>⊔</sup> No water	⊠Clear	□Turb	oid □Sh on	neen 🗆 Su n surface scr	rface um	□Algal mats	Other:		
Substrate:	Bedrock	Boulder		ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic	: 🗆 Oth	ner:	
% of Substrate:	%	%	<u>10</u>	_% _ 2 <u>5</u> _%	<u> </u>	_4	<u>0</u> % _ <u>10</u> %	, p	%	
Width of Riparian Zon	ne: Ve	getative Lay	ers:	~ -						
<u>ft</u> .	(cn Av	rg. DBH of D	ominants:	⊠ Trees <u>13.0_</u> ii	n.	⊠ Saplir _ <u>1.5_</u> in.	ngs/Shrubs:	⊠ H	erbs	
N/A⊠ Dominant Bank Veget	(ap	prox.)								
Sugar maple, yello violet, fowl manna	w birch, l grass, je	beech, red wel weed	maple, c	ucumber m	nagnolia, bee b	alm, b	uttercup, wo	od nettl	e, nodding	sedge,
Aquatic Habitats (ex: s Leaf packs, woody	submerged o ⁄ <b>debris, e</b>	r emerged aqua emergent v	atic vegetation egetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, de	ep pools):	
Aquatic Organisms O	bserved (li	st):								
salamander	("	,								
T&E Species Observe none	ed (list):									
Disturbances (ex. lives	tock access	manure in wate	erbody, waste	e discharge nine	es):					
Crossing for existin	ng road v	ia 24" corru	ugated m	etal culvert	/·					
Tributary is: (check one)	⊠ 1	Natural	□ Art	tificial, man-m	ade 🗆 Manip	ulated				

#### spoa425

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Stream continues out of access road corridor in both directions; seep origin within abutting PEM wetland wpoa411 outside corridor; passes under existing road via 24" corrugated metal culvert; mature second growth mixed hardwood forest.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)

□ Moderate

Stream Quality <sup>a</sup>: (check one)

⊠ High

□ Low





Waterbody spoa425 facing west upstream



Waterbody spoa425 facing east downstream



Waterbody spoa425 facing north across

Survey Descriptio	n										
			Waterbody Name:								Date:
Atlantic Coast Pipeline	beline UNI to Slaty Fork spoa422					6/1/2016					
State:	County:			Company:			Crew N	Member Initials	:	Photos:	
West Virginia	Pocahont	as		NRG/ERM	1		GB, K	(0		4 phot	os
Tract Number(s):				Nearest Mile	epost:		1	Associated W	etland	ID(s):	
access road 05-001-C0	008.AR1			72.0				wpoa410			
Survey Type: (check one)	□Cen	terline	□Re-R	loute	⊠Ao	ccess Road		□Other:			
Physical Attribute	S										
(check one)	⊠Eph	emeral		mittent	□Pe	erennial					
Waterbody Type: (check one)	River	⊠ Stream	□ Ditc	h 🗆 Ca	anal	□ Other	:				
OHWM Width: _ <u>2.0_</u> ft.	OHWM In (check all th	ndicator: nat apply)		□ Clear lir on bank	ne	□Shelvin	g	□Wrested vegetation	×	Scourin	g ⊟Water staining
<b>Height:</b> ft. N/A□	□ E veg	Bent, matted, ogetation	or missinę	g	ne	⊠Litter ar debris	nd	□Abrupt plan community ch	nt nange	□Soil c	haracteristic change
Width of Waterbody - Bank to Top of Bank:	Гор of W to	/idth of Wate Toe of Slop	rbody - T e:	oe of Slope	Width Water	of Waterb Edge:	ody - W	ater Edge to	Depth (Approx.)	of Wate	r:
<u>_4.0</u> ft.		<u>_2.0</u> ft.			N/A⊠	_	ft.		N/A⊠	-	ft.
Sinuosity:	W	ater velocity	:		Bank	height			Bank s	slope	
(check one)	(A	Approx.)				Right:	0.0 (			Right	
		-	fps			Left:	<u>3.0_</u> 11.			Left	<u> </u>
	ng N	I/A⊠				_	<u>1.5_</u> ft.				<u>45</u> degrees
Analysis of Bank Stab Banks upstream of cu	ility (i.e. roo Ilvert are se	et structure, v verely tramp	egetatio	on, substrate vestock ente	e chara ering fo	cteristics): prested are	: a from	adjacent pastu	ure.		
	itaa		-								
Water Appearance:	1162										
(check one)	<sup>⊴</sup> No water	□Clear	□Turbi	id □Sh on	ieen i surfac	⊡Su e scu	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	□ Boulder		le 🛛 Grave	el 🛛	Sand [	⊠ Silt/ c	lay 🛛 Organic	; □0	Other:	
% of Substrate:	%	%	_ <u>10_</u> '	% _ <u>5</u> _%	_	<u>10_</u> %	60	<u>)</u> % <u>15</u> %		%	
Width of Riparian Zone	e: Vege	etative Layers	5:								
- ft	(check	all that apply)	inante	⊠ Trees	:		⊠ Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(appro	DBITOLDOIN px.)	mants.	<u>13.0</u> ir	า.	-	<u>1.0</u> in				
Dominant Bank Vegeta	ation (list):										
Sugar maple, yellov wood aster, violet Aquatic Habitats (ex: s)	w birch, be	ech, northe	vegetation	oak, black	cherr	y, elderbe	erry, k	notweed, ge	raniun	n, starv	vort, anise root,
Leaf packs				, e e e e e e e e e e e e e e e e e e e			,ge	g	,,		
Aquatic Organisms Ob	<b>served</b> (list):	:									
none											
T&E Species Observed	d (list):										
none											
Disturbances (ex: livest	ock access, ma	anure in waterbo	ody, waste	discharge pipe	es):						
Culvert crossing for	<sup>r</sup> existing g	ravel road;	18" coi	rrugated m	ietal c	ulvert; liv	estock	access ups	tream	of culv	vert.
Tributary is: (check one)	⊠ Nat	tural	□ Arti	ificial, man-m	ade	🗆 Manip	ulated				

#### spoa422

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Continues out of proposed access road corridor in both directions; crosses existing road via 18" corrugated metal culvert; culvert inlet is completely covered by sediment; severely trampled by livestock upstream of culvert; flows through PEM seep wetland wpoa410; mature second growth mixed hardwood forest adjacent to livestock pasture.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)

□ Moderate

Stream Quality <sup>a</sup> : (check one)

High

🛛 Low







Waterbody spoa422 facing southwest upstream



Waterbody spoa422 facing northeast downstream



Waterbody spoe422 facing northwest across

Survey Description	1 <u> </u>							
Project Name: Waterbody I			me:		w	aterbody ID:		Date:
Atlantic Coast Pipeline		UNT to Slaty Fork			sp	boa423	6/1/2016	
State:	County:		Company:		Crew N	Member Initials	: Pho	otos:
West Virginia	Pocahontas		NRG/ERM	1	GB, K	(0	4 p	photos
Tract Number(s):			Nearest Mile	epost:	•	Associated W	etland ID(	s):
access road 05-001-C0	08.AR1		72.0			none		
Survey Type: (check one)		e □Re-F	Route	⊠ Access Road		Other:		
Physical Attributes	5							
Stream Classification: (check one)	⊠Ephemera	al 🗆 Inter	rmittent	Perennial				
Waterbody Type: (check one)	River 🛛 Str	ream 🗆 Dito	ch 🗆 Ca	anal 🛛 Other:	:			
OHWM Width: <u>3.0</u> ft.	OHWM Indica (check all that appl	tor: <sub>y)</sub>	☑ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	⊠Sco	ouring ⊟Water staining
Height: ft. N/A□	□Bent, r vegetatio	matted, or missin on	ng ⊡Wrack li	ne ⊠Litter ar debris	nd	□ Abrupt plan community ch	t ⊡S ange	Soil characteristic change
Width of Waterbody - T Bank to Top of Bank:	op of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of V (Approx.)	Nater:
<u>6.0</u> ft.	-	<u>_1.5_</u> ft.			ft.		N/A⊠	ft.
Sinuosity:	Water	velocity:		Bank height			Bank slop	e
(check one)	(Approx.)			Right:	00 4		F	Right:
		fp:	S	Left:	<u>3.0_</u> 11.			Left:
	9 N/A⊠			-	<u>3.0_</u> ft.			60 degrees
Analysis of Bank Stabi Banks are somewhat u	lity (i.e. root stru Instable due to d	cture, vegetation	on, substrate n/down cuttir	e characteristics): ng				
Qualitative Attribut	205							
Water Appearance:								
(check one)	No water	Clear DTurb	oid □Sh on	leen ⊡Sui i surface scu	rface um	□Algal [ mats	□Other:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic	□ Othe	er:
% of Substrate:	%%	<u>_35</u>	_% _1 <u>5</u> _%	<u> 5 </u> %	_35	<u>5</u> % <u>10</u> %		_%
Width of Riparian Zone	: Vegetative	e Layers:						
	(check all that	apply)	⊠ Trees	: D	Saplir	ngs/Shrubs:	🛛 He	rbs
<u>n</u> . N/A⊠	арргох.)	or Dominants:	<u>14.0</u> ir	n. <u>–</u>	<u>1.5</u> in.			
Dominant Bank Vegeta	tion (list):							
Sugar maple, yellow anise root, wood ast Aquatic Habitats (ex: su	birch, beech, er, violet, ane	northern red mone	oak, black	cherry, Hawthe	orne, h	nay-scented	fern , wo	od nettle, starwort ,
Leaf packs			n, ovornanging		no, largo		, 11100, 000	
Aquatic Organisms Ob	served (list):							
none								
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):				
Culvert crossing for	existing grave	l road; 18" co	rrugated m	etal culvert				
Tributary is: (check one)	☑ Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated			

#### spoa423

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Continues out of proposed access road corridor in both directions; crosses existing gravel road via 18" corrugated metal culvert; mature second growth mixed hardwood forest.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)

⊠ Moderate

Stream Quality <sup>a</sup> : (check one)

High

□ Low





Waterbody spoa423 facing southwest upstream



Waterbody spoa423 facing northeast downstream



## Waterbody spoa423 facing northwest across

Survey Descriptio	n	<u> </u>	-					1-
Project Name:	Waterbody	lame:		w	aterbody ID:		Date:	
Atlantic Coast Pipeline		UNT to Sla	aty Fork		s	poa424		6/1/2016
State:	County:		Company:		Crew N	Member Initials	: Photos	
West Virginia	Pocahontas	i	NRG/ERM	1	GB, K	(O	3 pho	tos
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s):	
access road 05-001-C0	008.AR1		72.0			wpoa411		
Survey Type: (check one)		ine 🗆 R	e-Route	⊠Access Road	1	□Other:		
Physical Attribute	S							
Stream Classification: (check one)	Ephem	eral ⊠In	termittent	Perennial				
Waterbody Type: (check one)	River	Stream 🛛 🖾	Ditch 🗆 C	anal 🛛 Other	:			
OHWM Width: 2.0 ft.	OHWM Indi (check all that a	cator: pply)	⊠ Clear lii on bank	ne 🗆 Shelvin	g	□Wrested vegetation	□Scourir	ng ⊡Water staining
Height: 	□Ben vegeta	t, matted, or miss ation	sing □Wrack li	ine ⊠Litter ar debris	nd	⊠Abrupt plan community ch	t ⊡Soil o ange	characteristic change
Width of Waterbody - T Bank to Top of Bank:	Fop of Widt to To	th of Waterbody be of Slope:	- Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth of Wate (Approx.)	er:
<u>9.0</u> ft.		<u>_2.0</u> ft.		N/A□	<u>2.0 _</u> ft	t.	N/A□	<u>0.12 _</u> ft.
Sinuosity:	Wat	er velocity:		Bank height			Bank slope	
(check one)	(Appr	ox.)		Right:			Righ	t:
		0.40	_fps	Left:	<u>2.0</u> ft.		Let	<u>45</u> degrees
□Meanderi	ng N/A			-	<u>7.0_</u> ft.			60 degrees
Analysis of Bank Stab Banks are road base	ility (i.e. root s and road cut o	tructure, vegeta f existing grave	ntion, substrate	e characteristics) output confined to	: o road :	side ditch		
Qualitative Attribu	ites							
Water Appearance:			unitial D.C.				Others	
	-INO water		or	n surface sci	um	mats		
Substrate:	Bedrock	Boulder 🛛 Co	bble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	ay 🛛 Organic	: Other:	
% of Substrate:	%	_%	<u>5_</u> % _ 3 <u>5_</u> %	<u>35</u> %	15	<u>.</u> % <u>10</u> %	%	
Width of Riparian Zone	e: Vegetat (check all	tive Layers:	⊠ Trees	:	⊠ Saplir	ngs/Shrubs:	⊠ Herbs	
<u>ft</u> · N/A⊠	Avg. DE (approx.)	BH of Dominant	<b>s:</b> <u>14.0</u> i	n. <u>-</u>	_ <u>1.5</u> in			
Dominant Bank Vegeta	ation (list):							
Sugar maple, yellov anise root, wood as	w birch, beec ster, violet, ar	h, northern re nemone	ed oak, black	cherry, Hawth	orne, ł	nay-scented	fern , wood	nettle, starwort ,
Leaf packs	ubmerged or emer	ged aquatic vegeta	ation, overnanging	banks/roots, lear pac	ks, large	submerged wood	, nines, deep poo	ns):
Aquatic Organisms Ob	served (list):							
none								
T&E Species Observed	d (list):							
none								
Disturbances (ex: livest	ock access, manu	re in waterbody, wa	aste discharge pip	es):				
Output from spring	is confined to	o road side di	tch; relic stre	am channel vis	sible or	n other side o	of road	
Tributary is: (check one)	<sup>⊠</sup> Natura	al 🗆 .	Artificial, man-m	nade 🛛 🛛 Manip	ulated			

#### spoa424

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Stream begins within the access road corridor at road cut spring ppoa420; flows into stream spoa425/wetland wpoa411 within access road corridor confined to ditch; mature second growth mixed hardwood forest.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)

□ Moderate

Stream Quality <sup>a</sup>: (check one)

High

🛛 Low





Waterbody spoa424 facing south upstream



Waterbody spoa424 facing north downstream



Waterbody spoa424 facing west across

Survey Description								
Project Name:		Waterbody Na	me:		v	Vaterbody ID:		Date:
Atlantic Coast Pipeline		UNT to Slaty	Fork		S	poa427		6/6/2016
State:	County:		Company:		Crew	Member Initials	s: Photo	S:
West Virginia	Pocahontas		NRG/ERM		GB, ł	KO	3 ph	otos
Tract Number(s):			Nearest Mile	post:	L	Associated W	etland ID(s)	1
access road 05-001-C008	3.AR1		72.0			none		
Survey Type: (check one)		□Re-Ro	oute	⊠Access Road		Other:		
Physical Attributes								
Stream Classification: (check one)	Ephemeral	⊠Interm	nittent	Perennial				
Waterbody Type: (check one)	iver 🛛 Stre	am 🗆 Ditch	□ □ Car	al 🗌 Other:				
OHWM Width: 5.0 ft.	OHWM Indica (check all that app	tor: <sub>y)</sub>	⊠ Clear lin on bank	e 🗆 Shelving	g	□Wrested vegetation	⊠Scou	ring □Water staining
Height: 	□Bent, vegetatio	matted, or missin on	g	ne ⊠Litter an debris	nd	□Abrupt plar community ch	nt ⊡So nange	il characteristic change
Width of Waterbody - Top to Top of Bank:	p of BankWidth to Toe	of Waterbody - <sup>·</sup> of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	Vater Edge to	Depth of Wa (Approx.)	iter:
<u>_10.0</u> ft.	-	<u>4.0</u> ft.		 N/A□	4.5 _f	ft.	N/A 🗆	<u>0.25</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank slope	
(check one)	(Approx.)	1		Right:			Rig	ht:
		<u> </u>	ps	Left:	<u>3.0_</u> ft		L	<u>40</u> degrees eft:
	N/A□				<u>5.0_</u> ft		_	
Analysis of Bank Stabilit No evidence of bank ins	ty (i.e. root struc stability observe	ture, vegetatior d	n, substrate o	characteristics):				
Qualitative Attribute	s							
Water Appearance:	-							
(check one)	lo water ⊠C	ear 🗆 Turbic	d ⊡She on s	en □Surfa urface scun	ace 1	□Algal □ mats	]Other:	
Substrate:	Bedrock 🗌 Bou	Ilder 🛛 Cobble	e 🛛 Gravel	$\boxtimes$ Sand $\boxtimes$	Silt/ cla	ay 🛛 Organic	□ Other:	
% of Substrate:	%%	35	% _2 <u>5_</u> %	<u>20</u> %	1	<u>5</u> % _ <u>5</u> %	%	
Width of Riparian Zone:	Vegetativ	e Layers:						
<u>40.0 ft</u> -	(check all tha Avg. DBH	of Dominants:	<sup>⊠</sup> Trees: <u>12.0</u> ir	. <u>−</u>	⊴ Sapli <u>_2.0_</u> ir	ngs/Shrubs: າ.		6
N/AL	on (list):							
Sugar maple, yellow l goldenrod, may-apple	birch, beech, l e, wild rye, be	olack cherry, l e balm	hemlock, re	ed spruce, jewe	l wee	ed, wood nett	le, anise ro	oot, buttercup,
Aquatic Habitats (ex: subr Leaf packs, woody de	nerged or emerged ebris, scattere	aquatic vegetation, d small pools	overhanging ba	anks/roots, leaf packs	, large s	submerged wood,	riffles, deep po	ols):
Aquatic Organisms Obse	erved (list):	-						
caddisfly								
T&E Species Observed ( none	list):							
Disturbances (ex: livestock	access manure in	waterbody waster	discharge nines	):				
Crossing for existing	road via 24" c	orrugated me	tal culvert	,-				
Tributary is: (check one)	<sup>⊠</sup> Natural	□ Artif	icial, man-ma	de 🗆 Manipula	ated			

#### spoa427

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap: natural vegetation extends 1/3-1/2 of the active channel width on each side: filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Stream continues out of access road survey corridor in both directions; passes under existing road via 24" corrugated metal culvert; mature second growth mixed hardwood with hemlock and red spruce.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) Stream Quality a: □ Moderate

check one)

⊠ High

□ Low





Waterbody SPOA427 facing southwest upstream



Waterbody SPOA427 facing northwest downstream


## Waterbody SPOA427 facing northeast across

# Linear Waterbody Data Sheet

Survey Description												
Project Name:		Waterboo	Waterbody Name:					Vaterbody ID:		Date:		
Atlantic Coast Pipeline		UNT to	UNT to Slaty F		Fork			poa428		6/6/2016		16
State:	County:			Company:			Crew	Member Initials	5:	Photos:		
West Virginia	Vest Virginia Pocahontas			NRG/ERM			GB, I	В, КО		3 phot	os	
Tract Number(s):				Nearest Mile	post:		•	Associated W	etland	ID(s):		
access road 05-001-C008.AR1				72.0				wpoa416				
Survey Type: (check one)	ne 🗆	□Re-Route			⊠Access Road [							
Physical Attributes												
Stream Classification: (check one)	ream Classification:				⊠Perennial							
Waterbody Type: (check one)	River 🛛 S	tream 🗆	Ditch	□ Can	al 🗆 (	Other:						
онwм	OHWM Indi	icator:										
Width:ft.	th: (check all that app 5.0 ft.		) SI Clear lin on bank		e □Shelving		g	□Wrested vegetation		Scouring	g	□Water staining
<b>Height:</b> ft. N/A□	ht: Bent, matted, vegetation			sing ⊡Wrack line ⊠Litter and debris			nd	□Abrupt plant □Soil characteristic cl community change			ristic change	
Width of Waterbody - Top of BankWidth to Top of Bank: to Tor		th of Waterbo oe of Slope:	of Waterbody - Toe of Slope of Slope:			/aterbo	ody - V	y - Water Edge to		Depth of Water (Approx.)		
<u>_12.0</u> ft.		<u>4.0</u> ft.			N/A□		4.5	ft.	N/A□		0.33	_ft.
Sinuosity:	Wat	er velocity:			Bank heig	ht			Bank s	lope		
(check one)	(Appr	ox.)			Ri	ght:				Right:	:	
		0.7	7 <u>5 </u> f	ps		oft-	<u>3.5_</u> ft			<u>45</u> degrees		degrees
□Meandering N/A□						-ent.	<u>4.0_</u> ft	i.	Len		<u>50</u>	degrees
Analysis of Bank Stabili	ty (i.e. root str	ucture, vege	tation	, substrate c	haracteris	tics):						
No evidence of bank inst	ability observed	ł										
Qualitative Attribute	es											
Water Appearance:												
(check one)	lo water ⊠	IClear □	Turbid	□Shee on s	en urface	Surfa scun	ace n	□Algal □ mats	Other:			
Substrate:	Bedrock 🗆 B	Boulder 🛛 🖓	Cobble	⊠ Gravel	⊠ Sanc	$\boxtimes$	Silt/ cl	ay 🛛 Organic	□ Ot	her:		
% of Substrate:	%	% _	<u>   30  </u> %	% _ 3 <u>5</u> _%	25	_%	_	<u>5</u> % <u>5</u> %		%		
Width of Riparian Zone:	Vegetat	tive Layers:										
40.0 ft-	(check all Ava. DE	<sup>that apply)</sup> 3H of Domina	ants:	⊠ Trees: 12.0 in		D	Sapli ₪ 15 ir	ings/Shrubs:	$\boxtimes$	Herbs		
	(approx.)			<u>12.0</u>	•	-	<u> </u>	1.				
Dominant Bank Vegetati	on (list): hirch hooch	witch hor		rinad mank		wood		d nottla four	monn	o aroo	- butt	oroup
Aquatic Habitats (ex: sub	<u>false helleb</u>	ore, white ed aquatic vege	turtle	head overhanging ba	nks/roots, le	af packs	, woo	submerged wood,	riffles, de	eep pools)	s, Dutte	ercup,
Leaf packs, woody d	ebris, scatte	red small p	ools									
Aquatic Organisms Obs	erved (list):											
Caddisfly, salamande	er											
T&E Species Observed (	(list):											
none												
Disturbances (ex: livestoc	k access, manure	in waterbody,	waste d	ischarge pipes)	:							
Crossing for existing	road via 48"	corrugated	d met	al culvert								
Tributary is: (check one)	☑ Natural		□ Artifi	cial, man-mac	le 🗆 N	lanipul	ated					

Waterbody ID:

#### spoa428

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap: natural vegetation extends 1/3-1/2 of the active channel width on each side: filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Stream continues out of access road survey corridor in both directions; flows through PEM wetland wpoa416; passes under existing road via 48" corrugated metal culvert; mature second growth mixed hardwood forest.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) Stream Quality a: □ Moderate

check one)

⊠ High

□ Low





### Waterbody SPOA428 facing south upstream



Waterbody SPOA428 facing north downstream



### Waterbody SPOA428 facing east across

### Linear Waterbody Data Sheet

Survey Description	n	1									
Project Name: Waterbo			me:		w	aterbody ID:	Date:				
Atlantic Coast Pipeline		UNT to Slaty	/ Fork		sp	boa421	6/1/2016				
State:	County:		Company: Cr			lember Initials	: Pho	Photos:			
West Virginia	Pocahontas		NRG/ERM G			(O	4	4 photos			
Tract Number(s):	Nearest Mile	epost:		Associated W	(s):						
access road 05-001-C0	72.1			none							
Survey Type: (check one) Centerline C			Route	⊠ Access Road		□Other:					
Physical Attribute	S										
Stream Classification: (check one)	⊠Ephemera	al 🗆 Inter	rmittent	Perennial							
Waterbody Type: (check one)	River 🛛 Str	ream 🗆 Dito	ch 🗆 Ca	anal 🛛 Other:	:						
OHWM Width: _ <u>4.0_</u> ft.	OHWM Indica (check all that appl	tor: <sub>y)</sub>	□ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	⊠Sc	couring □Water staining			
Height: ft. N/A□	□Bent, r vegetatio	matted, or missin on	ng ⊡Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plan community ch	Soil characteristic change				
Width of Waterbody - T Bank to Top of Bank:	op of Width to Toe	of Waterbody - ` of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of (Approx.)	Water:			
<u>8.0</u> ft.	-	<u>3.5</u> ft.		N/A⊠	ft.		N/A⊠	ft.			
Sinuosity: (check one) ⊠Straight □Meanderin	Water (Approx.) ng N/A⊠	velocity: fps	S	Bank height Right: Left:	<u>4.0</u> ft. <u>2.5</u> ft.		Bank slop	pe Right: <u>60</u> degrees Left: <u>40</u> degrees			
Analysis of Bank Stab No evidence of bank ir	ility (i.e. root stru nstability was ob	icture, vegetatio served	on, substrate	characteristics):	:						
Qualitative Attribu	tes										
Water Appearance: (check one)	<sup>]</sup> No water □0	Clear □Turb	oid □Sh on	leen ⊡Sui surface scu	rface um	□Algal [ mats	□Other:				
Substrate: [ (check all that apply) % of Substrate:	Bedrock ⊠ Bo	oulder 🛛 Cobb % _45	ble ⊠ Grave 5_% _1 <u>5</u> _%	el □ Sand □	⊠ Silt/ c <u>15</u>	lay ⊠ Organic _% _ <u>10_</u> %	□ Oth	er: _%			
Width of Riparian Zone	e: Vegetative (check all that Avg. DBH	e Layers: apply) of Dominants:	⊠ Trees 12.0 ir	: D	⊠ Saplir 1.5 in	ngs/Shrubs:	⊠ He	erbs			
N/A⊠ Dominant Bank Vegeta	(approx.)			-							
Sugar maple, yellow	v birch, beech, et	cucumber m	agnolia, bla	ack cherry, woo	od nett	le, jewel wee	ed, may-	apple, buttercup, lady			
Aquatic Habitats (ex: su	ubmerged or emerge debris	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, dee	p pools):			
Aquatic Organisms Ob	served (list)										
none											
T&E Species Observed	l (list):										
none											
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	e discharge pipe	es):							
Culvert crossing for	existing grave	I road; 18" co	rrugated m	etal culvert							
Tributary is: (check one)	<sup>⊠</sup> Natural	□ Art	tificial, man-m	ade 🗆 Manip	ulated						

Waterbody ID:

#### spoa421

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Continues out of proposed access road corridor in both directions; crosses existing road via 18" corrugated metal culvert; culvert inlet is partially crushed; mature second growth mixed hardwood forest.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)

⊠ Moderate

Stream Quality <sup>a</sup>: (check one)

High

□ Low





Waterbody spoa421 facing west upstream



Waterbody spoa421 facing east downstream



### Waterbody spoa421 facing south across

# Linear Waterbody Data Sheet

Survey Description									
Project Name:	Waterbody Na	me:		v	/aterbody ID:		Date:		
Atlantic Coast Pipeline	UNT to Slaty	/ Fork		S	poa429		6/6/2016		
State:	County:		Company:		Crew I	Member Initials	s: Pho	tos:	
West Virginia	Nest Virginia Pocahontas				GB, ŀ	<b>(</b> 0	3 p	hotos	
Tract Number(s):	Nearest Mile	epost:	L	Associated W	etland ID(s	s):			
access road 05-001-C00	72.0			wpoa417					
Survey Type: (check one)	oute	⊠Access Road		⊡Other:					
Physical Attributes									
Stream Classification: (check one)	Ephemera	I ⊠Intern	nittent	□Perennial					
Waterbody Type: (check one)	River 🛛 Str	eam 🗆 Ditch	n 🗆 Car	nal 🗌 Other:					
OHWM Width: _ <u>3.0_f</u> t.	OHWM Indic (check all that app	ator: <sup>//y)</sup>	⊠ Clear lin on bank	e ⊡Shelving	g	□Wrested vegetation	⊠Sco	ouring □Water staining	
Height: ft. N/A□	□Bent, vegetati	matted, or missin on	ng ⊡Wrack lin	ne ⊠Litter an debris	nd	□Abrupt plar community ch	nt ⊡S nange	Soil characteristic change	
Width of Waterbody - To to Top of Bank:	p of BankWidth to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of V (Approx.)	Vater:	
<u>6.0</u> ft.		<u>2.5</u> ft.			<u>3.0 </u> f	t.	N/A□	<u>0.20</u> ft.	
Sinuosity:	Water	velocity:		Bank height			Bank slop	e	
(check one)	(Approx	)		Right:			R	ight:	
		0.50	fps	Left:	<u>3.0_</u> ft.			40 degrees	
□ Meandering N/A □					<u>1.0_</u> ft.			<u>90</u> degrees	
Analysis of Bank Stabili No evidence of bank inst	ty (i.e. root stru ability observed	cture, vegetatio	n, substrate o	characteristics):					
Qualitative Attribute	es								
Water Appearance:									
(check one)	lo water ⊠C	clear □Turbio	d ⊡She on s	en ⊡Surfa surface scurr	ace 1	□Algal □ mats	Other:		
Substrate:	Bedrock 🛛 Bo	ulder 🛛 Cobble	e 🛛 Gravel	⊠ Sand ⊠	Silt/ cla	ay 🛛 Organic	□ Other:		
% of Substrate:	%%	10	_% _ 1 <u>5</u> _%	<u>40</u> %	<u>.</u>	<u>25</u> % _ <u>10</u>	%	_%	
Width of Riparian Zone:	Vegetativ	ve Layers:	⊠ <b>Т</b>			e ee (Chauker			
<u>40.0 ft</u> -	Avg. DB	l of Dominants:	⊠ Trees: 12.0_ir	. 🖉	<u>3</u> Sapili <u>1.5</u> in	ngs/Shrubs:	⊠ Her	DS	
Dominant Bank Vegetati	on (list):								
Sugar maple, yellow eastern rough sedge	birch, beech, <u>, false hellebc</u>	witch hazel, s	triped mapl ehead	e , jewel weed,	wood	d nettle, fowl	manna g	rass, buttercup,	
Aquatic Habitats (ex: sub Leaf packs, woody d	merged or emerged ebris, emerge	aquatic vegetation,	, overhanging ba	anks/roots, leaf packs	, large s	submerged wood,	riffles, deep p	pools):	
Aquatic Organisms Obs	erved (list):	-							
Caddisfly									
T&E Species Observed (	(list):								
	k 000000 '	wotorkadu ····	diapheres -i	\ <b>.</b>					
Crossing for existing	road via 18" (	corrugated me	uischarge pipes	):					
Tributary is: (check one)	⊠ Natural	□ Artif	icial, man-ma	de 🗆 Manipul:	ated				
	natural								

Waterbody ID:

#### spoa429

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap: natural vegetation extends 1/3-1/2 of the active channel width on each side: filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Stream continues out of access road survey corridor in both directions; flows through PEM wetland wpoa417; passes under existing road via 18" corrugated metal culvert; mature second growth mixed hardwood forest.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) Stream Quality a: □ Moderate

check one)

⊠ High

□ Low





Waterbody SPOA429 facing south upstream



Waterbody SPOA429 facing northwest downstream



Waterbody SPOA429 facing east across