Survey Descriptio	n								
Project Name:		Waterbody Na	me:		w	aterbody ID:		Da	ate:
Atlantic Coast Pipeline		UNT to Slaty	/ Fork		s	boa420		6/	1/2016
State:	County:		Company:		Crew M	Member Initials	s: F	Photos:	
West Virginia	Pocahontas		NRG/ERM	1	GB, K	(O		4 photos	5
Tract Number(s):	_1		Nearest Mile	epost:		Associated W	etland	ID(s):	
access road 05-001-C0)08.AR1		72.1			none			
Survey Type: (check one)		e □Re-I	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: ft.	OHWM Indica (check all that apply	tor: _{y)}	⊠ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	\boxtimes	Scouring	□Water staining
Height: ft. N/A□	□Bent, r vegetatic	matted, or missir on	ng ⊡Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plar community ch	it nange	□Soil cha	racteristic change
Width of Waterbody - 1 Bank to Top of Bank:	「op of Width of to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth ((Approx.)	of Water:	
<u>_13.0</u> ft.	-	<u>5.0</u> ft.			<u>3.0 _</u> ft		N/A□	0.	<u>20 </u> ft.
Sinuosity: (^{check one)} ⊠Straight □Meanderi	Water (Approx.) ng N/A□	velocity: 	ps	Bank height Right: Left:	<u>6.0</u> ft. <u>3.0</u> ft.		Bank s	lope Right: Left:	<u>65</u> degrees 80_ degrees
Analysis of Bank Stab Banks exhibit loose so	ility (i.e. root stru pil/rock and expo	sed roots and i	on, substrate s being unde	e characteristics): ercut at culvert ou	itlet				
Qualitative Attribu	ites								
Water Appearance: (check one)	[]] No water \boxtimes (Clear □Turb	oid □Sh on	neen ⊡Sur i surface scu	rface um	□Algal mats	Other	:	
Substrate: [(check all that apply) % of Substrate:] Bedrock ⊠ Bo %15_°	oulder ⊠ Cobb % _ <u>55</u>	ble \boxtimes Grave	el 🗆 Sand 🛛	⊠ Silt/ c _ <u>10</u>	lay ⊠ Organic <u>0</u> % _ <u>5_</u> %	: □ C	other: %	
Width of Riparian Zone <u>ft</u> . N/A⊠	Yegetative (check all that Avg. DBH (approx.)	e Layers: apply) of Dominants:	⊠ Trees: <u>12.0_</u> ir	: D	⊠ Saplir _ <u>1.5_</u> in	ngs/Shrubs:	\boxtimes	Herbs	
Dominant Bank Vegeta Sugar maple, yellov fern, bluegrass, vio	<pre>ition (list): w birch, beech, let</pre>	cucumber m	agnolia, bla	ack cherry, woo	od nett	le, jewel wee	ed, ma	y-apple,	buttercup, lady
Aquatic Habitats (ex: se Leaf packs; woody	ubmerged or emerged debris; small pool	d aquatic vegetatio s	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	l, riffles, c	leep pools):	
Aquatic Organisms Ob	served (list):								
Salamanders, inver	tebrates								
T&E Species Observed	l (list):								
none									
Disturbances (ex: livest	ock access, manure i	n waterbody, wast	e discharge pipe	es):					
Culvert crossing for	existing grave	l road; 30" co	rrugated m	etal culvert					
Tributary is: (check one)	☑ Natural	□ Ar	tificial, man-m	ade 🗆 Manipu	ulated				

spoa420

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 30" corrugated metal culvert; bank is being undercut at culvert outlet; 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 ^a: (check one)

[⊠] High





Waterbody spoa420 facing east upstream



Waterbody spoa420 facing west downstream



Waterbody spoa420 facing north across

Survey Description	۱										
Project Name:		Wa	terbody Nar	me:			w	aterbody ID:			Date:
Atlantic Coast Pipeline		UN	IT to Slaty	Fork			sp	00a439			6/9/2016
State:	County:			Company:			Crew N	lember Initial	s: I	Photos:	
West Virginia	Pocaho	ntas		NRG/ERM			GB, K	0		5 phot	os
Tract Number(s):				Nearest Mile	post:			Associated V	Vetland	ID(s):	
access road 05-001-C00	08.AR1			72.0				none			
Survey Type: (check one)	□Cer	nterline	□Re-Ro	oute	Access	Road	[Other:			
Physical Attributes	5										
Stream Classification: (check one)	□Eph	nemeral	⊠Interm	nittent	□Perennia	al					
Waterbody Type: (check one)	River	⊠ Stream	□ Ditch	□ Car	al 🗆 C	Other:					
OHWM Width: 6.0 ft.	OHWN (check al	I Indicator: I that apply)		⊠ Clear lin on bank	e ⊡S	Shelving		□Wrested vegetation	X	Scourinę	g ⊟Water staining
Height: 	□ v	Bent, matte egetation	ed, or missin	g	ne ⊠L deb	itter and oris	d	□Abrupt pla community c	nt hange	□Soil c	haracteristic change
Width of Waterbody - To to Top of Bank:	op of Bank	Width of W to Toe of S	/aterbody - ⁻ ilope:	Toe of Slope	Width of W Water Edg	/aterbo e:	dy - W	ater Edge to	Depth (Approx.)	of Wate	r:
<u>_15.0</u> ft.		3.0	ft.		N/A□	2	<u>.0_</u> ft		N/A□		<u>0.20</u> ft.
Sinuosity:		Water velo	city:		Bank heig	ht			Bank s	lope	
(check one)		(Approx.)			Ri	ght:				Right:	
			<u> 0.50 f</u>	ps			<u>5.0_</u> ft.			Left	<u>90</u> degrees
	g	N/A□			-		<u>5.0_</u> ft.			Lon	70 degrees
Analysis of Bank Stabil Bank instability preser	lity (i.e. roo nt as evide	ot structure nced by ex	e, vegetatior posed roots	n, substrate o s and loose r	haracteris	tics): il					
Qualitative Attribut	es										
Water Appearance: (check one)	No water	⊠Clear	□Turbic	d ⊡She on s	en urface	⊡Surfa scum	се	□Algal [mats	Other:		
Substrate:	Bedrock	Boulder	⊠ Cobble	e 🛛 Gravel	⊠ Sand	\boxtimes	Silt/ cla	y 🛛 Organic	🗆 Ot	her:	
(check all that apply) % of Substrate:	%	%	20	% _ 20_%	15	_%	_4	<u>0%_5</u> %	/o	%	
Width of Riparian Zone:	Ve	getative La	yers:								
<u>ft</u> .	(che Av	eck all that apply g. DBH of [/) Dominants:	⊠ Trees: <u>14.0_</u> ir).	\boxtimes	Saplin <u>2.0</u> in.	igs/Shrubs:	\boxtimes	Herbs	
N/A⊠ Dominant Bank Vegetat	ion (list):	<i>DIOX.)</i>									
Sugar maple, red elr violet. Dutchman's p	n, shagb ipe vine,	ark hickoı wild rye,	ry, basswo red elderb	ood, Frasier erry	's magno	lia, sto	onecro	op, jewel we	eed, wo	ood ne	ttle, bee balm,
Aquatic Habitats (ex: sub Leaf packs, woody o	bmerged or e debris	emerged aqua	tic vegetation,	overhanging ba	anks/roots, lea	af packs,	large si	ubmerged wood,	riffles, de	ep pools)	
Aquatic Organisms Obs	served (list):									
Caddisfly, salamand	er										
T&E Species Observed	(list):										
none											
Disturbances (ex: livesto	ck access, m	anure in wate	rbody, waste o	discharge pipes):						
Culvert crossing for	existing g	gravel roa	d								
Tributary is: (check one)	⊠ Na	tural	□ Artif	icial, man-ma	de 🗆 N	lanipula	ited				

spoa439

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 gravel 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) Stream Quality^a:

⊠ Moderate

(check one)

High





Waterbody SPOA439 facing north upstream



Waterbody SPOA439 facing south downstream



Waterbody SPOA439 facing west across

Survey De	scription									
Project Name	e:		ľ	Naterbody Na	me:		v	Vaterbody ID:		Date:
Atlantic Coast	Pipeline		l	JNT to Slaty	/ Fork		s	poa440		6/9/2016
State:		County	:		Company:		Crew	Member Initials	s: Phot	: os:
West Virgir	nia	Pocah	ontas		NRG/ERM		GB, ∤	< 0	3 pl	hotos
Tract Numbe	r(s):	1			Nearest Mile	epost:	1	Associated W	etland ID(s):
access road (05-001-C008	.AR1			72.0			none		
Survey Type: (check one)		□c	enterline	□Re-Ro	oute	⊠Access Road		□Other:		
Physical A	ttributes									
Stream Class (check one)	sification:	□E	phemeral	⊠Intern	nittent	□Perennial				
Waterbody T (check one)	ype: □R	River	⊠ Strea	n 🗆 Ditch	n 🗆 Car	nal 🗌 Other:				
OHWM Width:	0.0.4	OHW (check	M Indicato all that apply)	or:	⊠ Clear lin	e DShelving	g	□Wrested	Sco	uring □Water
Height: 	<u>2.0_</u> π. <u>0.33_</u> ft.		□Bent, ma vegetation	atted, or missin	on bank ng ⊡Wrack lin	ne ⊠Litter ar debris	nd	□Abrupt plar community ch	nt ⊡So nange	oil characteristic change
Width of Wat	erbody - To nk:	p of Bar	hkWidth of to Toe o	Waterbody -	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of W (Approx.)	ater:
-	<u>12.0</u> ft.			l <u>.5_</u> ft.			l.5_f	ít.	N/A 🗆	<u>0.20</u> ft.
Sinuosity:			Water v	elocity:		Bank height			Bank slope	;
(check one)	Straight		(Approx.)			Right:			Ri	ght:
	0			0.331	fps	Left:	<u>2 .0_</u> ft			<u>35</u> degrees
	Meandering	l	N/A□				<u>10.0_</u> f	t.		75 degrees
Analysis of E	Bank Stabili	ty (i.e. r	oot structu	ire, vegetation	n, substrate o	characteristics):				
Water Appea	rance:	,3								
(check one)		lo water	⊠Cle	ar 🗆 Turbio	d ⊡She on s	en ⊡Surfa surface scun	ace n	□Algal □ mats	Other:	
Substrate:	□ E	Bedrock	Bould	ler 🛛 Cobble	e 🛛 Gravel	\boxtimes Sand \boxtimes	Silt/ cla	ay 🛛 Organic	□ Other:	
% of Substra	ite:	%	%	30	% _ 25_%	%		<u>15</u> % _ <u>10</u> _9	%	_%
Width of Ripa	arian Zone:	V	egetative	Layers:	⊠ ⊤	5	7 O l'			
	<u>ft</u> .	~ •	vg. DBH c	f Dominants:	⊠ Trees: _14.0_ir	. ⊵	Sapiii <u>2.0</u> in	ngs/Snrubs: 1.		DS
N/A⊠ Dominant Ba	nk Vegetati	on (list):	approx.)							
Sugar map violet, Dutc	le, red elm hman's pi	n, shag pe vine	bark hick , wild rye	ory, basswo , red elderb	ood, Frasier erry	r's magnolia, st	onecr	rop, jewel we	ed, wood	nettle, bee balm,
Aquatic Habi	tats (ex: subi	merged o obris	r emerged ad	quatic vegetation,	, overhanging ba	anks/roots, leaf packs	s, large s	submerged wood,	riffles, deep po	ools):
			- ()							
sowbug, so	ud	erved (//	st):							
T&E Species	Observed (list):								
none	,	-								
Disturbances	s (ex: livestocl	k access,	manure in w	aterbody, waste	discharge pipes):				
Confined to	o ditch alor	ng exis	ting grav	el road						
Tributary is: (check one)		□ I	latural	□ Artif	icial, man-ma	de 🛛 🛛 Manipula	ated			

spoa440

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 in roadside ditch at road cut seep ppoa438; tributary to perennial stream spoa441; confined to ditch and within access road survey corridor for entire length; does not cross existing road.

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





Waterbody SPOA440 facing west upstream



Waterbody SPOA440 facing east downstream



Waterbody SPOA440 facing north across

Survey Description	on								
Project Name:			Waterbody Na	me:			Waterbody ID:		Date:
Atlantic Coast Pipeline			UNT to Slaty	/ Fork			spoa441		6/9/2016
State:	Coun	ty:		Company:		Crew	Member Initials	s: Photos	
West Virginia	Poca	hontas		NRG/ERM		GB,	KO	3 pho	tos
Tract Number(s):	I			Nearest Mile	epost:		Associated W	Vetland ID(s):	
access road 05-001-C	008.AR1			72.0			none		
Survey Type: (check one)		Centerline	□Re-Re	oute	⊠Access Roa	d	□Other:		
Physical Attribute	es								
Stream Classification (check one)	l: □	Ephemeral	□Intern	nittent	⊠Perennial				
Waterbody Type:									
		⊠ Strea	im 🗆 Ditch	n 🗆 Car	nal 🗌 Othe	er:			
OHWM Width: _ <u>9.0_</u> ft.	OH (che	WM Indicat	or:)	□ Clear lin on bank	le □Shel	ving	□Wrested vegetation	⊠Scourir	lg ⊡Water staining
Height: <u>1.0</u> ft. N/A□		□Bent, m vegetatio	atted, or missir า	ng ⊠Wrack lin	ne ⊠Litter debris	and	□ Abrupt plar community cl	nt ⊡Soil o hange	characteristic change
Width of Waterbody - to Top of Bank:	Top of B	ankWidth o to Toe o	f Waterbody - of Slope:	Toe of Slope	Width of Wate Water Edge:	erbody - \	Nater Edge to	Depth of Wate (Approx.)	er:
<u>_20.0</u> ft.		_	<u>6.0_</u> ft.			_ 6.0 _	ft.	N/A□	<u>0.33 </u> ft.
Sinuosity:		Water v	elocity:		Bank height			Bank slope	
(check one)		(Approx.)	ciccity		Right:			Right	
⊠ Straight			<u> </u>	ps		<u>6.0</u> f	t.		60 degrees
□Meande	ring	N/A□			Left:	: 6.0 f	t.	Lef	t: 60 dearees
Analysis of Bank Sta	hility (i.o.	root struct		n substrato (haractoristics	\			0
Banks appear stable;	mostly bo	ulders, cobb	le, and bedrock	<)-			
Qualitative Attrib	utes								
Water Appearance:	_								
(check one)	□No wate	er ⊠Cle	ear 🛛 Turbio	d ⊡She on s	en □Si surface so	urface cum	□Algal □ mats]Other:	
Substrate:	⊠ Bedroo	k 🛛 Boul	der 🛛 Cobble	e 🛛 Gravel	⊠ Sand	□ Silt/ c	lay 🗆 Organic	□ Other:	
% of Substrate:	<u>35 </u> %	<u> 20 </u> %	309	% _ 10_%	<u> 5 </u> %		%%	%	
Width of Riparian Zor	ne:	Vegetative	Layers:	⊠ Т			in an (Church ac		
<u>45 ft</u> ·		Avg. DBH	of Dominants:	14.0_ir	1.	_ <u>1.5_</u> i	n.		
N/A Dominant Bank Vege	tation (lis	(approx.)							
Sugar maple, yello	w birch	, black loc bee balm	ust, basswo	od, pignut h man's pipe	nickory, beec	h, strip	ed maple, rec	d elm, wing s	tem, anemone,
Aquatic Habitats (ex:	submerged	or emerged a	quatic vegetation	, overhanging ba	anks/roots, leaf pa	icks, large	submerged wood,	riffles, deep pools	;):
Lear packs, step p		arse woo	ay debris, ov	ernanging i	ooulders				
Aquatic Organisms O	bserved	(list):							
Caddisfly, mayfly,	salamar	nder, scuc							
T&E Species Observe	ed (list):								
		a man	uatarbady ····	dia ab arc	\.				
Crossing for ovicting	SIDCK ACCES	x_{10} , manure in x_{10}	vaterbody, waste	uischarge pipes):				
	ng road		muyateu me						
(check one)		Natural	🗆 Artif	ficial, man-ma	de 🛛 Manij	pulated			

spoa441

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; high gradient stream; passes under existing road via 42" corrugated metal culvert; intermittent stream is a tributary; 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





Waterbody SPOA441 facing northeast upstream



Waterbody SPOA441 facing southwest downstream



Waterbody SPOA441 facing northwest across

Survey Description													
Project Name:		v	Vaterbody Na	me:	v	Vaterbody ID:			Date:				
Atlantic Coast Pipeline		L	JNT to Slaty	/ Fork			s	poa434			6/7/20	016	
State:	County:			Company:			Crew	Member Initials	s: P	hotos:			
West Virginia	Pocaho	ontas		NRG/ERM	/		GB, I	KO	3	3 phote	os		
Tract Number(s):				Nearest Mil	epost:			Associated W	etland I	D(s):			
access road 05-001-C008	3.AR1			72.0				wpoa418					
Survey Type: (check one)	□Ce	nterline	□Re-Ro	oute	⊠Aco	cess Road		□Other:					
Physical Attributes													
Stream Classification: (check one)	□Ep	hemeral	⊠Interm	nittent	□Pei	rennial							
Waterbody Type:													
(check one)	River	⊠ Strean	n 🗌 Ditch	n 🗆 Ca	nal	□ Other:							
OHWM Width: _ <u>2.0</u> ft.	OHWN (check a	M Indicato all that apply)	r:	⊠ Clear li on bank	ne	□Shelvin	g	□Wrested vegetation	\boxtimes	Scourinę	9	□Water staining	
Height: ft. N/A□	[\	☐Bent, ma /egetation	atted, or missin	ng ⊡Wrack	ine	□Litter ar debris	nd	□Abrupt plar community cl	nt l nange	⊒Soil cl	haracte	eristic chanç	je
Width of Waterbody - To to Top of Bank:	op of Banl	kWidth of to Toe of	Waterbody - Slope:	Toe of Slope	e Width Water	of Waterbo	ody - V	Vater Edge to	Depth o (Approx.)	of Water	:		
<u>_10.0</u> ft.		_1	<u>.5_</u> ft.				1.5 _1	ft.			0.20	ft.	
					N/A□				N/A□				
Sinuosity: (check one)		Water ve (Approx.)	elocity:		Bank	height			Bank sl	ope			
⊠Straight			10 fr	ns		Right:	2.0 ft	t.		Right:	45	degrees	
	g	N/A□		P 0		Left:	10.0 f	ít.		Left	70	dearees	
Analysia of Dank Ctabil												9	
Banks are road base and	d road cut;	; confined	to ditch along	existing grav	el road	tenstics).							
Qualitative Attribut	es												
Water Appearance:													
(check one)	No water	⊠Clea	ar 🗆 Turbio	d ⊡She on	een surface	□ Surfa scun	ace n	□Algal mats	Other:				
Substrate:	Bedrock	Bould	er 🛛 Cobble	e 🛛 Grave		Sand 🛛	Silt/ cl	ay 🛛 Organic	□ Oth	er:			
% of Substrate:	%	%	35	_% _ 3 <u>5</u> _%		<u>15</u> %	_	<u>10</u> % _ <u>5</u> %		%			
Width of Riparian Zone:	Ve (ch	egetative l	_ayers:	⊠ Trees	5:	Σ	⊠ Sapli	ings/Shrubs:		Herbs			
<u>ft</u> .	Av (ap	/g. DBH of	f Dominants:	14.0	n.	-	_ <u>1.0</u> ir	ı.					
Dominant Bank Vegetat	ion (list):	,											
Sugar maple, yellow Christmas fern, jewe	birch, b I weed,	lack locu wood ne	ist, basswoo ttle, wood fe	od, pignut ern, violet,	hickor Dutch	y, beech, man's pir	stripe be vin	ed maple, no e	rthern r	ed oal	k, win	g stem,	
Aquatic Habitats (ex: sub	omerged or	emerged aq	uatic vegetation,	, overhanging b	anks/roo	ots, leaf packs	s, large s	submerged wood,	riffles, dee	ep pools)	:		
Aquatic Organisms Obs	erved (lis	<i>t</i>)-											
Caddisfly		<i>.</i> ,											
T&E Species Observed	(list):												
none													
Disturbances (ex: livestoo	ck access, n	nanure in wa	aterbody, waste	discharge pipe	s):								
Crossing for existing	road via	a 18" cor	rugated me	tal culvert;	confir	hed to dito	ch ups	stream of cul	vert				
Tributary is: (check one)	□ Na	atural	□ Artif	ficial, man-ma	ade	🛛 Manipul	ated						

spoa434

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 at road cut seep wetland wpoa418 within ditch along existing gravel road; follows ditch to culvert; 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





Waterbody SPOA434 facing north upstream



Waterbody SPOA434 facing south downstream



Waterbody SPOA434 facing west across

Survey Description									
Project Name:		Waterbody Na	me:		w	aterbody ID:		Date:	
Atlantic Coast Pipeline		UNT to Slaty	/ Fork		sp	boa435		6/7/20	16
State:	County:		Company:		Crew N	lember Initials	s: Phot	tos:	
West Virginia	Pocahontas		NRG/ERM		GB, K	Ó	3 p	hotos	
Tract Number(s):	1		Nearest Mile	epost:		Associated W	etland ID(s	s):	
access road 05-001-C00	8.AR1		72.0			none			
Survey Type: (check one)		□Re-Ro	oute	⊠Access Road	[Other:			
Physical Attributes									
Stream Classification: (check one)	Ephemera	⊠Interm	nittent	Perennial					
Waterbody Type: (check one)	River 🛛 Stre	am 🗆 Ditch	n 🗆 Car	nal 🗌 Other:					
		tor.							
Width:ft.	(check all that app	ly)	⊠ Clear lir on bank	le ⊡Shelving	g	□Wrested vegetation	⊠Sco	ouring [□Water staining
Height: ft.	□Bent, vegetatio	matted, or missin on	ng ⊡Wrack li	ne □Litter an debris	nd	□Abrupt plar community ch	nt ⊡S nange	oil character	istic 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 W (Approx.)	/ater:	
<u>_12.0</u> ft.		<u>1.5</u> ft.		1	1.5ft	t.	N/A□	0.20	_ft.
Sinuosity:	Water	velocity:		Bank height			Bank slope	9	
(check one)	(Approx.)		Right:			Ri	ight:	
		0.50f	fps	L oft:	<u>12.0_</u> ft			<u>75</u> c	legrees
	N/A□				<u>2.0_</u> ft.			<u>40</u> c	legrees
Analysis of Bank Stabili Banks are road base ar	ity (i.e. root struc nd road cut; cont	cture, vegetation	n, substrate o ong existing	characteristics): gravel road					
Qualitative Attribut	es								
Water Appearance: (check one)	No water ⊠C	lear 🗆 Turbio	d ⊡She on s	en ⊡Surfa surface scurr	ace 1	□Algal □ mats	Other:		
Substrate:	Bedrock 🗆 Bou	ulder 🛛 Cobble	e 🛛 Gravel	Sand 🛛	Silt/ cla	ay 🛛 Organic	Other:		
(check all that apply) % of Substrate:	%%	35	%3 <u>5_</u> %	<u> 15 </u> %	_1	<u>10</u> % _ <u>5</u> %		%	
Width of Riparian Zone:	Vegetativ (check all that	e Layers: t apply)	⊠ Trees:		Saplir	ngs/Shrubs:	⊠ Her	bs	
<u>ft</u> · N/A⊠	Avg. DBH (approx.)	l of Dominants:	<u>14.0</u> ir	ı. <u> </u>	<u>1.0</u> in.				
Dominant Bank Vegetati	i on (list):								
Sugar maple, yellow foot, jewel weed, woo	birch, black lo	cust, basswoo balm, violet, D	od, pignut h Dutchman's	nickory, beech, pipe vine	stripe	d maple, noi	rthern red	oak, wing	stem, colts
Leaf packs	inerged of emerged	aqualic vegetalion,	, overnanging ba	anks/100is, lear packs	, large s	ubmerged wood,	nines, deep p		
Aquatic Organisms Obs	erved (list):								
Caddisfly									
T&E Species Observed	(list):								
none									
Disturbances (ex: livestoc Crossing for existing	k access, manure in road via 18" c	waterbody, waste	discharge pipes tal culvert;): confined to ditc	h ups	tream of cul	vert		
Tributary is: (check one)	Natural	- Γ Δrtif	icial man-mo	de 🛛 Maninul	ated				
			iciai, man-ma		aleu				

spoa435

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 at road cut seep ppoa431 within ditch along existing gravel road; also receives outflow from road cut seeps ppoa432 & ppoa433; follows ditch to culvert; 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





Waterbody SPOA435 facing south upstream



Waterbody SPOA435 facing north downstream



Waterbody SPOA435 facing east across

Survey Descriptio	n								
Project Name:			Waterbody Na	me:		v	Vaterbody ID:		Date:
Atlantic Coast Pipeline			UNT to Slaty	/ Fork		S	poa436		6/7/2016
State:	County	:		Company:		Crew I	Member Initials	s: Photos	:
West Virginia	Pocah	ontas		NRG/ERM		GB, ∤	< 0	3 pho	tos
Tract Number(s):				Nearest Mile	epost:		Associated W	/etland ID(s):	
access road 05-001-C00	08.AR1			72.0			none		
Survey Type: (check one)	□c	enterline	□Re-Ro	oute	⊠Access Road		□Other:		
Physical Attribute	s								
Stream Classification: (check one)	□E	phemeral	□Interm	nittent	⊠Perennial				
Waterbody Type: (check one)	River	⊠ Strea	ım 🗆 Ditch	n 🗆 Car	nal 🗆 Other:				
ОНШМ	OHW	/M Indicat	or:						
Width: _ <u>9.0_</u> ft.	(check	all that apply)	Clear lin on bank	e ⊡Shelving	g	□Wrested vegetation	⊠Scourin	ng DWater staining
Height: <u>1.0</u> ft. N/A□		□Bent, m vegetation	natted, or missin า	ig ⊠Wrack lii	ne ⊠Litter ar debris	nd	□Abrupt plar community cł	nt ⊡Soil o nange	characteristic change
Width of Waterbody - 1 to Top of Bank:	op of Bar	nkWidth o to Toe o	of Waterbody -	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of Wate (Approx.)	er:
20.0.ft			60 #			2 E f	4		0.40 ft.
<u></u> 1t.		_	<u>0.0_</u> 11.		N/A□	<u></u> 1	ι.	N/A□	<u> </u>
Sinuosity:		Water v	elocity:		Bank height			Bank slope	
(check one)		(Approx.)			Right:			Right	:
Ū Ū			<u> </u>	ps	Left:	<u>4.0_</u> ft		Lef	<u>45</u> degrees
	ng	N/A□				<u>6.0_</u> ft			60 degrees
Analysis of Bank Stab Banks appear stable; m	ility (i.e. r	oot struct ders, cobb	ure, vegetation	n, substrate c	characteristics):				
Qualitative Attribu	ites								
Water Appearance: (check one)	[]] No water	⊠Cle	ear 🗆 Turbio	d ⊡She on s	en ⊡Surfa surface scun	ace n	□Algal □ mats	Other:	
Substrate:	Bedrock	🛛 Boul	der 🛛 Cobble	e 🛛 Gravel	⊠ Sand □	Silt/ cla	ay 🗆 Organic	□ Other:	
(check all that apply) % of Substrate: 3	<u>0%</u>	<u> 25 </u> %	<u>30_</u> 9	% _ 10_%	<u> 5 </u> %	_%	%%	%	
Width of Riparian Zone	e: V	/egetative	Layers:						
<u>40 ft</u> -	() A	check all that a	apply) of Dominants:	⊠ Trees: 14.0 ir	: D	Sapliı 1.0 in	ngs/Shrubs:	⊠ Herbs	
N/A 🗆 Dominant Bank Vanat	(é	approx.)							
Sugar maple, yellow	v birch, t	black loc	ust, basswo	od, pignut h	nickory, beech,	stripe	ed maple, no	rthern red oa	ak, wing stem,
Aquatic Habitats (ex: su	ubmerged o	r emerged a	iquatic vegetation,	, overhanging ba	anks/roots, leaf packs	s, large s	submerged wood,	riffles, deep pools	5):
		13e woo		emanying i	boulders				
Aquatic Organisms Ob Caddisfly, mayfly, s	alamanc	st): der							
T&E Species Observed	l (list):								
none									
Disturbances (ex: livesto	ock access,	manure in v	waterbody, waste	discharge pipes):				
Crossing for existing	g road vi	ia 42" co	orrugated me	tal culvert					
Tributary is: (check one)	⊠ ۱	Natural	🗆 Artif	icial, man-ma	de 🗌 Manipul	ated			

spoa436

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; high gradient stream; passes under existing road via 42" 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





Waterbody SPOA436 facing east upstream



Waterbody SPOA436 facing west downstream



Waterbody SPOA436 facing north across

Survey Description	l												
Project Name:			Waterbody	y Nam	e:				Waterbody ID:			Date:	
Atlantic Coast Pipeline			UNT to S	Slaty I	Fork				spoa437			6/7/2	016
State:	County	:		C	Company:			Crew	Member Initia	ls:	Photos:		
West Virginia	Pocah	ontas		٢	NRG/ERM			GB,	KO		3 photo	os	
Tract Number(s):				N	Nearest Mile	post:		1	Associated	Wetland	ID(s):		
access road 05-001-C00	8.AR1			7	72.0				none				
Survey Type: (check one)	□Ce	enterline	□R	Re-Rou	ute	⊠Acc	ess Road		□Other:				
Physical Attributes													
Stream Classification: (check one)	□E	ohemeral	⊠Ir	ntermit	ttent	□Per	ennial						
Waterbody Type:													
(check one)	River	⊠ Strea	m 🗆 l	Ditch	□ Car	nal	□ Other:						
OHWM Width: _ <u>2.0</u> ft.	OHW (check	M Indicate all that apply)	or:		⊠ Clear lir on bank	ie	□Shelviı	ng	□Wrested vegetation	×	Scouring	9	□Water staining
Height: <u>0.33</u> ft. N/A□		□Bent, m vegetatior	atted, or m	iissing	□Wrack li	ne	⊠Litter a debris	and	□ Abrupt pla community	ant change	□Soil cl	haracte	eristic change
Width of Waterbody - To to Top of Bank:	op of Ban	kWidth o to Toe c	f Waterboo of Slope:	dy - To	oe of Slope	Width Water	of Waterk Edge:	oody - '	Water Edge to	Depth (Approx.)	of Water	:	
10.0 ft.			1.5 ft.					1.5	ft.			0.20	ft.
			<u></u>			N/A□		1.0 _		N/A□			
Sinuosity:		Water v	elocity:			Bank	height			Bank s	lope		
Straight		(Αρριολ.)	0.5	0 (-	_		Right:	10.0	f+		Right:	70	degrees
			0.50	<u>u_</u> tp	S		Left:	10.0_	<u>.</u>		Left		ucgrees
	g	N/A□						2.0_1	ft.			40	degrees
Analysis of Bank Stabil Banks are road base and	ity (i.e. ro	oot struct	ure, veget	ation,	substrate o	charact	teristics):						
Qualitative Attribut	05	.,											
Water Appearance:	63												
(check one)	No water	⊠Cle	ar □T	urbid	⊡She on s	en surface	⊡Sur scu	face m	□Algal mats	□Other:			
Substrate:	Bedrock	Boule	der 🛛 Co	obble	⊠ Gravel	\boxtimes	Sand D	⊠ Silt/ o	lay 🛛 Organio	; □ 01	her:		
(check all that apply) % of Substrate:	%	%		<u>30_</u> %	<u> </u>	-	<u>10</u> %		<u>10</u> % <u>10</u>	_%	%		
Width of Riparian Zone:	V (c	egetative	Layers:					🛛 San	lings/Shrubs:	X	Herbs		
<u>ft</u> .	A	vg. DBH o	of Domina	nts:	<u>14.0</u> ir	י ו.		_ 1.0	in.				
N/A	(a	approx.)											
Sugar maple, yellow	birch, t	plack loc	ust, bass	wood	d, pignut h	nickor	y, beech	, strip	ed maple, no	orthern	red oal	k, wir	ng stem, colt
Aquatic Habitats (ex: sub	omerged or	r emerged a	quatic vegeta	ation, c	verhanging b	anks/roo	ts, leaf pack	ars to ks, large	submerged wood	l, riffles, de	ep pools)	:	
Leaf packs													
Aquatic Organisms Obs	erved (lis	st):											
Caddisfly													
T&E Species Observed	(list):												
none													
Disturbances (ex: livestoo	ck access,	manure in v	vaterbody, w	aste di	scharge pipes):							
Crossing for existing	road vi	a 18" co	rrugated	meta	al culvert;	confir	ned to dif	tch up	stream of cu	ulvert			
Tributary is: (check one)	N	latural		Artific	ial man-ma	de	🛛 Manini	ilated					
· · · · ·		aturu		,	a, marma			alou					
spoa437

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 at road cut seep ppoa434 within ditch along existing gravel road; also receives outflow from road cut seep ppoa435; follows ditch to culvert; 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





Waterbody SPOA437 facing east upstream



Waterbody SPOA437 facing west downstream



Waterbody SPOA437 facing north across

Survey Description		-							
Project Name:		Waterbody Na	me:		M	Vaterbody ID:		Date:	
Atlantic Coast Pipeline		UNT to Slaty	/ Fork		S	poa438		6/7/2	016
State:	County:		Company:		Crew	Member Initials	: Pho	otos:	
West Virginia	Pocahontas		NRG/ERM	l	GB, ł	< 0	3	ohotos	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s):	
access road 05-001-C008	B.AR1		72.0			none			
Survey Type: (check one)		□Re-Ro	oute	⊠Access Road		□Other:			
Physical Attributes									
Stream Classification:									
(check one)	□Ephemeral	⊠Intern	nittent	Perennial					
Waterbody Type: (check one)	River 🛛 Stre	am 🗆 Ditch	n 🗆 Car	nal 🗌 Other:					
ОНШМ	OHWM Indica	tor:							
Width: _ <u>2.0_</u> ft.	(check all that app	(y)	⊠ Clear lir on bank	ne ⊡Shelvir	ng	□Wrested vegetation	⊠Sc	ouring	□Water staining
Height: ft. N/A □	□Bent, vegetatio	matted, or missin	ig	ne ⊠Litter a debris	nd	□Abrupt plar community ch	it ⊡\$ nange	Soil charact	eristic change
Width of Waterbody - To to Top of Bank:	p of BankWidth to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	/ater Edge to	Depth of \ (Approx.)	Nater:	
12.0 ft		20 ft		_	20 f	4		0.20	ft.
<u>_12.0</u> n.	-	<u>_2.0_</u> 11.		N/A□	<u>2.0 _</u> 1	ι.	N/A□		
Sinuosity:	Water	velocity:		Bank height			Bank slop	e	
⊠Straight	(Approx.	, 0.50 f	fac	Right:	15.0 ft	t	R	Right:	dearees
		0.501	ips	Left:	<u> </u>			Left:	
	N/A∟				<u>2.0_</u> ft	•		_40	degrees
Analysis of Bank Stabili Banks are road base and	i ty (i.e. root struc I road cut; confine	cture, vegetation ed to ditch along	n, substrate o existing grave	characteristics):					
Qualitative Attribut	es								
Water Appearance:									
(check one)	No water ⊠C	lear □Turbio	d □She on s	en ⊡Surf surface scu	ace m	□Algal □ mats	Other:		
Substrate:	Bedrock 🗆 Bou	ulder 🛛 Cobble	e 🛛 Gravel	Sand 🛛	Silt/ cla	ay 🛛 Organic	□ Other	:	
% of Substrate:	%%	_ <u>30</u> _	.% _ 40_%	<u> 15 </u> %		<u>10</u> % _ <u>5</u> %		_%	
Width of Riparian Zone:	Vegetativ (check all tha	e Layers: t apply)	⊠ Trees:	:	⊠ Sapli	ngs/Shrubs:	⊠ He	rbs	
<u>ft</u> .		of Dominants:	<u>14.0</u> ir	۱.	<u>1.0_</u> in).			
Dominant Bank Vegetati	ion (list):								
Sugar maple, yellow foot, iewel weed, woo	birch, black lo	cust, basswoo balm. violet. [od, pignut h Dutchman's	nickory, beech pipe vine, bea	, stripe ars foo	ed maple, nor at. slipperv eli	thern rec m. red el	d oak, wii derberrv	ng stem, colts
Aquatic Habitats (ex: sub	merged or emerged	aquatic vegetation,	, overhanging ba	anks/roots, leaf pack	s, large s	submerged wood,	riffles, deep	pools):	
Aquatia Organiama Oba	arryad (list)								
Caddisfly mayfly sa	lamander								
TRE Species Observed									
none	1131).								
Disturbances (ex: livestoc	k access, manure in	waterbody, waste	discharge pipes):					
Confined to ditch									
Tributary is: (check one)	Natural	□ ∧ ++;f	icial man mo	de 🛛 Maniau	lated				
	ivatula				aleu				

spoa438

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 at road cut seep ppoa436 within ditch along existing gravel road; also receives outflow from road cut seep ppoa437; follows ditch out of corridor – does not cross road, exits at switchback; 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





Waterbody SPOA438 facing east upstream



Waterbody SPOA438 facing west downstream



Waterbody SPOA438 facing north across

Survey Descriptio	n											
Project Name: Waterbody Nar				me:		v	Vaterbody ID:		Date:			
Atlantic Coast Pipeline	oast Pipeline UNT to Sla			/ Fork		s	poa430		6/6/2016			
State:	County	/:		Company:		Crew I	Member Initials	s: Photos	:			
West Virginia	Pocah	nontas		NRG/ERM		GB, ŀ	(0	3 pho	tos			
Tract Number(s):				Nearest Mile	post:		Associated W	/etland ID(s):				
access road 05-001-C0	008.AR1			72.0			none					
Survey Type: (check one)	□c	Centerline	□Re-Ro	oute	⊠Access Road		□Other:					
Physical Attribute	s											
Stream Classification: (check one)	□E	phemeral	⊠Interm	nittent	Perennial							
Waterbody Type: (check one)	River	⊠ Strea	m 🗆 Ditch	n 🗆 Can	al 🗌 Other:							
онwм	OHV	VM Indicat	or:									
Width:ft.	(cneci	k all that apply,		☑ Clear lin on bank	e ⊔Shelving	9	☐Wrested vegetation	⊠Scourir	ng UWater staining			
Height: ft. N/A□		□Bent, m vegetatior	atted, or missin า	ng ⊡Wrack lir	ne □Litter an debris	ld	□Abrupt plar community ch	nt ⊡Soil o nange	characteristic change			
Width of Waterbody - 1 to Top of Bank:	Fop of Ba	nkWidth o to Toe o	f Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of Wate (Approx.)	er:			
<u>_8.0</u> ft.		_	<u>1.5_</u> ft.			l. <u>5 </u> f	t.		<u>0.20 </u> ft.			
Sinuosity:		Water	elocity:		N/AL Bank beight							
(check one)		(Approx.)	elocity.		Balik neight Pight:				.			
⊠Straight			1.0 f	bs	Kight.	<u>3.0_</u> ft.		Kigh	60_ degrees			
□Meanderi	na			F -	Left:	c 0 4		Lef	t:			
	-ig	N/A⊔				<u>0.0_</u> II.	•		<u>10</u> degrees			
Analysis of Bank Stab Banks are road base a	ility (i.e. r and road	oot struct cut; confi	ure, vegetation ned to ditch alo	n, substrate o ong existing (haracteristics): gravel road							
Qualitative Attribu	ites											
Water Appearance:	-											
(check one)	[⊥] No water	· ⊠Cle	ar □Turbio	d ⊡Shee on s	en ⊡Surfa urface scun	ace 1	□Algal □ mats	Other:				
Substrate:	Bedrock	🗆 🗆 Boul	der 🛛 Cobble	e 🛛 Gravel	\boxtimes Sand \boxtimes	Silt/ cla	ay 🛛 Organic	□ Other:				
(check all that apply) % of Substrate:	%	%	30	%2 <u>5_</u> %	%		<u>20</u> % _5_%	%				
Width of Riparian Zone	e:	Vegetative	Layers:									
f+	(Check all that a	apply)	⊠ Trees:	\triangleright	Saplii	ngs/Shrubs:	🛛 Herbs				
N/A⊠	((approx.)	Dominants.	<u>14.0</u> in	i. <u> </u>	<u>2.0</u> in).					
Dominant Bank Vegeta	ation (list)											
Sugar maple, yellow bluegrass, bee bain Aquatic Habitats (ex. si	v birch, n. golde	black loc nrod, col	ust, basswoo ts foot	od, pignut h	ickory, wood n	ettle,	jewel weed,	bitter dock,	woodland			
Leaf packs, emerge	ent vege	tation	qualle vegetalion,	, overhanging be		, large a	usmergeu woou,		<i>)</i> .			
Aquatic Organisms Ob	served (/	ist):										
Caddisfly, mayfly, s	alaman	der										
T&E Species Observed	l (list):											
none												
Disturbances (ex: liveste	ock access	, manure in v	vaterbody, waste	discharge pipes)):							
Crossing for existing	g road v	ria 18" co	rrugated me	tal culvert;	confined to dito	h ups	stream of cul	vert				
Tributary is:		Notural	□ A			otod						
		เงิสเนเล		iciai, man-mac	le 🖂 ivianipula	aled						

spoa430

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 at nick point seep ppoa426 within ditch along existing gravel road; follows ditch to culvert; also receives output from road cut seep ppoa425; 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







Waterbody SPOA430 facing northwest upstream



Waterbody SPOA430 facing southeast downstream

Survey Description											
Project Name: Waterbody Nar				ne:			v	Vaterbody ID:	Date:		
Atlantic Coast Pipeline	tlantic Coast Pipeline UNT to Slaty			Fork			s	poa431	6	6/2016	
State:	County:			Company:			Crew	Member Initials	s: Pł	notos:	
West Virginia	Pocahonta	as		NRG/ERM			GB, ł	<0	3	photo	S
Tract Number(s):				Nearest Mile	Milepost:			Associated W	etland ID)(s):	
access road 05-001-C00	8.AR1			72.0				none			
Survey Type: (check one)	□Center	line	□Re-Ro	oute	⊠Acc	ess Road		□Other:			
Physical Attributes											
Stream Classification: (check one)	Ephem	neral	⊠Interm	littent	□Pere	ennial					
Waterbody Type:		Stroom	⊠ Ditab								
		Stream			lai						
Width: <u>2.0</u> ft.	(check all that	dicator: apply)		⊠ Clear lin on bank	e	□Shelvin	g	□Wrested vegetation	⊠S	couring	□Water staining
Height: ft. N/A□	□Be vege	ent, matted, etation	or missin	g	ne	□Litter ar debris	nd	□Abrupt plar community ch	nt ⊑ nange]Soil ch	aracteristic change
Width of Waterbody - To to Top of Bank:	p of BankWi	dth of Wate Toe of Slop	erbody - 1 be:	Foe of Slope	Width Water	of Waterbo Edge:	ody - V	ater Edge to	Depth of (Approx.)	Water:	
<u>8.0</u> ft.		<u>_1.5_</u> ft					1.5 _f	t.			<u>0.20 _</u> ft.
Sinuacitur	14/2				N/A 🗆	a a i a h f			N/AL		
(check one)	(Ap	prox.)	y :		Бапк і	Pight			Dank Sic	Pight.	
⊠Straight			1.0 fi	os		itigitt.	<u>3.0_</u> ft			Night.	60 degrees
	9 N/A	A□				Left:	<u>6.0_</u> ft			Left:	<u>70</u> degrees
Analysis of Bank Stabili	tv (ie roots		egetation	substrate	haract	eristics).					
Banks are road base and	l road cut; cor	nfined to dite	ch along e	existing grave	l road	onotice).					
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	\boxtimes S	Sand 🛛	Silt/ cla	ay 🛛 Organic	□ Othe	er:	
% of Substrate:	%	_%	30_	% _2 <u>5</u> _%	-	<u>20</u> %		<u>20 % 5_</u> %		_%	
Width of Riparian Zone:	Veget (check a	ative Layer	s:	⊠ Trees:		D	Sapli	ngs/Shrubs:	⊠H	erbs	
<u>ft</u> ⊦ N/A⊠	Avg. I (approx.	DBH of Don	ninants:	<u>14.0</u> ir	1.	-	_ <u>2.0</u> ir	ı.			
Dominant Bank Vegetati	on (list):										
Sugar maple, yellow bluegrass, bee balm.	birch, black aoldenrod	k locust, b . colts foc	asswoo ot	od, pignut h	ickory	/, wood n	ettle,	jewel weed,	bitter do	ock, w	oodland
Leaf packs, emerger	merged or emer nt vegetatio	rged aquatic v	egetation,	overhanging ba	anks/roo	ts, leaf packs	s, large s	submerged wood,	riffles, dee	p pools):	
Aquatic Organisms Obs	erved (list):										
Caddisfly											
T&E Species Observed	(list):										
none											
Disturbances (ex: livestoc	k access, manu	ire in waterbo	dy, waste o	lischarge pipes):						
Contined to ditch											
Tributary is: (check one)	Natura	al	□ Artifi	cial, man-ma	de	🛛 Manipul	ated				

spoa431

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 ditch along existing gravel road at road cut seep ppoa427; within survey corridor for entire length; tributary to intermittent stream spoa432; 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





Waterbody SPOA431 facing east across

Survey Description												
Project Name: Waterbody Na			erbody Nar	me:				aterbody ID:			Date:	
Atlantic Coast Pipeline		UN	Γ to Slaty	Fork			sp	00a432		6/6/2016		
State:	County:			Company:		C	rew N	lember Initial	s:	Photos:		
West Virginia	Pocahont	as		NRG/ERM			GB, K	0		3 photos		
Tract Number(s):	1			Nearest Milepost:				Associated Wetland II				
access road 05-001-C00	8.AR1			72.0				none				
Survey Type: (check one)	□Cente	rline	□Re-Ro	oute	⊠Access F	load	[Other:				
Physical Attributes												
Stream Classification: (check one)	□Epher	meral	⊠Interm	nittent	□Perennia	I						
Waterbody Type:												
(check one)	River 🛛	Stream	□ Ditch	□ □ Car	nal 🗆 C	ther:						
OHWM Width: <u>5.0</u> ft.	OHWM Ir (check all th	ndicator: at apply)		☑ Clear lin on bank	e ⊡S	nelving		□Wrested vegetation		Scouring	ן ⊡\ sta	Water aining
Height: ft. N/A□	□B veg	ent, matteo	d, or missin	g	ne □Li deb	tter and ris		□ Abrupt plan community c	nt hange	□Soil cl	naracterist	iic change
Width of Waterbody - To to Top of Bank:	p of BankW to	idth of Wa Toe of Slo	iterbody - 1 ope:	Toe of Slope	Width of W Water Edge	aterboo	dy - W	ater Edge to	Depth (Approx.)	of Water	:	
<u>_10.0</u> ft.		3.0_	_ft.		N/A□	4.0	<u>0 </u> ft		N/A□		<u>0.25</u> ft	
Sinuosity:	w	ater veloc	ity:		Bank heigh	t			Bank s	slope		
(check one)	(A	pprox.)			Rig	ht:				Right:		
		-	f	ps			<u>.0_</u> ft.			l eft	<u>60</u> deo	grees
	N N	/A□			_	_4	<u>.0_</u> ft.			Lon	<u>50</u> deg	grees
Analysis of Bank Stabil No evidence of bank in	ity (i.e. root stability obs	structure, served	vegetation	n, substrate o	haracterist	ics):						
Qualitative Attribut	e s											
Water Appearance:	00											
(check one)	No water	⊠Clear	□Turbid	d ⊡She on s	en [urface]Surfac scum	e	□Algal □ mats	Other:			
Substrate:	Bedrock 🛛 🖂	Boulder	⊠ Cobble	e 🛛 Gravel	🛛 Sand		Silt/ cla	iy 🗆 Organic		ther:		
% of Substrate:	%	<u>45_</u> %	45	% _ <u>5</u> _%	<u> 5 </u> %		_%	%	%			
Width of Riparian Zone:	Vege	tative Lay	ers:	~ -			.	(0)				
ft.	(check Ava.	DBH of Do	ominants:	Irees: □14.0 ir		\boxtimes	Saplir 2.0 in	igs/Shrubs:	\boxtimes	Herbs		
N/A⊠	(approx	x.)		<u> </u>			<u></u>					
Sugar maple, yellow	ion (list): birch, blac	k locust,	basswoo	od, pignut h	ickory, wo	od ne	ttle, j	ewel weed,	bitter	dock, w	voodland	ł
bluegrass, bee balm Aquatic Habitats (ex: sub	<u>aoldenroc</u> merged or eme	<u>d, colts fo</u> erged aquati	oot c vegetation,	overhanging ba	anks/roots, lea	f packs, l	large s	ubmerged wood,	riffles, de	eep pools)	:	
Woody debris, emer	gent veget	ation										
Aquatic Organisms Obs	erved (list):											
Caddisfly, mayfly												
T&E Species Observed	(list):											
none												
Disturbances (ex: livestoc	k access, man	ure in water	ody, waste o	discharge pipes):							
Crossing for existing	gravel roa	id via 24"	corrugat	ted metal c	ulvert							
Tributary is: (check one)	⊠ Natu	ral	🗆 Artifi	icial, man-ma	de 🗆 M	anipulat	ed					

spoa432

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 both ways; intermittent stream spoa431 is a tributary within the 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) Stream Quality a: □ Moderate

check one)

⊠ High





Waterbody SPOA432 facing east upstream



Waterbody SPOA432 facing west downstream



Waterbody SPOA432 facing north across

Survey Description												
Project Name: Waterbody Nan				me: V				Vaterbody ID:			Date:	
Atlantic Coast Pipeline	tlantic Coast Pipeline UNT to Slaty			[,] Fork				poa433		6/6/201	16	
State:	County:			Company:			Crew	Member Initials	s:	Photos:		
West Virginia	Pocaho	ontas		NRG/ERM			GB, I	, KO 3 pł			os	
Tract Number(s):				Nearest Mile	epost:		•	Associated W	/etland	ID(s):		
access road 05-001-C00	8.AR1			72.0				none				
Survey Type: (check one)	□Ce	enterline	□Re-Re	oute	⊠Acc	ess Road		□Other:				
Physical Attributes												
Stream Classification: (check one)	□Ep	hemeral	⊠Intern	nittent	□Per	ennial						
Waterbody Type: (check one)	River	⊠ Stream	n 🗆 Ditch	n 🗆 Car	nal	□ Other:						
OHWM Width: _ <u>2.0_f</u> t.	OHW (check	M Indicato	r:	⊠ Clear lir on bank	ie	□Shelvin	ıg	□Wrested vegetation	X	Scouring	g [s	∃Water taining
Height: ft. N/A□		□Bent, ma vegetation	atted, or missir	ng	ne	□Litter ar debris	nd	□Abrupt plar community cl	nt hange	□Soil c	haracteri	stic change
Width of Waterbody - To to Top of Bank:	op of Ban	kWidth of to Toe of	Waterbody - f Slope:	Toe of Slope	Width Water	of Waterb Edge:	ody - V	Vater Edge to	Depth (Approx.)	of Wate	r:	
<u>8.0</u> ft.		1	<u>.5_</u> ft.		N/A□		1.5 _1	ft.	N/A□		0.15 _	ft.
Sinuosity:		Water ve	elocity:		Bank	height			Bank s	slope		
Straight		(Approx.)				Right:				Right:	50 1	
			0.50	fps		Left:	<u>3.0</u> 11			Left	<u> </u>	egrees
	3	N/A□				_	<u>10.0_</u> f	't.			<u>75</u> d	egrees
Analysis of Bank Stabil Banks are road base and	ity (i.e. ro d road cut	ot structu	i <mark>re, vegetatio</mark> to ditch along	n, substrate of existing grave	charact I road	eristics):						
Qualitative Attribut	es											
Water Appearance:												
(check one)	No water	⊠Clea	ar 🗆 Turbio	d □She on s	en surface	□Surf scur	ace m	□Algal □ mats	Other:			
Substrate:	Bedrock	Bould	er 🛛 Cobble	e 🛛 Gravel	\boxtimes S	Sand 🛛	∃ Silt/ cl	ay 🛛 Organic	□ Ot	her:		
% of Substrate:	%	%	30	_% _2 <u>5</u> _%	-	<u>20 </u> %	_	<u>20</u> % _ <u>5</u> %		%		
Width of Riparian Zone:	V	egetative I	Layers:				— • • •	(0)				
<u> </u>	(C) A	vg. DBH o	f Dominants:	⊠ Trees 14.0 ir	: 1.	Ľ	⊠ Saplı 2.0 ir	ngs/Shrubs: n.	X	Herbs		
N/A⊠ Dominant Bank Vegetat	(a)	oprox.)				-						
Sugar maple, yellow	birch, b aolden	lack locu rod. colt	ist, basswo	od, pignut ł	nickory	/, wood r	nettle,	jewel weed,	bitter	dock, v	voodlar	nd
Aquatic Habitats (ex: sub	merged or	emerged ac	uatic vegetation	, overhanging b	anks/roo	ts, leaf pack	s, large :	submerged wood,	riffles, de	eep pools)	:	
Leaf packs, emerger	nt veget	ation										
Aquatic Organisms Obs	erved (lis	<i>t)</i> :										
T&E Species Observed none	(list):											
Disturbances (ex: livestoo	k access. ı	manure in wa	aterbody, waste	discharge pipes):							
Crossing for existing	road via	a 18" cor	rugated me	tal culvert;	confin	ed to dite	ch ups	stream of cul	vert			
Tributary is:	NI	atural	- ا:ئبر ∧ □	ficial man ma	de	Maninul	latod					
	- N	aluidi		noiai, man-ma			aleu					

spoa433

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 at road cut seep ppoa428 within ditch along existing gravel road; follows ditch to culvert; 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: □ High ⊠ Moderate

check one)







Waterbody SPOA433 facing north upstream



Waterbody SPOA433 facing south downstream



Waterbody SPOA433 facing east across

Survey Descriptio	n								
Project Name:		Waterbody Nar	ne:		w	aterbody ID:		Date:	
Atlantic Coast Pipel	line	UNT to Clove	er Creek		Spoc105			3/17/2016	
State:	County:		Company:		Crew N	lember Initials	: P	Photos:	
West Virginia	Pocahontas		NRG		CR, S	SA	1-3		
Tract Number(s):			Nearest Mile	epost:		Associated W	etland I	D(s):	
05-001-E030			72			Wpoc105			
(check one)		⊠Re-R	Route	□ Access Road		Other:			
Physical Attribute Stream Classification:	S								
(check one)	Ephemera	I ⊠Inter	mittent	Perennial					
Waterbody Type: (check one)	∃River ⊠ Str	eam 🗌 Ditc	h 🗆 Ca	anal 🗌 Other:					
OHWM Width: <u>3</u> ft.	OHWM Indica (check all that apply	tor: //	⊠ Clear lir on bank	ne ⊡Shelvinç	9	□Wrested vegetation		Scouring ⊟Water staining	
Height: ft. N/A□	□Bent, r vegetatio	natted, or missing n	g	ne ⊠Litter an debris	d	□Abrupt plan community ch	t l ange	□Soil characteristic change	
Width of Waterbody - 1 Bank to Top of Bank:	Fop of Width to Toe	of Waterbody - 1 of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth c (Approx.)	of Water:	
<u>8</u> ft.	-	<u>_1_</u> ft.		 N/A□	<u>2.5_</u> ft.		N/A□	<u>0.3</u> ft.	
Sinuosity: (check one)	Water (Approx.)	velocity: fps		Bank height Right: Left:	<u>2</u> ft.		Bank sl	ope Right: degrees Left:	
	N/A□			· ·	<u>2</u> ft.			<u>40</u> degrees	
Qualitative Attribu	ites								
(check one)	[□] No water ⊠0	Clear □Turb	id ⊡Sh on	een □Sur surface scu	face Im	□Algal [mats]Other:		
Substrate:	Bedrock 🛛 Bo	ulder 🛛 Cobb	le 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic		ther:	
(check all that apply) % of Substrate:	%	%	%	% <u>20 </u> % _	<u>80_</u> %	%		%	
Width of Riparian Zone <u>50</u> ft N/A□	e: Vegetative (check all that Avg. DBH (approx.)	e Layers: ^{apply)} of Dominants:	⊠ Trees: _ <u>12_</u> in.		Saplin _2_in.	ngs/Shrubs:		Herbs	
Dominant Bank Vegeta	ation (list):								
American beech, re	ed maple, red o	ak, common v	/iolet,						
Aquatic Habitats (ex: su	ubmerged or emerged	aquatic vegetation	n, overhanging	banks/roots, leaf pack	ks, large	submerged wood	, riffles, d	leep pools):	
Leaf packs									
Aquatic Organisms Ob	oserved (list):								
None	1 (1:-4)-								
None	u (<i>IISL)</i> :								
Disturbances (ex: liveste	ock access, manure i	n waterbody, waste	discharge pipe	es):					
None, histiric loggir	ng in the area								
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated				

Spoc105

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)

□ Moderate

Stream Quality ^a: (check one)

🛛 High





Waterbody SPOC105 facing north upstream



Waterbody SPOC105 facing south downstream



Waterbody SPOC105 facing west across

Survey Description	n								
Project Name:	Water		me:	w	aterbody ID:			Date:	
Atlantic Coast Pipel	ine	UNT to Clov	er Creek		S	Spoc111			3/21/2016
State:	County:		Company:		Crew I	Member Initials:	:	Photos:	
West Virginia	Pocahontas		NRG		CR, S	SA		3	
Tract Number(s):	·		Nearest Mile	epost:		Associated W	etland	ID(s):	
05-001-E028-AR			73			None			
Survey Type: (check one)		e □Re-	Route	⊠Access Road		□Other:			
Physical Attributes	S								
Stream Classification: (check one)	Ephemera	al 🛛 🖾 Inte	rmittent	Perennial					
Waterbody Type:									
(check one)	River 🛛 Sti	ream 🗆 Dite	ch 🗆 Ca	anal 🗌 Other:	:				
ОНѠМ	OHWM Indica	tor:							
Width: <u>8</u> ft.	(check all that appl	y)	on bank		g	vegetation	L	Scouring	g ⊡Water staining
Height:	⊠Bent, r	matted, or missir	ng ⊠Wrack li	ne ⊠Litter ar	nd	□Abrupt plant	t	□Soil cl	naracteristic change
ft. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - T Bank to Top of Bank:	op of Width	of Waterbody -	Toe of Slope	Width of Waterbe	ody - W	ater Edge to	Depth	of Water	:
Ballk to Top of Ballk.	to 10e	of Slope:		water Euge.			(Appiox.)		0.0. <i>(</i>)
<u>_15_</u> ft.	-	<u>3</u> ft.		N/A 🗆 🚽	<u>6</u> ft.		N/A□	-	<u>_0.3_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)			Right:				Right	:
		<u>_1_</u> fps		Left:	<u>4_</u> ft.			Left	60 degrees
Meanderir	ng N/A□				_ <u>4_</u> ft.				60 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	[]] No water ⊠0	Clear □Turl	oid □Sh on	neen ⊡Sui n surface scu	rface um	□Algal [mats	□Othe	r:	
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobl	ble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	% 25.9	% 35 %	20 %	20 %		% %		%	
_	<u></u>	. <u></u> ,				_/0/0		/0	
width of Riparian Zone	check all that	e Layers: tapply)	⊠ Trees	:	🛛 Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>40 ft</u> ·	Avg. DBH	of Dominants:	<u>_12_</u> in.	-	<u>2</u> in.	-			
Dominant Bank Vegeta	tion (list):								
Red maple, beech,	red oak, yellow	v birch,sugai	r maple, Ch	ristmas fern, co	ommo	n violet			
Aquatic Habitats (ex: su	Ibmerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles,	deep pool	s):
Leaf packs, over ha	inging roots, ro	ock piles, riffle	es, pools						
Aquatic Organisms Ob	served (list):								
Caddisfly larvae									
T&E Species Observed	l (list):								
None									
Disturbances (ex: livesto	ock access, manure	in waterbody, wast	e discharge pipe	es):					
Stream flows throug	gh a 3' wide cu	lvert under a	ccess road						
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	□ High	× M	oderate	□ Low					

Spoc111

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 SPOC111 facing northwest upstream



Waterbody SPOC111 facing southeast downstream



Waterbody SPOC111 facing southwest across
Survey Descriptio	n										
Project Name:		Waterbo	ody Name	e:			W	/aterbody ID:			Date:
Atlantic Coast Pipel	line	UNT to	Clover	Creek			S	poc110			3/21/2016
State:	County:		С	ompany:			Crew I	Member Initials	::	Photos:	
West Virginia	Pocahontas	5	N	IRG			CR, S	SA		3	
Tract Number(s):	1		N	earest Mile	epost:			Associated W	etland	ID(s):	
05-001-E028-AR			7	3				None			
Survey Type: (check one)	□Center	line	□Re-Ro	ute	⊠Aco	cess Road		□Other:			
Physical Attribute	s										
Stream Classification:											
	□Epherr	ieral		ittent	⊔Pei	rennial					
Waterbody Type: (check one)	River ⊠	Stream	Ditch	□ Ca	anal	□ Other:	:				
онwм	OHWM Ind	icator:								10	
Width: <u>2</u> ft.	(Check all that a	арріу)		on bank	ne	Shelvin	g	vegetation	L	Scouring	staining
Height:	□Ber	nt, matted, or	missing	□Wrack li	ne	⊠Litter ar	nd	Abrupt plan	nt	□Soil cł	naracteristic change
<u>−0.5_</u> n. N/A□	vegeta	ation				debris		community cr	ange		
Width of Waterbody - 1 Bank to Top of Bank:	opof Wid to T	th of Waterl	oody - To	e of Slope	Width of Water I	of Waterbo Edge:	ody - W	ater Edge to	Depth (Approx.)	of Water	:
			•				0 (1			() 1 ft
<u>_8</u> π.		<u>_1_</u> π.			N/A□	-	<u>2</u> π.		N/A□	<u>.</u>	<u></u> n.
Sinuosity:	Wat	er velocity:			Bank h	eight			Bank	slope	
	(Appr	0x.)	1 fra			Right:	3 ft			Right	60 degrees
Moondori		_	<u> </u>			Left:	<u> </u>			Left	<u>- 00</u> dogrooo
	N/A						<u>3_</u> ft.				<u>60</u> degrees
Qualitative Attribu	ites										
Water Appearance: (check one)	No water	⊠Clear	□Turbid	□ Sh on	een surface	⊡Sui scu	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder 2	Cobble 🛛	⊠ Grave	el 🖂	Sand [□ Silt/ c	lay 🗆 Organic	; 🗆 (Other:	
(check all that apply) % of Substrate:	_% _1	0_%	<u>20_</u> %	<u>60</u> %	_1(<u>)</u> %		_%%	·	%	
Width of Riparian Zone	e: Vegeta	tive Layers:									
10 ft.	(check all	that apply) BH of Domin	nante:	⊠ Trees		Þ	Saplir	ngs/Shrubs:	Σ	Herbs	
N/A□	(approx.)	BIT OF DOILIN	iants.	<u>_12_</u> IN.		-	<u>2</u> in.				
Dominant Bank Vegeta	ation (list):	iotmoo foi	-								
Red maple, beech,	red oak, Chi	ristmas iei	'n								
Aquatic Habitats (ex: s	ubmerged or eme	rged aquatic v	egetation,	overhanging	banks/roo	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	s):
None											
Aquatic Organisms Ob	served (list):										
None											
T&E Species Observed	l (list):										
None											
Disturbances (ex: livest	ock access, manu	ire in waterboo	dy, waste d	ischarge pipe	es):						
Stream flows under	access road	d through	2' culve	rt							
Tributary is: (check one)	⊠ Natura	al	□ Artific	cial, man-m	ade	Manip	ulated				
Stream Quality ^a : (check one)	□ High		⊠ Mode	erate		□ Low					

Spoc110

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 SPOC110 facing northwest upstream



Waterbody SPOC110 facing southeast downstream



Waterbody SPOC110 facing southwest across

Survey Description	n										
Project Name:		Waterbo	dy Name): 			W	/aterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to	Clover	Сгеек			S	poc109		3	/18/2016
State:	County:		C	ompany:			Crew I	Member Initials	:	Photos:	
West Virginia	Pocahontas		Ν	RG			CR, S	SA		3	
Tract Number(s):			N	earest Mile	epost:			Associated W	etland	ID(s):	
05-001-E028-AR			7	3				None			
Survey Type: (check one)		ne	□Re-Ro	ute	⊠Ac	cess Road		□Other:			
Physical Attribute	s										
Stream Classification:											
	Epheme	eral		ttent	⊔Pe	rennial					
Waterbody Type: (check one)	River 🛛 S	Stream	Ditch	□ Ca	anal	□ Other	:				
онwм	OHWM India	cator:							_	10	
Width: <u>2</u> ft.	(CHECK all that ap	יעישי)		on bank	ie		g		L	Scouring	staining
Height:	Bent	, matted, or	missing	□Wrack li	ne	⊠Litter ar	nd	Abrupt plan	t	□Soil ch	aracteristic change
<u>−0.5_</u> n. N/A□	vegeta	lion				debris		community cr	lange		
Width of Waterbody - T Bank to Top of Bank:	op of Widtl	n of Waterb	ody - To	e of Slope	Width Water	of Waterb Edge:	ody - W	ater Edge to	Depth (Approx.)	of Water:	
		e or orope.			Tater	Luge.			(// -)	0	1 ft
<u>_8</u> π.		<u>_1_</u> ft.			N/A□	-	<u>_2_</u> ft.		N/A□	<u>u</u>	<u>. </u> lt.
Sinuosity:	Wate	r velocity:			Bank h	eight			Bank s	slope	
(check one)	(Appro	x.)				Right:	2 #			Right:	60 dogroop
			<u>1_</u> tps			Left:	<u> </u>			Left:	
	ng N/A]					<u>3_</u> ft.				<u>60</u> degrees
Qualitative Attribu	tes										
Water Appearance: (check one)	No water	⊠Clear	□Turbid	⊡Sh on	een surface	⊡Su sci	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock 🛛 I	Boulder 🗵	Cobble	⊠ Grave	el 🛛	Sand [□ Silt/ c	clay 🗆 Organic	; 🗆 (Other:	
(check all that apply) % of Substrate:	_% _10	_% _2	<u>20_</u> %	<u> 60 </u> %	_1()_%		_%%		%	
Width of Riparian Zone	: Vegetati	ve Layers:									
10 ft.	(check all the Ava DB	nat apply) H of Domin	ants	⊠ Trees			Saplir	ngs/Shrubs:	\geq	I Herbs	
N/A□	(approx.)		anto.	<u>_12_</u> IN.		-	_ <u>2_</u> in.				
Dominant Bank Vegeta Red maple, beech.	i tion <i>(list)</i> : red oak. Chri	stmas fer	n								
Aquatic Habitats (ex: si		red aquatic ve	antation (overhanding	hanks/ro	ots leaf nac	ks large	submerged wood	riffles	deen nools).
None			getation, v	overnanging	barikario		ks, large		, 111103,		
Aquatic Organisms Ob	served (list):										
None											
T&E Species Observed	(list):										
None											
Disturbances (ex: livesto Stream flows under	ock access, manur	e in waterbod	y, waste di 2' culve	ischarge pipe rt	es):						
		an ough z									
(check one)	⊠ Natural		□ Artific	cial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a : (check one)	□ High		🛛 Mode	erate		□ Low					

Spoc109

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 SPOC109 facing west upstream



Waterbody SPOC109 facing east downstream



Waterbody SPOC109 facing north across

Survey Descriptio	n										
Project Name:		Waterbo	ody Name	e:			W	aterbody ID:			vate:
Atlantic Coast Pipe	line	UNIto	Clover	Creek			S	poc107		3	/18/2016
State:	County:		С	ompany:			Crew N	lember Initials	::	Photos:	
West Virginia	Pocahontas	5	Ν	IRG			CR, S	SA		3	
Tract Number(s):			N	earest Mile	epost:			Associated W	etland	ID(s):	
05-001-E028			7	3				None			
Survey Type: (check one)		line	⊠Re-Ro	ute	□Acc	ess Road		□Other:			
Physical Attribute	S										
Stream Classification:											
(cneck one)	□Ephem	ieral		ittent	⊔Per	ennial					
Waterbody Type: (check one)	□River ⊠	Stream	□ Ditch	□ Cá	anal	Other:					
онwм	OHWM Ind	icator:								10	
Width:ft.	(Check all that a	арріу)		on bank	ie	Shelvin	g	☐ Wrested vegetation	L	Scouring	⊔ Water staining
Height:	□Ber	nt, matted, or	r missing	□Wrack li	ne	⊠Litter ar	nd	□Abrupt plar	nt	□Soil ch	aracteristic change
<u>0.5</u> n. N/A□	vegeta	ation				debris		community cr	nange		
Width of Waterbody -	Top of Wid	th of Water	body - To	e of Slope	Width o	of Waterbo	ody - W	ater Edge to	Depth (Approx	of Water:	
		oe or Stope	•		Water L	uge.			(* 1-1)		4
<u>15_</u> ft.		<u>_1_</u> ft.			N/A⊠	-	ft.		N/A⊠		n.
Sinuosity:	Wat	er velocity:			Bank he	eight			Bank s	slope	
(check one)	(Appr	ox.)	6 m m			Right:	5 ft			Right:	80 degrees
		-	tps			Left:	<u> </u>			Left:	
⊠ Meanderi	ng N/A						<u>5</u> ft.				80_degrees
Qualitative Attribu	ites										
Water Appearance: (check one)	[□] No water	⊠Clear	□Turbid	□Sh on	een surface	⊡Sui scu	face Im	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder [⊠ Cobble	⊠ Grave	el 🛛 S	Sand [□ Silt/ c	lay 🗆 Organio	; □(Other:	
(check all that apply) % of Substrate:	_% _6(0_%	<u>20_</u> %	<u> 10 </u> %	10	_%		_%%		%	
Width of Riparian Zone	e: Vegeta	tive Layers:									
10 #	(check all	that apply)	nante	⊠ Trees:	:	Σ	Saplir	ngs/Shrubs:	\geq	I Herbs	
<u></u> N/A□	(approx.)		namo.	<u>_12_</u> in.		-	<u>_2_</u> ın.				
Dominant Bank Vegeta	ation <i>(list)</i> : red.oak Chi	ristmas fe	rn								
Aquetia Habitata (am					h = 11 = /1 = =	4- 1)-
Leaf packs	ubmerged of eme	rged aqualic v	egetation,	overnanging	Danks/100	is, lear pac	ks, large	submerged wood	, nines,	deep pools	<u>,</u> -
Aquatic Organisms Ob	oserved (list):										
None											
T&E Species Observed	d (list):										
None											
Disturbances (ex: livest	ock access, manu	re in waterboo d through	dy, waste d culvert	lischarge pipe	es):						
		anough	Survert								
(check one)	🛛 Natura	al	🗆 Artifi	cial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a : (check one)	🗆 High		⊠ Mod	erate		□ Low					

Spoc107

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:





SPOC107 facing northwest upstream



SPOC107 facing southeast downstream



SPOC107 facing southwest across

Survey Description	n										
Project Name:		Waterbo	dy Nam	ne:			w	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Clove	r Creek			SI	poc106			3/18/2016
State:	County:			Company:			Crew N	lember Initials	5:	Photos:	
West Virginia	Pocahontas		1	NRG			CR, S	SA		3	
Tract Number(s):				Nearest Mile	epost:			Associated W	etland	I ID(s):	
05-001-E028				73				None			
Survey Type: (check one)		ne	⊠Re-R	oute	□Ac	cess Road		□Other:			
Physical Attribute	s										
Stream Classification: (check one)	Epheme	ral	□Intern	nittent	⊠Pe	rennial					
Waterbody Type:											
(check one)	□River ⊠ S	tream	Ditch	n 🗆 Ca	anal	□ Other	:				
OHWM	OHWM India	ator:					~			Coouring	
<u>18 ft.</u>	(oncon an inat ap	<i></i>		on bank	le		g	vegetation	L	∃Scounnę	staining
Height:	□Bent	matted, or	missing	l ⊠Wrack li	ne	⊠Litter a	nd	□Abrupt plar	nt	□Soil cl	haracteristic change
ft. N/A□	vegetat	ion				debris		community cl	nange		
Width of Waterbody -	Top of Width	of Waterb	ody - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth (Approx	of Water	-
Bank to Top of Bank.	10 10	e of Stope.			water	Luge.			(, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	/	
<u>30_</u> ft.		<u>5_</u> ft.			N/A□	-	<u>14</u> ft.		N/A□		<u>1.5</u> π.
Sinuosity:	Wate	r velocity:			Bank	neight			Bank	slope	
(check one)	(Appro:	c.)				Right:				Right	:
			<u>1_</u> fps			Left:	<u> </u>			Left	<u>60</u> degrees
Meander	ng N/A						<u>5_</u> ft.				60 degrees
Qualitative Attribu	utes										
Water Appearance: (check one)	□No water D	Clear	□Turbi	d ⊡Sh on	een surface	⊡Su e sc	rface um	□Algal mats	□Othe	er:	
Substrate:	🛛 Bedrock 🛛 🖾	Boulder 🗵	Cobbl	e 🛛 Grave	el 🗆	Sand	□ Silt/ c	lay 🗆 Organio	; □ (Other:	
(check all that apply) % of Substrate:	10 % 15	%	35 %	10 %		%		% %		%	
-	<u> </u>		<u></u> /0	<u> </u>		/0		/	, <u> </u>	/0	
width of Riparian Zon	check all th	ve Layers: at apply)		⊠ Trees:	:		⊠ Saplin	ngs/Shrubs:	\triangleright	I Herbs	
<u>80 ft</u> -	Avg. DB	H of Domin	ants:	<u>12</u> in.		-	<u>2</u> in.	-			
Dominant Bank Veget	ation (list):										
Red maple, beech,	red oak, Chri	stmas fer	n								
Aquatic Habitats (ex: s	ubmerged or emerg	ed aquatic ve	egetation	, overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	l, riffles,	deep pool	s):
Leaf packs, over ha	anging roots, I	ock piles	, riffles	s, pools							
Aquatic Organisms Ol	oserved (list):										
Caddisfly larvae											
T&E Species Observe	d (list):										
None											
Disturbances (ex: livest	ock access, manure	e in waterbod	y, waste	discharge pipe	es):						
Stream flows over	access road										
Tributary is: (check one)	⊠ Natural		□ Artii	ficial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a : (check one)	⊠ High			derate		□ Low					

Spoc106

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 SPOC106 facing northeast upstream



Waterbody SPOC106 facing southwest downstream



Waterbody SPOC106 facing southeast across

Survey Description	n							
Project Name:		Waterbody Na	me:		W	/aterbody ID:		Date:
Atlantic Coast Pipel	ine	Clover Cree	k		s	poe048		7/21/2016
State:	County:		Company:		Crew	Member Initials:	Pho	tos:
West Virginia	Pocahontas		NRG		CG, A	AS	1-3	5
Tract Number(s):	I		Nearest Mile	epost:		Associated We	tland ID(s	3):
05-001-E032			NA			none		
Survey Type: (check one)		e □Re-I	Route	⊠Access Road		□Other:		
Physical Attribute	S							
Stream Classification:								
	□ Ephemera	al 🗌 Inte	rmittent	⊠Perennial				
Waterbody Type: (check one)	River 🛛 Str	ream 🗆 Dite	ch 🗆 C	anal 🛛 Other	:			
ОНѠМ	OHWM Indica	itor:						
Width: <u>30</u> ft.	(check all that appl	y)	on bank	ne LiSheivin	g		× Sco	staining
Height:	⊠Bent, r	matted, or missir	ng ⊡Wrack li	ne ⊠Litter ar	nd	□ Abrupt plant	⊠S	oil characteristic change
_ <u>5_</u> ft. N/A□	vegetatio	on		debris		community cha	inge	
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to D	epth of W	/ater:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(*	Approx.)	
<u>60</u> ft.	_	<u>20 </u> ft.			<u>20</u> ft.	N		<u>3_ft</u> .
Sinuosity:	Water	velocity [.]		N/A⊡ Bank height		B	ank slone	9
(check one)	(Approx.)			Right:			R	ight:
		<u>_1_</u> fps		Loft	<u>4_</u> ft.			<u>10</u> degrees
□Meanderir	ng N/A□			Leit.	_4_ft.			<u>10</u> degrees
Qualitative Attribu	tes							
Water Appearance:							Others	
	INO water		or Dia or	neen ⊔Su nisurface sci	um	⊔Algal ∟ mats	Other:	
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic	⊠ Othe	r:
% of Substrate:	<u> % 10 </u>	% <u>15</u> %	<u> 5 </u> %	<u> 5 %</u>	<u>5</u> %	%	<u> 60 </u> %	
Width of Riparian Zone	: Vegetativ	e Lavers:						
	(check all that	t apply)	□ Trees	: [□ Sapli	ngs/Shrubs:	⊠ He	rbs
_ <u>70_ft</u> - N/A□	Avg. DBH (approx.)	of Dominants:	<u>_</u> in.	-	in.			
Dominant Bank Vegeta	tion (list):							
Grasses, sedges								
Aquatic Habitats (ex: su	ubmerged or emerge	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):
Pools								
Aquatic Organisms Ob	served (list):							
Fish, minnows								
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ock access, manure	in waterbody, wast	e discharge pip	es):				
Bridged and culvert	ed							
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated			
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low	-			

Spoe048

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 spoe048 facing west upstream



Waterbody spoe048 facing east downstream



Waterbody spoe048 facing north across

Survey Description	n							
Project Name:		Waterbody Nan	ne:		w	/aterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to Clove	er Creek		S	poc120		4/14/2016
State:	County:		Company:		Crew I	Member Initials:	Phot	os:
West Virginia	Pocahontas		NRG		CR, A	AS	3	
Tract Number(s):			Nearest Mile	post:		Associated We	tland ID(s):
05-001-E031						Wpoc109		
Survey Type: (check one)	⊠Centerline	e □Re-R	oute	□Access Road		□Other:		
Physical Attribute	es							
Stream Classification: (check one)	Ephemera	al 🗌 Interr	nittent	⊠Perennial				
Waterbody Type: (check one)	□River ⊠ Str	eam 🗌 Ditcl	h 🗆 Ca	inal 🗌 Other:				
OHWM Width: _ <u>10_</u> ft.	OHWM Indica (check all that apply	tor: /)	□ Clear lin on bank	e 🗆 Shelving	g	□Wrested vegetation	Sco	uring ⊟Water staining
Height: <u>1.5_</u> ft. N/A□	□Bent, r vegetatio	natted, or missing n	g	ne □Litter ar debris	nd	□ Abrupt plant community cha	⊡So nge	oil characteristic change
Width of Waterbody - Bank to Top of Bank:	Top of Width to Toe	of Waterbody - T of Slope:	oe of Slope	Width of Waterbo Water Edge:	ody - W	/ater Edge to D	epth of W Approx.)	ater:
<u>_15_</u> ft.	-	<u>1</u> ft.		N/A□	<u>9</u> ft.	И	I/A□	<u>1</u> ft.
Sinuosity: (check one) □Straight	Water (Approx.)	velocity: fps		Bank height Right: Left:	<u>3</u> ft.	B	ank slope Ri	e ight: <u>80</u> degrees Left:
Qualitative Attribu	utes				<u></u> II.			<u> </u>
Water Appearance:	_							
(check one)	-No water □0	Clear □Turbi	d □She on	een ⊡Sur surface scu	rface um	□Algal □ mats	Other:	
Substrate:	Bedrock Bo	oulder 🛛 Cobbl	e 🗆 Grave	el 🗆 Sand 🛛	□ Silt/ c	clay 🗆 Organic	□ Other	:
% of Substrate:		_%	%	%%		_%%		%
Width of Riparian Zon	e: Vegetative	e Lavers:						
<u>ft</u> .	(check all that Avg. DBH	apply) of Dominants:	□ Trees	: [_in	∃ Saplir	ngs/Shrubs: in.	□ Her	bs
Dominant Bank Veget	ation (list):							
Sugar maple, beec	h, gray sedge,	timothy grass,	, red clover	, yarrow				
Aquatic Habitats (ex: s Overhanging banks	ubmerged or emerged s. leaf packs. ro	d aquatic vegetation	i, overhanging I	oanks/roots, leaf pac	ks, large	submerged wood, i	riffles, deep	pools):
Aquetio Organismo Ol	conved (list)	,						
Dragonfly nymph, s	stonefly larvae,	caddisfly larva	ae					
T&E Species Observe	d (list):							
None								
Disturbances (ex: livest	tock access, manure i	n waterbody, waste	discharge pipe	s):				
Located within pas	ture land and fl	ows under a b	oridge					
Tributary is: (check one)	⊠ Natural	□ Arti	ficial, man-ma	ade 🗌 Manipi	ulated			
Stream Quality ^a : (check one)	□ High		derate	□ Low				

Spoc120

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 SPOC120 facing southwest upstream



Waterbody SPOC120 facing northeast downstream



Waterbody SPOC120 facing southeast across

Survey Description	n								
Project Name:		Waterbody	lame:		w	laterbody ID:		I	Date:
Atlantic Coast Pipel	ine	UNT to Clo	over Creek		S	poe032	<u> </u>		7/15/2016
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; 05-001-E03	33		NA			Wpoe216; v	wpoe2	217	
Survey Type: (check one)	⊠Centerlin	e □Re	e-Route	□ Access Road		□Other:			
Physical Attributes	S								
Stream Classification: (check one)	Epheme	ral ⊠In	termittent	Perennial					
Waterbody Type:									
(check one)	River St	ream 🗆 D	Vitch 🗆 C	anal 🗌 Other:					
OHWM Width	OHWM Indic	ator:			a	Wrested		Scouring	
<u>8</u> ft.	(**********		on bank		9	vegetation		ocounity	staining
Height:	⊠Bent,	matted, or miss	sing DWrack li	ne ⊠Litter ar	nd	□Abrupt plan	t	⊠Soil cł	naracteristic change
_ <u>1_f</u> t. N/A□	vegetati	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.		or Slope.		water Luge.			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0.0 #
<u>_15_</u> ft.		<u>3</u> ft.		N/A□	<u>3</u> ft.		N/A□	-	<u>_0.2_</u> II.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx	.)		Right:	२ म			Right	20 dogrado
		0.75	fps	Left:	<u></u> II.			Left	<u></u> degrees
Meanderir	ng N/A□				<u>2_</u> ft.				80 degrees
Qualitative Attribu	tes								
(check one)	No water	Clear □Tu	ırbid □Sh or	neen ⊡Sur n surface scu	rface um	□Algal [mats	Other	1	
Substrate:	Bedrock 🗆 B	oulder 🛛 Co	bble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 40 </u> %	% <u>30</u> %	<u> 15 </u> %	<u>15_</u> %	%		%	
Width of Riparian Zone	e: Vegetativ	ve Layers:							
40 #	(check all the	at apply)	⊠ Trees	: 🛛 🛛	Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>40 n</u> . N/A□	(approx.)		• <u>12</u> in.	-	_ <u>0.5_</u> in				
Dominant Bank Vegeta	tion (list):								
Birch, ironwood, vio	let								
Aquatic Habitats (ex: su	ubmerged or emerge	ed aquatic vegeta	tion, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	\$):
riffles									
Aquatic Organisms Ob	served (list):								
None but likely pres	ent								
T&E Species Observed	l (list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, wa	ste discharge pipe	es):					
Adjacent to gravel r	oad								
Tributary is: (check one)	□ Natural		Artificial, man-m	iade 🛛 Manipi	ulated				
Stream Quality ^a : (check one)	🗆 High	\boxtimes	Voderate	□ Low					

Spoe032

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 SPOE032 facing south upstream



Waterbody SPOE032 facing east downstream



Waterbody SPOE032 facing west across

Survey Description	า								
Project Name:		Waterbody Na	me:		v	aterbody ID:			Date:
Atlantic Coast Pipeli	ne	UNT to Clov	er Creek		S	poe033			7/15/2016
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):	
05-001-E033			NA			none			
Survey Type: (check one)		e □Re-F	Route	⊠Access Road		□Other:			
Physical Attributes	6								
Stream Classification: (check one)	⊠Ephemera	al 🗌 Inter	rmittent	Perennial					
Waterbody Type:									
(check one)	River 🛛 Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:	:				
онwм	OHWM Indica	tor:					N		
Width: <u>2</u> ft.	(спеск ал тат аррг	()	Clear lir on bank	ne ⊡Shelvin	g	☐Wrested vegetation	×	Scouring	l ∐Water staining
Height:	⊠Bent, r	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 - 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>5</u> ft.	_	_1ft.			<u>0.5_</u> ft.			-	<u>0.1</u> ft.
Sinuosity:	Water	velocity:		N/AL			Banks	lope	
(check one)	(Approx.)	roloony.		Right:			Dunite	Right	:
		<u>_0.4_</u> fps	6	Loft	<u>1_</u> ft.			Loft	<u>30</u> degrees
	9 N/A□			Len.	<u>2_</u> ft.			Len	degrees
Qualitative Attribut	tes								
Water Appearance: (check one)	No water ⊠0	Clear 🗆 Turb	oid □Sh on	neen ⊡Sui n surface scu	rface um	□Algal [mats	Othe	r:	
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobb	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:							
f+	(check all that	apply)	⊠ Trees	: [Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>n</u> . N/A⊠	(approx.)	or Dominants.	<u>6</u> in.	-		_in.			
Dominant Bank Vegeta	tion (list):								
Ferns, oak									
Aquatic Habitats (ex: su	bmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	s):
none									
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):					
Adjacent to road									
Tributary is: (check one)	□ Natural		tificial, man-m	ade 🛛 🛛 Manip	ulated				
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low					

Spoe033

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 SPOE033 facing northwest upstream



Waterbody SPOE033 facing southeast downstream



Waterbody SPOE033 facing west across

Survey Descriptio	n										
Project Name:		Waterb	ody Nam	e:			w	aterbody ID:		C	Date:
Atlantic Coast Pipe	line	Clove	er Creek				S	poc101			3/15/2016
State:	County:		C	Company:			Crew N	lember Initials	5:	Photos:	
West Virginia	Pocahon	tas	ſ	NRG			CR, S	SA		1-3	
Tract Number(s):			1	Nearest Mile	epost:			Associated W	etland	I ID(s):	
05-001-E035			-	75				Wpoc100			
Survey Type: (check one)	□Cer	nterline	⊠Re-Ro	oute		ss Road		□Other:			
Physical Attribute	S										
Stream Classification: (check one)	□ Eph	nemeral	□Interm	nittent	⊠Pere	nnial					
Waterbody Type:											
(check one)	River	⊠ Stream	Ditch	n 🗆 Ca	anal	Other	:				
онwм	OHWM	Indicator:									
Width: <u>30</u> ft.	(check all t	hat apply)		☑ Clear lir on bank	ne 🗆	Shelvin	g	☐Wrested vegetation		Scouring	□Water staining
Height:		Bent, matted, c	or missing	⊠Wrack li	ne 🗵	Litter ar	nd	□Abrupt plan	ıt	□Soil ch	aracteristic change
<u>3.5</u> ft. N/A□	ve	getation	-		de	ebris		community ch	nange		-
Width of Waterbody - 1	Γop of V	Vidth of Water	rbody - T	oe of Slope	Width of	Waterb	ody - W	ater Edge to	Depth	of Water:	1
вапк то тор от вапк:	t	o Toe of Slope	e:		water Ec	ige:			(Approx.,)	
<u>_40</u> ft.		<u>_10_</u> ft.					<u>30</u> ft.		N/∆ □	-	<u>_3.5</u> ft.
Sinuosity:	v	Vater velocity	:		Bank hei	ght			Bank	slope	
(check one)	(/	Approx.)			F	light:				Right:	
		-	<u>2</u> fps			l oft	<u>8_</u> ft.			l oft	60 degrees
⊠Meanderi	ng N	N/A□				Lon.	<u>8_</u> ft.			Loit.	80 degrees
Qualitative Attribu	ites										
Water Appearance: (check one)	[∃] No water	□Clear	⊠Turbio	d ⊡Sh on	een surface	⊡Sui sci	rface um	□Algal mats	□Othe	er:	
Substrate:	Bedrock	Boulder		e 🛛 Grave	el 🛛 Sa	and [□ Silt/ c	lay 🗆 Organic	; 🗆 (Other:	
(check all that apply) % of Substrate:	%	%	<u>25_</u> %	<u> 55 </u> %	20	% _		_%%		%	
Width of Rinarian Zone	e. Ved	etative Lavers									
main of Ripanan 2010	(check	k all that apply)		⊠ Trees:	:	D	🛛 Saplir	ngs/Shrubs:	\triangleright	∃ Herbs	
<u>20 ft</u> - N/A□	Avg. (appro	. DBH of Dom ox.)	inants:	<u> 10 </u> in.		-	<u>2</u> in.				
Dominant Bank Vegeta	ation (list):										
Setaria, red clover,	rush, syca	amore, blac	kberry								
Aquatic Habitats (ex: s	ubmerged or e	emerged aquatic	vegetation,	overhanging	banks/roots	, leaf pac	ks, large	submerged wood	, riffles,	deep pools):
riffles											
Aquatic Organisms Ob	oserved (list,):									
None											
T&E Species Observed	d (list):										
None											
Disturbances (ex: livest	ock access, m	anure in waterbo	ody, waste	discharge pipe	es):						
Stream flows under	r road thro	ough seven	culverts	. Streak h	as livest	ock ac	cess a	ind the bank	s are	highly s	usceptible to
Tributary is: (check one)	⊠ Na	tural	□ Artif	icial, man-m	ade 🗌] Manip	ulated				
Stream Quality ^a : (check one)	🗆 Hig	gh	⊠ Moo	lerate		Low					

Spoc101

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 is at the ordinary high water mark due to recent heavy rain. Wetland and waterbodies below are in Pocahontas County. WRAC100=WPOC100, SRAC101=SPOC101, SRAC102=SPOC102, WRAC101=WPOC101, SRAC103=SPOC103
Waterbody Sketch (Include north arrow, centerline, distance, from centerline, data point location, survey boundary, and IDs of associated features)
Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)
N Kath
1
WAARCINO
W BZ
4 +WRACIOI
SRA(103



Waterbody SPOC101 facing north upstream



Waterbody SPOC101 facing south downstream


Waterbody SPOC101 facing east across

Survey Descriptio	n									<u> </u>		
Project Name:	me: Waterboo			dy Name: W						I	Date:	
Atlantic Coast Pipe	eline UNT to Cl			lover Creek				poc102			3/15/2016	
State:	County:			Company: C			Crew I	ew Member Initials: Phot				
West Virginia	Pocahontas			NRG C			CR, S	२, SA 1-3				
Tract Number(s):				earest Mile	epost:			Associated W				
05-001-E035			75	5				None				
Survey Type: (check one)		e 🛛	Re-Rou	ıte	□Ac	cess Road	1	□Other:				
Physical Attribute	S											
Stream Classification: (check one)	Epheme	al 🛛	Intermit	ttent	□Pe	erennial						
Waterbody Type: (check one)	∃River ⊠ St	ream 🗆	Ditch	□ Ca	anal	□ Other	:					
OHWM Width:	OHWM Indic (check all that app	ator: Ny)		⊠ Clear lin on bank	e	□Shelvin	ng	□Wrested vegetation	×	Scouring	□Water staining	
Height:	□Bent, vegetati	matted, or mi on	issing	□Wrack lin	ne	□Litter a debris	nd	□ Abrupt plan community ch	t lange	□Soil ch	haracteristic change	
Width of Waterbody -	Con of Width	of Waterboo		a of Slone	Width	of Waterb	ody - W	ater Edge to	Denth	of Water	•	
Bank to Top of Bank:	to Toe	of Slope:	.,		Water	Edge:	cuy II	utor Eugo to	(Approx.)			
<u>8</u> ft.		<u>2</u> ft.			N/A□	-	<u>6</u> ft.		N/A□		<u>1</u> ft.	
Sinuosity:	Water	velocity:			Bank I	neight			Bank s	slope		
(check one)	(Approx)				Right:	o #			Right:	60 dogrado	
		1_		_fps		<u>_3_</u> π. Left:				Left	Left:	
Meanderi	ng N/A□						<u>2</u> ft.				80 degrees	
Qualitative Attribu	ites											
Water Appearance: (check one)	[□] No water ⊠	Clear 🗆	Turbid	⊡Sh on	een surface	⊡Su e sc	irface um	□Algal mats	□Othe	r:		
Substrate:	Bedrock 🛛 B	oulder 🛛 🕬	Cobble	⊠ Grave	el 🛛	Sand	□ Silt/ c	lay 🗆 Organic	: 🗆 (Other:		
(check all that apply) % of Substrate:	%%	25	_%	<u> 55 </u> %	_2	<u>0 %</u>		_%%		_%		
Width of Riparian Zone	e: Vegetativ	e Lavers:										
ft.	(check all the Avg. DBH	at apply) I of Dominar	nts:	Trees:		[□ Saplir	ngs/Shrubs:	\boxtimes	I Herbs		
N/A⊠	(approx.)					•						
Dominant Bank Vegeta Setaria, red clover,	ation (list): rush, wingstei	n										
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vege	etation, o	verhanging	banks/ro	ots, leaf pac	cks, large	submerged wood	, riffles,	deep pools	5):	
riffles							-	-				
Aquatic Organisms Ob	oserved (list):											
None												
T&E Species Observed	d (list):											
None												
Disturbances (ex: livest	ock access, manure	in waterbody, v	waste dis	scharge pipe	es):							
Stream flows under	r road through	a culvert.	Strear	n has liv	estock	access	and th	ie banks are	highly	y susce	ptible to erosion	
Tributary is: (check one)	⊠ Natural		Artific	ial, man-m	ade	🗆 Manip	ulated					
Stream Quality ^a : (check one)	□ High	×	Mode	rate		□ Low						

Waterbody ID:

Spoc102

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 is at the ordinary high water mark due to recent heavy rain. Revised information below. This is in Pocahontas County. WRAC100 is WPOC100, SRAC101 is SPOC101, SRAC102 is SPOC102, WRAC101 is WPOC101, and SRAC103 is SPOC103.





Waterbody SPOC102 facing east upstream



Waterbody SPOC102 facing west downstream



Waterbody SPOC102 facing south across

Survey Description	n										
Project Name:	roject Name: Waterbo			ne:		W	aterbody ID:		C	Date:	
Atlantic Coast Pipe	eline Clover			ĸ		S	Spoc103			8/15/2016	
State:	County:	ounty:				Crew I	rew Member Initials:			Photos:	
West Virginia	Pocahont	as		NRG ,			CR, SA 1-3				
Tract Number(s):				Nearest Mile	epost:		Associated Wetland ID(s):				
05-001-E035				75			None				
Survey Type: (check one)	□Cent	terline	⊠Re-R	oute	□Access Roa	d	□Other:				
Physical Attribute	es										
Stream Classification: (check one)	: □Ephe	emeral	□Inten	nittent	Perennial						
Waterbody Type:											
(check one)	River	Stream Stream	□ Ditc	h 🗆 Ca	anal 🗌 Othe	er:					
ОНШМ	OHWM In	ndicator:									
Width:ft.	(check all th	αι αρριγ)		on bank	ie 🗆 Sheivi	ng	vegetation		Scouring	⊔ water staining	
Height:	⊠B	Bent, matted, c	r missing ⊠Wrack line ⊠Litter ar				□Abrupt plan	t l	□Soil ch	aracteristic change	
<u>3.5_</u> ft. N/A□	veg	etation		-	debris		community ch	ange		-	
Width of Waterbody -	Top of W	idth of Water	body - 1	oe of Slope	Width of Water	body - W	ater Edge to	Depth o	of Water:		
Ballk to Top of Ballk.	to	10e of Slope	9:		water Euge:			(Αρριολ.)		o	
<u>_40_</u> ft.		<u>_10_</u> ft.			N/A	<u>_30_</u> ft.		N/A□	-	<u>3.5_</u> π.	
Sinuosity:	w	later velocity			Bank height			Bank sl	оре		
(check one)	(A	pprox.)			Right:	- 4			Right:	10 de ane es	
_		-	<u>2</u> fps		Left:	<u> </u>	<u>5_</u> ft.			<u>40</u> degrees	
Meander	ing N	/A□				<u>8_</u> ft.				<u>90</u> degrees	
Qualitative Attribu	utes										
(check one)	□No water	□Clear	⊠Turbi	d ⊡Sh on	een □S surface s	urface cum	□Algal [mats	□Other:			
Substrate:	Bedrock	Boulder	⊠ Cobb	le 🛛 Grave	el 🛛 Sand	□ Silt/ o	clay 🗆 Organic	□ 0 ⁻	ther:		
(check all that apply) % of Substrate:	%	_%	<u>25_</u> %	<u> 55 </u> %	<u>20</u> %		_%%		%		
Width of Riparian Zon	e: Vege	tative Layers	:								
20 ft.	(check	all that apply)	inante:	⊠ Trees:		Saplii	ngs/Shrubs:	\boxtimes	Herbs		
<u>20 R</u>	(appro.	x.)	manto.	<u>_10_</u> ln.		<u>_2</u> in.					
Dominant Bank Veget	ation (list):										
Setaria, red clover,	rusn, syca	imore, blac	kberry								
Aquatic Habitats (ex: s	submerged or er	merged aquatic	vegetatior	n, overhanging	banks/roots, leaf pa	icks, large	submerged wood,	riffles, d	eep pools):	
riffles											
Aquatic Organisms Ol	bserved (list):	:									
None											
T&E Species Observe	d (list):										
None											
Disturbances (ex: lives	tock access, ma	anure in waterbo	ody, waste	discharge pipe	es):						
Stream flows unde erosion	r road throu	ugh seven	culverts	s. Streak h	as livestock a	ccess a	and the banks	s are h	ighly s	usceptible to	
Tributary is: (check one)	⊠ Nat	ural	□ Art	ficial, man-m	ade 🗆 Mani	pulated					
Stream Quality ^a : (check one)	🗆 Higl	h	⊠ Mo	derate	□ Low			_			

Waterbody ID:

Spoc103

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 is at the ordinary high water mark due to recent heavy rain. This is in Pocahontas County. WRAC100=WPOC100, SRAC101=SPOC101, SRAC102=SPOC102, WRAC101=WPOC101, SRAC103=SPOC103 Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) service si WRACIOD X



Waterbody SPOC103 facing west upstream



Waterbody SPOC103 facing southeast downstream



Waterbody SPOC103 facing south-southwest across

Survey Descriptio	n									
Project Name:	ject Name: Waterbo			ldy Name: V				Date:		
Atlantic Coast Pipe	line	Glade Run			S	poc104	3/16/2016			
State:	County:	1	Company: C			Member Initials:	Pho	otos:		
West Virginia	Pocahontas		NRG C			SA	3			
Tract Number(s):	1		Nearest Mile	epost:	1	Associated Wetland ID(s):				
05-001-E036			76			None				
Survey Type: (check one)		e ⊠Re-	Route	□Access Road	I	□Other:				
Physical Attribute	s									
Stream Classification: (check one)	Ephemera	al □Inte	rmittent	Perennial						
Waterbody Type:										
(check one)	River ⊠ Str	ream 🗆 Dit	ch 🗆 C	anal 🛛 Other	:					
онwм		tor:								
Width:ft.	(check all that appl	¥)	on bank	ne ⊔Shelving			× Sco	staining		
Height:	⊠Bent, r	natted, or missir	ng ⊠Wrack li	ne ⊠Litter ar	nd	□Abrupt plant		Soil characteristic change		
ft. N/A□	vegetatio	n		debris		community cha	ange			
Width of Waterbody - 1 Bank to Top of Bank:	Top of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth of V	Vater:		
	10 100	of Slope.		Water Luge.		1.	<i></i>	00 4		
<u>ft</u> .	-	<u>4</u> ft.		N/A□	<u>14</u> ft.	r	I/A□	<u>_0.8_</u> n.		
Sinuosity:	Water	velocity:		Bank height		E	Bank slop	e		
(check one)	(Approx.)			Right:			F	Right:		
		<u>_1.5_</u> fp	S	Left:	<u>3.5</u> ft.			degrees		
Meanderi	ng N/A□				<u>5_</u> ft.			<u>80</u> degrees		
Qualitative Attribu	ites									
Water Appearance: (check one)	[□] No water ⊠0	Clear 🗆 Turl	bid □Sh or	neen ⊡Su n surface sci	rface um	□Algal □ mats	Other:			
Substrate:	Bedrock 🛛 Bc	oulder 🛛 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	□ Othe	r:		
(check all that apply)	0/ 5 0/	15 %	70.9/	10.9/		0/ 0/		0/.		
	<u>% _5</u> %	<u> 15 </u> 78	<u>_70</u> _78	<u> 10 </u> %		_7070		76		
Width of Riparian Zone	check all that	e Layers: tapply)	⊠ Trees	:	⊠ Saplir	nas/Shrubs:	⊠ He	erbs		
<u>10 ft</u> ·	Avg. DBH	of Dominants:	<u>6</u> in.		_ <u>2_</u> in.	.g.,				
Dominant Bank Vegeta	ation (list):									
Yarrow, setaria, rec	l clover, locust,	sycamore, b	lackberry							
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):		
Overhanging roots/	banks, leaf pao	cks, rock pile	s							
Aquatic Organisms Ob	served (list):									
None										
T&E Species Observed	l (list):									
None										
Disturbances (ex: livest	ock access, manure i	n waterbody, wast	e discharge pip	es):						
Stream runs throug	h two agricultu	ral fields a tra	actor crossi	ng point is loca	ated ne	ear centerline				
Tributary is: (check one)	⊠ Natural	□ Ai	rtificial, man-m	ade 🗆 Manip	ulated					
Stream Quality ^a : (check one)	□ High	⊠ M	oderate	□ Low						

Waterbody ID:

Spoc104

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 SPOC104 facing northeast upstream



Waterbody SPOC104 facing southwest downstream



Waterbody SPOC104 facing southeast across

Survey Description	on								
Project Name:		Waterbody Na	me:		w	aterbody ID:		C	Date:
Atlantic Coast Pipe	line	UNT to Gree	nbrier River			Spoc119			3/24/2016
State:	County:		Company: Cr			ew Member Initials: Ph			
West Virginia	Pocahontas		NRG CF			α, SA 3			
Tract Number(s):			Nearest Mile	epost:		Associated W	etland I	D(s):	
05-001-E038			73			None			
Survey Type: (check one)		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 🗆 Dite	ch 🗆 Ca	anal 🛛 Other:					
OHWM	OHWM Indica	ator:			~			Poouring	Water
<u>2</u> ft.	(on bank		y	vegetation		Scouring	staining
Height: ft.	□Bent, vegetatio	matted, or missir on	ng ⊡Wrack li	ine ⊠Litter ar debris	nd	□Abrupt plan community ch	t ange	□Soil ch	aracteristic change
N/A∟ Width of Waterbody - `	Top of Width	of Waterbody -	Toe of Slope	Width of Waterbo	odv - W	ater Edge to	Depth c	of Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:	,		(Approx.)		
<u>_5</u> ft.	-	<u>1</u> ft.			f	t.	N/A 🖂		ft.
Sinuosity:	Water	velocity:		Bank height			Bank sl	оре	
(check one)	(Approx.)		Right:				Right:	
		f	ps	Left:	<u>2</u> ft.			Left:	60 degrees
⊠Meander	ing N/A⊠				<u>2</u> ft.				60 degrees
Qualitative Attribu	utes								
Water Appearance: (check one)	$^{\boxtimes}$ No water \Box	Clear □Turł	oid □Sh on	neen ⊡Sui n surface scu	face Im	□Algal [mats	□Other:		
Substrate:	Bedrock Be	oulder 🛛 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic	0 🗆	ther:	
(check all that apply) % of Substrate:	%	<u>% 10</u> %	_20_%	<u>40</u> %	<u>30_</u> %	%		%	
Width of Riparian Zon	e: Vegetativ	e Layers:	53 -	5		(2)			
<u>ft</u> .	Avg. DBH	l of Dominants:	⊠ Trees _ <u>12_</u> in.	: 2	Saplir _2_in.	ngs/Shrubs:	X	Herbs	
Dominant Bank Veget	ation (list):								
Red oak, red maple	e, white pine, A	merican beed	ch						
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, d	eep pools):
None									
Aquatic Organisms Ol	bserved (list):								
None									
T&E Species Observe	d (list):								
None									
Disturbances (ex: lives	tock access, manure	in waterbody, wast	e discharge pipe	es):					
None									
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	nade 🗆 Manipu	ulated				
Stream Quality ^a : (check one)	🗆 High	⊠ M	oderate	□ Low					

Waterbody ID: SPOC119

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 SPOC119 facing northeast upstream



Waterbody SPOC119 facing southwest downstream



Waterbody SPOC119 facing southeast across