Survey Description	า							
Project Name:		Waterbody Na	me:		v	aterbody ID:		Date:
Southeast Reliability	/	UNT to Jenk	s Fork		S	RAB101		8/19/2014
State:	County:		Company:		Crew I	Member Initials:	Photos	8:
West Virginia	Randolph		NRG		TP, S	6	001-0	003
Tract Number(s):			Nearest Mile	epost:	•	Associated Wet	tland ID(s):	
04-002-A002, 04-00	2-A003		43.05			none		
Survey Type: (check one)	⊠Centerline	e □Re-I	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:	:			
ОНWM	OHWM Indica	tor:						
Width: ft.	(check all that apply	/)	⊠ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	□Scouri	ng □Water 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	nge	
Width of Waterbody - Te	op of Width o	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to D	epth of Wat	er:
Bank to Top of Bank:	to Toe	of Slope:		water Edge:		(A	pprox.)	
<u>_5</u> ft.	_	<u>3</u> ft.			<u>2</u> ft.	N		<u>_0.1_</u> ft.
Sinuosity:	Water	velocity:		N/AL		B	ank slope	
(check one)	(Approx.)			Right:			Rig	ht:
		<u>_1.0_</u> fps	6	L oft:	<u>0.5_</u> ft.			<u>20</u> degrees
⊠Meanderin	lg N/A□			-	<u>1.0_</u> ft.		L	60 degrees
Qualitative Attribut	tes							
Water Appearance: (check one)	No water	Clear DTurk	oid □Sh on	neen ⊡Sui n surface scu	rface um	□Algal □ mats	Other:	
Substrate:	Bedrock 🗆 Bo	ulder 🛛 Cobb	ole 🛛 Grav	el 🗆 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	Other:	
(check all that apply)	0/	0/ 10.0/	10.0/	0/	00 0/	9/	0/	
	70	701076	%	70	<u> </u>	70	70	
Width of Riparian Zone	: Vegetative (check all that	e Layers:		· .	7 Sanlir	nge/Shrube:	M Harba	
<u>25 ft</u> -	Avg. DBH	of Dominants:	_ nees	in		in.		
N/AL	tion (list):							
Red maple, sugar m	aple, white oa	k, witch haze	el, spice bus	sh, striped map	ole, so	uthern lady fer	m	
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, r	iffles, deep po	ols):
Cobble, debris piles	, wrack lines							
Aquatic Organisms Obs	served (list):							
none								
T&E Species Observed	(list):							
none								
Disturbances (ex: livesto	ck access, manure i	n waterbody, wast	e discharge pipe	es):				
Field on right bank,	timbered on le	ft bank, belov	w centerline	9				
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	🗆 High	⊠ Mo	oderate	□ Low				

Waterbody ID: SRAB101

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 has a weak bed and bank, weak sinuosity, lots of grade control, no bars or benches, goes underground for about 20 feet below centerline.





Waterbody SRAB101 facing southeast upstream



Waterbody SRAB101 facing northwest downstream



Waterbody SRAB101 facing southwest across

Survey Description	า							
Project Name:		Waterbody Na	me:		N	aterbody ID:		Date:
Atlantic Coast Pipeli	ne	UNT to Jenk	ks Fork		S	RAC001		5/16/2015
State:	County:		Company:		Crew I	Member Initials	: Photo	s:
West Virginia	Randolph		NRG		CR, A	AS	SRA	C001_001-003
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s):	
04-002-A002.AR AF	R 015c		44.1			None		
Survey Type: (check one)		e ⊡Re-	Route	⊠Access Road		□Other:		
Physical Attributes	6							
Stream Classification: (check one)	Ephemera	al ⊠Inte	rmittent	Perennial				
Waterbody Type:								
(check one)	River 🛛 Str	ream 🗆 Dit	ch 🗆 Ca	anal 🛛 🗆 Other	:			
онwм	OHWM Indica	tor:						
Width: _ <u>4_</u> ft.	(check all that appl	<i>Y)</i>	⊠ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	□Scou	ring □Water staining
Height:	□Bent, r	natted, or missir	ng ⊡Wrack li	ne 🗆 Litter ai	nd	□Abrupt plan	t ⊡So	il characteristic change
_ <u>0.5_</u> ft. N/A□	vegetatio	n		debris		community ch	ange	
Width of Waterbody - Te Bank to Top of Bank:	op of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth of Wa (Approx.)	iter:
8 ft		2 ft			3 ft			0.2 ft.
<u></u>	-	<u></u> n.		N/A□	<u></u> n.		N/A□	
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height			Bank slope	
□Straight	(1 foe		Right:	3 ft.		Riç	jht: 80 dearees
Moondorin		<u>_1</u> ips		Left:			L	eft:
	'9 N/A∐				<u>4_</u> π.			<u> 60 </u> degrees
Qualitative Attribut	tes							
(check one)	No water ⊠0	Clear □Turl	bid □Sh on	leen □Su i surface sci	rface um	□Algal [mats	□Other:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cob	ble 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic	Other:	
(check all that apply) % of Substrate:	%	% 20 %	40 %	30 %	10 %	%	Q	6
Width of Dinarian Zana	. Vegetetiv		<u> </u>	<u></u> ,,		,,,	,	•
width of Riparian Zone	(check all that	apply)	⊠ Trees	:	⊠ Sapliı	ngs/Shrubs:	⊠ Herb	S
<u>ft</u> .		of Dominants:	<u>_10_</u> in.	-	<u>2</u> in.			
Dominant Bank Vegeta	tion (list):							
Common violet, junc	cus, southern I	ady fern, dro	oping sedg	e, solidago alti	ssima	, river birch, t	ulip tree, r	ed maple
Aquatic Habitats (ex: su	bmerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	e submerged wood	, riffles, deep p	ools):
Riffle and pool sequ	ience							
Aquatic Organisms Ob	served (list):							
None								
T&E Species Observed	(list):							
None								
Disturbances (ex: livesto	ck access, manure i	n waterbody, wast	e discharge pipe	es):				
Stream flows throug	h a culvert un	der the acces	ss road and	then flows into	o a co	nstructed por	nd	
Tributary is: (check one)	Natural		tificial, man-m	ade 🛛 Manip	ulated			
Stream Quality ^a :			odorato					
	🗆 High	N M	ouerale					

Waterbody ID: SRAC001

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 SRAC001 facing south upstream



Waterbody SRAC001 facing west across



Waterbody SRAC001 facing north downstream

Survey Description	n								
Project Name:		Waterbody Na	me:		W	/aterbody ID:		Dat	te:
Southeast Reliability	ý	Headwaters	of Jenks F	ork	s	RAB102		8/2	20/2014
State:	County:		Company:		Crew I	Member Initials	: F	hotos:	
West Virginia	Randolph		NRG		TP, S	5		001-003	
Tract Number(s):			Nearest Mile	epost:	1	Associated W	etland	ID(s):	
04-002-A005			44.1			WRAB101e)		
Survey Type: (check one)	Centerline		Route	□ Access Road		□ Other:			
Physical Attributo									
Stream Classification:	5								
(check one)	Ephemer	al ⊠Inte	rmittent	Perennial					
Waterbody Type: (check one)	River 🛛 St	ream 🗆 Dite	ch 🗆 Ca	anal 🛛 Other:					
онwм	OHWM Indica	tor:							
Width: _4_ft.	(check all that appl	y)	☑ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation		Scouring	□Water staining
Height: 	□Bent, i vegetatio	matted, or missir	ng	ne □Litter ar debris	nd	□Abrupt plan community ch	t lange	□Soil char	acteristic change
N/A 🗆	ion of Mildle		T	Width of Wotonh	a alta M	latan Edua ta	Danth	- () N / - (- m-	
Bank to Top of Bank:	to Toe	of Waterbody - of Slope:	Toe of Slope	Water Edge:	bay - w	ater Edge to	(Approx.)	of water:	
9 ft.		3 ft.			2 ft.			_0	.1_ft.
	-			N/A 🗆			N/A□		
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height			Bank s	lope	
□Straight		0.5 fp		Right:	0.5 ft.			Right:	75 degrees
⊠Meanderir		<u>0.0_</u> .p.	, ,	Left:	0 5 4			Left:	0
					<u>0.5_</u> n.				<u>rs</u> degrees
Qualitative Attribu	tes								
(check one)	No water ⊠	Clear □Turt	oid ⊡Sh on	neen 🗆 Sur n surface scu	face Im	□Algal mats		:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobl	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic	: 🗆 O	other:	
(check all that apply) % of Substrate:	%	<u>% 5</u> %	<u> 5 </u> %	<u> 60 </u> %	<u>30_</u> %	%		%	
Width of Riparian Zone	: Vegetativ	e Lavers:							
	(check all tha	t apply)	⊠ Trees	: 🛛 🛛	🛛 Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>>50 ft</u> · N/A□	Avg. DBH (approx.)	of Dominants:	<u>13</u> in.	-	<u>2</u> in.				
Dominant Bank Vegeta	tion (list):								
Red maple, sugar m	naple, black ch	nerry, striped	maple, umł	orella magnolia	, sout	thern lady fer	'n		
Aquatic Habitats (ex: su	Ibmerged or emerge	d aquatic vegetatic	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, c	leep pools):	
Cobble, debris piles	s, wrack lines								
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, wast	e discharge pipe	es):					
None noted									
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manipi	ulated				
Stream Quality ^a : (check one)	□ High	⊠ M	oderate	□ Low					

Waterbody ID: SRAB102

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 has a weak bed and bank, moderate sinuosity. Originates as a seep in a broad swale.





Waterbody SRAB102 facing south upstream



Waterbody SRAB102 facing north downstream



Waterbody SRAB102 facing west across

Survey Description	า								
Project Name:		Waterbody Na	me:		w	aterbody ID:			Date:
Southeast Reliability	/	UNT to Long	g Run		S	RAB103		8	3/20/2014
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		TP, S	5		001-00	3
Tract Number(s):			Nearest Mile	epost:	•	Associated Wetland ID(s):			
04-002-A005			44.6			none			
Survey Type: (check one)	⊠Centerline	e □Re-I	Route	□ Access Road		□Other:			
Physical Attributes	6								
Stream Classification: (check one)	Ephemera	al 🛛 🖾 Inte	rmittent	Perennial					
Waterbody Type:									
(check one)	River 🛛 Str	ream 🗌 Dite	ch 🗆 Ca	anal 🗌 Other:					
ОНШМ	OHWM Indica	tor:							
Width: _ <u>4_</u> ft.	(check all that apply	<i>y)</i>	⊠ Clear lir on bank	ne ⊡Shelving	g	☐Wrested vegetation		Scouring	□Water staining
Height:	□Bent, r	natted, or missir	ng ⊡Wrack li	ne 🗆 Litter ar	nd	□Abrupt plan	t	□Soil cł	aracteristic change
ft. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water	:
вапк то тор от вапк:	to loe	of Slope:		water Edge:			(Approx.)		
<u>_7 ft</u> .	-	<u>3</u> ft.			<u>1.5_</u> ft.		N/A 🗆	-	<u>_0.1_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	slope	
(check one)	(Approx.)			Right:				Right:	
		<u>_0.5</u> fps	6	Left:	<u>0.5_</u> ft.			l eft	<u>75</u> degrees
⊠Meanderin	9 N/A□			-	<u>0.5_</u> ft.			2011	<u>75</u> degrees
Qualitative Attribut	tes								
Water Appearance: (check one)	No water ⊠0	Clear DTurk	oid □Sh on	leen ⊡Sui i surface scu	rface um	□Algal [mats	□Other	r:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 5</u> %	<u> 5 </u> %	<u> 60 </u> %	<u>30_</u> %	%		%	
Width of Riparian Zone	: Vegetative	e Layers:							
50.4	(check all that	apply)	⊠ Trees	: 🛛 🛛	Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>>50 it</u> . N/A□	арргох.)	or Dominants:	<u>_13_</u> in.	-	_ <u>2_</u> in.				
Dominant Bank Vegeta	tion (list):								
Red maple, sugar m	aple, black ch	erry, striped	maple, umł	orella magnolia	, Ame	rican beech,	south	ern lad	y fern
Aquatic Habitats (ex: su	bmerged or emerge	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	;):
Cobble, debris piles	, wrack lines								
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ck access, manure i	n waterbody, wast	e discharge pipe	es):					
None noted									
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manipi	ulated				
Stream Quality ^a : (check one)	🗆 High	⊠ Mo	oderate	□ Low					

Waterbody ID: SRAB103

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 has a weak bed and bank, moderate sinuosity, good grade control, lots of wrack lines, good bars and benches.





Waterbody SRAB103 facing west upstream



Waterbody SRAB103 facing east downstream



Waterbody SRAB103 facing south across

Survey Description	n								
Project Name:		Waterbody Na	me:		v	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Long	g Run		S	raa066			10/20/2015
State:	County:		Company:		Crew I	Member Initials	;; I	Photos:	
West Virginia	Randolph		NRG		GB, S	SA		3 phot	os
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-A007.AR			47.15			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 □ C;	anal 🗌 Other:					
OHWM Width: <u>3.0</u> ft.	OHWM Indica (check all that app	ator: ly)	□ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation		Scouring	g ⊟Water staining
Height: 	⊠Bent, vegetatio	matted, or missir on	ng ⊡Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plan community ch	it nange	□Soil c	haracteristic change
N/A 🗆 Width of Waterbody	Top of Width	of Waterbody	Tao of Clana	Width of Watarh	ody M	latar Edga ta	Donth		
Bank to Top of Bank:	to Toe	of Slope:	Toe of Slope	Water Edge:	ouy - w	rater Euge to	(Approx.)	or water	-
<u>_12.0</u> ft.		<u>1.5</u> ft.			<u>1.5_</u> ft.		N/A□	-	<u>0.12</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)		Right:				Right	:
_		<u>_0.20</u> fp	S	Left:	<u>6.0_</u> π.			Left	<u>65</u> degrees
	ng N/A□				<u>9.0_</u> ft.				<u>70</u> degrees
Qualitative Attribu	utes								
Water Appearance: (check one)	[□] No water ⊠	Clear □Turl	oid ⊡Sh on	neen 🛛 Sui n surface scu	rface um	□Algal mats	□Other		
Substrate:	Bedrock B	oulder 🛛 Cobl	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic	; 🗆 C	Other:	
(check all that apply) % of Substrate:	%	<u>% 15</u> %	<u> 5 </u> %	<u> 30 </u> %	<u>15_</u> %	<u>35</u> %		_%	
Width of Riparian Zon	e: Vegetativ	e Layers:							
	(check all tha	t apply)	⊠ Trees	: 🛛	Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>п</u> . N/A⊠	avg. DBF (approx.)	of Dominants:	<u>_10.0_</u> ii	n. <u>-</u>	_ <u>1.5_</u> in				
Dominant Bank Veget	ation (list):								
Yellow birch, beec wood fern, panic or	h, cucumber tr ass. violet	ee, sweet bird	ch, red map	ble, black cherry	y, strip	ped maple, gi	reenbr	rier, ha	y scented fern,
Leaf packs, woody	debris	eo aqualic vegetalic	n, overnanging	banks/roots, lear pac	ks, large	submerged wood	, nines, o	deep pool	5):
Aquatic Organisms Ol	oserved (list):								
none									
T&E Species Observe	d <i>(list)</i> :								
none									
Disturbances (ex: lives	ock access, manure	in waterbody, wast	e discharge pipe	es):					
Located in an old r	oad bed, then	parallels exist	ing dirt two	track; area is a	an old	strip mine			
Tributary is: (check one)	Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated				
Stream Quality ^a : (check one)	🗆 High		oderate	⊠ Low					

Waterbody ID:

sraa066

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 corridor in both directions, area is selectively logged mixed hardwoods; formerly a strip mine





Waterbody SRAA066 facing south upstream



Waterbody SRAA066 facing north downstream



Waterbody SRAA066 facing west across

Survey Descriptio	n									
Project Name:		Waterbo	ody Nam	e:		v	Vaterbody ID:		E	Date:
Southeast Reliabilit	У	UNT to	Sugar	Run		S	SRAB104		ξ	3/20/2014
State:	County:		C	Company:		Crew	Member Initials	:	Photos:	
West Virginia	Randolpl	h	r	NRG		TP, S	6		001-00	3
Tract Number(s):			r	Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-A006			2	45.05			WRAB103			
Survey Type: (check one)	⊠Cer	nterline	□Re-Ro	oute	□Access Roa	ad	□Other:			
Physical Attribute	e									
Stream Classification:	3									
(check one)	□Epł	nemeral	⊠Interm	nittent	Perennial					
Waterbody Type: (check one)	River	Stream	□ Ditch		anal 🗆 Othe	er:				
онwм	OHWM	Indicator:								
Width: _5_ft.	(check all t	that apply)		☑ Clear lir on bank	ne ⊡Shelv	ing	□Wrested vegetation		Scouring	□Water staining
Height:		Bent, matted, or	missing	□Wrack li	ne 🗆 Litter	and	□Abrupt plan	t	□Soil ch	aracteristic change
<u> </u>	ve	getation			debris		community ch	ange		
Width of Waterbody -	Γop of	Nidth of Water	oody - To	oe of Slope	Width of Water	body - V	Vater Edge to	Depth	of Water:	
	L		•		Water Luge.			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0.05 #
<u>_7_</u> ft.		<u>3</u> ft.			N/A□	<u>4.0</u> ft.		N/A□	-	<u>0.25_</u> II.
Sinuosity:		Water velocity:			Bank height			Bank s	lope	
(check one)	(Approx.)			Right:	20 4			Right:	QE dogrado
		(<u>).5</u> fps		Left:	<u>_2.0</u> 11			Left:	<u> </u>
Meanderi	ng	N/A 🗆				<u>2.0</u> ft.				<u>85</u> degrees
Qualitative Attribu	ites									
Water Appearance: (check one)	[□] No water	⊠Clear	□Turbic	d ⊡Sh on	een □S surface s	urface cum	□Algal [mats	□Other		
Substrate:	Bedrock	□ Boulder D	Cobble	e 🛛 Grave	el 🛛 Sand	□ Silt/ o	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	<u>20_</u> %	%	<u>20_</u> %	<u>20</u> %	<u>40</u> %	%	%		%	
Width of Riparian Zone	e: Veg	etative Layers:								
>50 ft.	(chec Ava	k all that apply)	nants.	⊠ Trees	:	Sapli	ngs/Shrubs:	\boxtimes	Herbs	
<u>>00 n</u> N/A□	(appr	rox.)	iunto.	<u>_12_</u> in.		<u>_2</u> in.				
Dominant Bank Vegeta	ation (list):									
Red maple, sugar r	naple, nor	thern red oa	k, umb	rella magi	nolia, witch ha	azel, so	outhern lady fe	ern		
Aquatic Habitats (ex: s	ubmerged or e	emerged aquatic v	egetation,	overhanging	banks/roots, leaf pa	acks, large	e submerged wood	, riffles,	deep pools):
Cobble, debris piles	s, wrack li	nes,,pools,,								
Aquatic Organisms Ot	oserved (list):								
crawfish										
T&E Species Observed	d (list):									
none										
Disturbances (ex: livest	ock access, m	nanure in waterboo	dy, waste o	discharge pipe	es):					
Tract has been tim	bered.									
Tributary is: (check one)	⊠ Na	itural	□ Artif	icial, man-m	ade 🗆 Mani	pulated				
Stream Quality ^a : (check one)	🗆 Hię	gh	⊠ Mod	lerate	□ Low					

Waterbody ID: SRAB104

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 has a good bed and bank, moderate sinuosity, good grade control, lots of wrack lines, good bars and benches, and lots of nick points, as well as a decent riffle pool complex.





Waterbody SRAB104 facing northeast upstream



Waterbody SRAB104 facing southwest downstream



Waterbody SRAB104 facing southeast across

Survey Description	on								
Project Name:		Waterbody Na	me:		v	laterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Light	t Run		S	rae202			7/25/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CG, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-A006			NA			none			
Survey Type: (check one)		e □Re-I	Route	⊠ Access Road		□Other:			
Physical Attribute	es								
Stream Classification: (check one)	Ephemer	al 🛛 Inte	rmittent	Perennial					
Waterbody Type:	-								
(check one)	□River ⊠ St	ream 🗆 Dite	ch 🗆 Ca	anal 🛛 Other:					
ОНШМ	OHWM Indica	ator:					_		
Width: _2_ft.	(cneck all that app	<i>lY)</i>	Clear lir on bank	ne Shelving	g	☐Wrested vegetation		Scouring	, □Water staining
Height:	⊠Bent,	matted, or missir	ng ⊡Wrack li	ne 🛛 Litter ar	nd	□Abrupt plan	t	⊠Soil cl	naracteristic change
<u>0.2_</u> ft. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody -	Top of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water	:
валк то тор от валк:	to loe	of Slope:		water Edge:			(Approx.))	
<u>6</u> ft.	-	<u>1_</u> ft.			<u>1</u> ft.		N/A□	-	<u>_0.1_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Banks	slope	
(check one)	(Approx.)		Right:				Right	:
		<u>_0.5_</u> fps	S	Left:	<u>1.5_</u> ft.			Left	<u>35</u> degrees
□Meander	ing N/A□			-	<u>1.5_</u> ft.			2011	<u>30</u> degrees
Qualitative Attribu	utes								
Water Appearance: (check one)	□No water ⊠	Clear	oid □Sh on	neen ⊡Sui nisurface scu	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock Be	oulder 🛛 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	: 🗆 (Other:	
(check all that apply) % of Substrate:	%	<u>% 35</u> %	<u> 35 </u> %	<u>20 </u> %	<u>10 </u> %	%		%	
Width of Riparian Zon	e: Vegetativ	e Layers:							
ft.	(check all tha	t apply)	⊠ Trees	: 🛛 🛛	Saplir	ngs/Shrubs:	\boxtimes	I Herbs	
N/A⊠	(approx.)	l of Dominants.	<u> 5 </u> ın.	-	_ <u>1_</u> ın.				
Dominant Bank Veget	ation (list): weed								
Aquatic Habitats (or: s		d aquatic vogotatic		hanks/roots loof pag	ke largo	submorged wood	riffloc	doon nool	
none	submerged of emerge	eu aqualic vegelalic	n, overhanging	banks/100ts, lear pac	ks, large	submerged wood	, mies,		»).
Aquatic Organisms O	bserved (list):								
none									
T&E Species Observe	d (list):								
none									
Disturbances (ex: lives	tock access, manure	in waterbody, wast	e discharge pipe	es):					
Culverted, starts at	road								
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	iade 🛛 Manipi	ulated				
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low					

Waterbody ID:

Srae202

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 srae202 facing southwest upstream



Waterbody srae202 facing northeast downstream



Waterbody srae202 facing southeast across

Survey Description	n								
Project Name:		Waterbody Na	me:		w	aterbody ID:		ſ	Date:
Atlantic Coast Pipel	ine	UNT to Ligh	t Run		S	rae203		7	//25/2016
State:	County:		Company:		Crew I	Member Initials	: PI	hotos:	
West Virginia	Randolph		NRG		CG, A	AS	1	-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland II	D(s):	
04-002-A006			NA			fringe			
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 🗌 Dit	ch 🗆 C	anal 🗌 Other:	:				
ОНѠМ	OHWM Indica	tor:							
Width: <u>3</u> ft.	(cneck all that app	Y)	Clear III on bank	ne ⊡Shelvin	g	☐Wrested vegetation		scouring	⊡Water staining
Height:	□Bent,	matted, or missii	ng ⊡Wrack li	ine 🗆 Litter ar	nd	□Abrupt plan	t 🗆	∃Soil ch	aracteristic 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 Waterbo	ody - W	ater Edge to	Depth of	fWater	
Buille to rop of Buille.	10 100	or stope.		Water Luge.			(- 1-1)		0.4 #
<u>ft.</u>	-	<u>2</u> ft.		N/A -	<u>1</u> ft.		N/A□	-	<u>_0.1_</u> 1t.
Sinuosity:	Water	velocity:		Bank height			Bank slo	ре	
(check one)	(Approx.))		Right:				Right:	
		<u>_0.3_</u> fp	S	Left:	<u>8_</u> ft.			Left	<u>60</u> degrees
	ng N/A□				<u>6_</u> ft.				45 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	No water	Clear □Tur	bid □Sh or	neen ⊡Sui n surface scu	rface um	□Algal [mats	□Other:		
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	□ Ot	her:	
(check all that apply) % of Substrate:	%	% <u>_20 </u> %	<u>40</u> %	_40_%		_%%		_%	
Width of Riparian Zone	e: Vegetativ	e Layers:							
45 4	(check all tha	t apply)	⊠ Trees	: D	⊠ Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>15 π</u> . N/A□	AVG. DBH (approx.)	of Dominants:	<u>7</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Vegeta	tion (list):								
Birch, maple, sedge	es, ferns, black	berries							
Aquatic Habitats (ex: su	ubmerged or emerge	d aquatic vegetation	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, de	ep pools):
none									
Aquatic Organisms Ob	served (list):								
insects									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, was	e discharge pip	es):					
Culverted beneath	road								
Tributary is: (check one)	□ Natural		rtificial, man-m	nade 🛛 🛛 Manipi	ulated				
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low					

Waterbody ID:

Srae203

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 srae203 facing southwest upstream



Waterbody srae203 facing northeast downstream



Waterbody srae203 facing southeast across

Survey Description	on								
Project Name:		Waterbody Na	me:		v	aterbody ID:		1	Date:
Atlantic Coast Pipe	line	UNT to Light	t Run		S	irae204		1	7/25/2016
State:	County:		Company:		Crew I	Member Initials:	Р	hotos:	
West Virginia	Randolph		NRG		CG, A	AS	-	1-3	
Tract Number(s):			Nearest Mile	epost:		Associated We	etland I	D(s):	
04-002-A006			NA			fringe			
Survey Type: (check one)		e □Re-I	Route	⊠ Access Road		□Other:			
Physical Attribute	s								
Stream Classification:									
(cneck one)		al 🛛 Inter	rmittent						
Waterbody Type: (check one)	□River ⊠ Str	ream 🗆 Dite	ch 🗆 C	anal 🗌 Other:	:				
онwм	OHWM Indica	ator:							
Width:ft.	(check all that appl	ly)	Clear lir on bank	ne 🗌 Shelvin	g	□Wrested vegetation	\boxtimes	Scouring	□Water staining
Height:	⊠Bent, i	matted, or missir	ng ⊡Wrack li	ine 🗆 Litter ar	nd	□Abrupt plant	[⊠Soil ch	aracteristic change
<u>0.4_</u> ft. N/A□	vegetatio	on		debris		community cha	ange		
Width of Waterbody -	Top of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth o	f Water	:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(.	Approx.)		
<u>_5_</u> ft.	_	<u>1_</u> ft.		_	<u>1_</u> ft.			-	<u>0.1</u> ft.
Sinuccitur	Motor	volocity		N/A D		r F		<u></u>	
(check one)	(Approx.)			Bank neight Right		E	sank si	ope Right:	
⊠Straight		0.4fps	3	i i i i i i i i i i i i i i i i i i i	<u>1_</u> ft.			rugiit.	80 degrees
□Meanderi	ing N/A□			Left:	5 ft.			Left	75 dearees
Qualitative Attribu	utes								
Water Appearance:	_								
(check one)	-No water ⊠	Clear DTurk	oid □Sh or	neen 🗆 Sui n surface scu	rface um	□Algal □ mats]Other:		
Substrate:	Bedrock Bo	oulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	clay 🗆 Organic		ther:	
% of Substrate:	%	<u>% 10</u> %	<u> 10 </u> %	80_%		_%%		%	
Width of Riparian Zon	e: Vegetativ	e Lavers:							
	(check all tha	t apply)	□ Trees	s: D	🛛 Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>ft</u> ·	Avg. DBH	l of Dominants:	_	_in	_ <u>1_</u> in.				
Dominant Bank Veget	ation (list):								
Blackberry, locust,	milkweed, tulip	tree, birch, n	naple						
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vegetation	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, d	eep pools	s):
none									
Aquatic Organisms Ol	bserved (list):								
none									
T&E Species Observe	d (list):								
none									
Disturbances (ex: livest	tock access, manure	in waterbody, wast	e discharge pipe	es):					
Culvertd beneath re	od, roadside di	tch for a stret	ch, bank re	evetment					
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	nade 🛛 🖾 Manipi	ulated				
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low					

Waterbody ID:

Srae204

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 srae204 facing southwest upstream



Waterbody srae204 facing northeast downstream



Waterbody srae204 facing northwest across
Survey Description	n								
Project Name:		Waterbody Na	me:		v	aterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to Dry	Run		S	irac100			1/12/2016
State:	County:		Company:		Crew I	Member Initials	: F	Photos:	
West Virginia	Randolph		NRG		CR, S	SH		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B001			3.5			Wrac100			
Survey Type: (check one)		e ⊠Re-l	Route	□Access Road		□Other:			
Physical Attributes	S								
Stream Classification: (check one)	Ephemera	al 🛛 Inte	rmittent	Perennial					
Waterbody Type:	-								
(check one)	River 🛛 Str	eam 🗆 Dite	ch 🗆 C	anal 🛛 Other	:				
ОНѠМ	OHWM Indica	tor:						<u> </u>	
Width: <u>3</u> ft.	(спеск ан тпат аррі)	()	☑ Clear lir on bank	ne ⊔Shelvin	g	☐Wrested vegetation		Scouring	l ∐Water staining
Height:	⊠Bent, r	natted, or missir	ng	ine ⊠Litter ar	nd	□Abrupt plan	t	□Soil cł	naracteristic change
<u>0.8</u> π. 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	:
Ballk to Top of Ballk.	to roe	or Stope:		water Euge.			(Approx.)		
<u>8</u> ft.	-	<u>1</u> ft.			<u>2</u> ft.		N/A□	-	<u>_0.4_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)	-		Right:				Right	
		<u>_1_</u> fps		Left:	<u>2</u> ft.			Left	<u>60</u> degrees
Meanderir	ng N/A□				<u>3_</u> ft.				60 degrees
Qualitative Attribu	tes								
(check one)	[]] No water ⊠0	Clear □Turb	oid □Sh or	neen ⊡Su n surface sci	rface um	□Algal [mats	□Other	:	
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobl	ole 🗆 Grav	el 🗆 Sand 🛛	□ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	%	_% <u>20 </u> %	<u> 60 </u> %	<u>10_</u> %	<u> 10 </u> %		%	
Width of Riparian Zone	e: Vegetative	e Layers:							
40.#	(check all that	apply)	☐ Trees	: D	🛛 Saplir	ngs/Shrubs:	\boxtimes	Herbs	
_ <u>40 π</u> . N/A□	Avg. DBн (approx.)	of Dominants:	<u>_12_</u> in.	-	<u>2</u> in.				
Dominant Bank Vegeta	tion (list):								
Alder, sweet birch, v	wrinkle leaf gol	denrod, deer	tounge gra	ass, sensitive fe	ərn				
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, o	deep pools	3):
Leaf packs									
Aquatic Organisms Ob	served (list):								
None									
T&E Species Observed	l (list):								
None									
Disturbances (ex: livesto	ock access, manure i	n waterbody, wast	e discharge pip	es):					
Old two tract road r	uns through the	e stream							
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	nade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low	_		_		

Srac100

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 SRAC100 facing east upstream



Waterbody SRAC100 facing west downstream



Waterbody SRAC100 facing south across

Survey Description	on								
Project Name:		Waterbody	Name:		N	aterbody ID:			ate:
Atlantic Coast Pipe	eline	UNT to Dr	y Run		S	frac101		1	/12/2016
State:	County:	•	Company:		Crew I	Member Initials	: P	hotos:	
West Virginia	Randolph		NRG		CR, S	SH		1-3	
Tract Number(s):			Nearest Mi	lepost:		Associated W	etland I	D(s):	
04-002-B001; 04-0	02-B002		3.5			None			
Survey Type: (check one)		ne 🛛 🕅	e-Route	□Access Road		□Other:			
Physical Attribute	201101								
Stream Classification	-3								
(check one)	Epheme	eral ⊠In	itermittent	Perennial					
Waterbody Type: (check one)	□River ⊠ S	tream 🗆 🛙	Ditch 🗆 C	Canal 🗌 Other	:				
онwм	OHWM Indic	ator:							
Width: <u>4</u> ft.	(Check all that ap	ріу)	⊠ Clear I on bank	ine ⊡Shelvin	g	☐Wrested vegetation		Scouring	□Water staining
Height:	⊠Bent,	matted, or mis	sing □Wrack	line ⊠Litter ar	nd	□ Abrupt plant	t I	□Soil ch	aracteristic change
<u>−0.0_</u> n. N/A□	vegetat	ion		debris		community ch	ange		
Width of Waterbody - Bank to Top of Bank:	Top of Width	n of Waterbody	· - Toe of Slop	e Width of Waterb Water Edge:	ody - W	ater Edge to	Depth c	of Water:	
				Water Lage.			())		04 #
<u>_12_ft</u> .		<u>1_</u> ft.		N/A□	<u>_3_</u> ft.	I	N/A□		<u>0.4 </u> 1t.
Sinuosity:	Wate	r velocity:		Bank height			Bank sl	оре	
(check one)	(Appro)	x.)		Right:	∕l ft			Right:	80 degrees
	·	<u>_1_</u> T	ps	Left:	<u>4_</u> n.			Left:	
⊠ Meander	Ing N/A□]			<u>4_</u> ft.				<u>60</u> degrees
Qualitative Attribu	utes								
Water Appearance: (check one)	□No water 🛛 🗵	Clear DT	urbid □S o	heen □Su n surface scu	rface um	□Algal [mats	□Other:		
Substrate:	Bedrock 🗆 E	Boulder 🗆 Co	obble 🗆 Grav	vel 🗆 Sand 🛛	□ Silt/ o	clay 🗆 Organic		ther:	
(check all that apply) % of Substrate:	%	%	% <u>_20 %</u>	<u> 60 </u> %	<u>10 </u> %	<u> 10 </u> %	<u>.</u>	%	
Width of Riparian Zon	e: Vegetati	ve Layers:							
40 ft-	(check all th Avg. DB	^{at apply)} H of Dominant	⊠ Tree s: 10. in	s: D	⊠ Sapliı o_io	ngs/Shrubs:	\boxtimes	Herbs	
N/A 🗆	(approx.)		<u>_12_</u> II	-	<u></u> _III.				
Dominant Bank Veget Beech, black cherr	ation <i>(list)</i> : y, red oak								
Aquatic Habitats (ex: s	submerged or emerg	ed aquatic vegeta	ation, overhanging	g banks/roots, leaf pac	ks, large	submerged wood,	, riffles, d	eep pools)	:
Leaf packs, overha	anging roots/ba	anks							
Aquatic Organisms O	bserved (list):								
None									
T&E Species Observe	d (list):								
None									
Disturbances (ex: lives	tock access, manure	e in waterbody, wa	aste discharge pip	bes):					
None									
Tributary is: (check one)	⊠ Natural		Artificial, man-r	nade 🗌 Manip	ulated				
Stream Quality ^a : (check one)	□ High	\boxtimes	Moderate	□ Low					

Srac101

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 SRAC101 facing east upstream



Waterbody SRAC101 facing west downstream



Waterbody SRAC101 facing south across

Survey Description	on										
Project Name:		Waterbo	ody Nam	e:			Wa	terbody ID:			Date:
Atlantic Coast Pipe	eline	UNT to	Dry Ru	n			Sra	ac102			1/16/2016
State:	County:	I	C	ompany:		Cr	ew M	ember Initials	:	Photos:	
West Virginia	Randolph			IRG		CI	R, Sł	4		1-3	
Tract Number(s):			N	learest Mile	epost:		/	Associated W	etland	ID(s):	
04-002-B001;			3	5.5				None			
Survey Type:		orlino		uto		Pood		Othor			
			⊠Re-R0	ute		Roau	l				
Physical Attribute Stream Classification	<u>es</u> :										
(check one)	⊠Ephe	meral		ittent	Perenn	al					
Waterbody Type:											
(check one)	River	Stream	□ Ditch		anal 🗆	Other:					
ОНШМ	OHWM In	dicator:									
Width: 3 ft.	(Check all tha	(арру)		Clear lir on bank	ne ⊔S	nelving		UW rested vegetation	Þ	Scouring	g ∐Water staining
Height:		ant matted or	missina	⊡Wrack li	ne 🕅 i	tter and			ht.	□ Soil d	aracteristic change
<u>0.3</u> ft.	vege	etation	moonig		deb	is		community ch	nange		
Width of Waterbody -	Top of Wi	dth of Waterk	ody - To	e of Slope	Width of W	aterbody	v - Wa	ter Edge to	Depth	of Water	:
Bank to Top of Bank:	to	Toe of Slope	:	•	Water Edge):		Ū.	(Approx.)	
<u>_10_</u> ft.		<u>1_</u> ft.				_2	_ft.			-	<u>_0.1_</u> ft.
Cinuccitur	14/				N/A□ Benk heink	4			N/A □ Domb		
(check one)	(Ap	prox.)			Bank neigr	t ht:			Banks	siope Right	
		(<u>).2</u> fps			<u>1.5</u>	<u>5_</u> ft.			rtigitt	40 degrees
⊠Meander	ing N/	A			L	eft: 2	ft.			Left	: 60 degrees
Qualitativo Attrib	utos										
Water Appearance:	ules										
(check one)	□No water	⊠Clear	□Turbid	□Sh on	ieen i surface	□Surfac scum	ce	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder	Cobble	Grave	el 🛛 🖾 Sano	1 ⊠ 5	Silt/ cla	ay 🗆 Organic	; 🗆 (Other:	
% of Substrate:	_%	_%	%	5 <u>10 </u> %	<u> 50 </u> %	40	<u>)</u> %	_%		%	
Width of Riparian Zon	e: Veget	ative Lavers:									
	(check a	all that apply)		⊠ Trees	:	⊠ S	Sapling	gs/Shrubs:	\triangleright	I Herbs	
<u>10 ft</u> - N/A□	Avg. I (approx.	DBH of Domii	nants:	<u>_12_</u> in.		<u>_2</u>	_in.				
Dominant Bank Veget	ation (list):										
Beech, black cherr	y, red oak, r	ed maple									
Aquatic Habitats (ex: s	submerged or em	erged aquatic v	egetation,	overhanging	banks/roots, le	af packs,	large s	ubmerged wood	, riffles,	deep pool	5):
None											
Aquatic Organisms O	bserved (list):										
None											
T&E Species Observe	d (list):										
None											
Disturbances (ex: lives	tock access, mar	nure in waterboo	dy, waste d	lischarge pipe	es):						
None											
Tributary is: (check one)	⊠ Natu	ral	□ Artifi	cial, man-m	ade 🗆 I	/lanipulat	ted				
Stream Quality ^a : (check one)	□ High		⊠ Mod	erate		ow					

Srac102

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 srac102 facing north upstream



Waterbody srac102 facing west downstream



Waterbody srac102 facing east across

Survey Descriptio	n							
Project Name:		Waterbody Na	ne:		v	/aterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to Dry F	Run		S	raa429		8/22/2016
State:	County:		Company:	any: Crew Member Initials: Photos				
West Virginia	Randolph		NRG - ER	Μ	GB, A	AS	3 phot	os
Tract Number(s):	1		Nearest Mile	epost:		Associated Wetlan	d ID(s):	
04-002-B002; acce	ss road 04-002	-B001.AR2	50.5			none		
Survey Type: (check one)		□Re-F	Route	⊠Access Road		□Other:		
Physical Attribute	S 🛛							
Stream Classification: (check one)	Ephemera	l ⊠Inter	mittent	Perennial				
Waterbody Type:								
(check one)	∃River ⊠ Str	eam 🗆 Dito	h □Ca	anal 🗆 Other	:			
OHWM Width:	OHWM Indica (check all that apply	tor: //	⊠ Clear lir	ne 🗆 Shelvin	g	□Wrested vegetation	Scouring	g ⊟Water staining
<u> </u>								Staining
0.50ft N/A□	⊡Bent, n vegetatio	natted, or missin n	g ∐ Wrack I	line ⊠Litter ar debris	nd		⊔Soil c	haracteristic change
Width of Waterbody -	Top of Width of	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to Depth	of Wate	r:
вапк то тор от вапк:	to loe	of Slope:		water Edge:		(Approx	c.)	
<u>6.0</u> ft.	-	<u>2.0 </u> ft.		N/A 🗆	<u>2.5 _</u> f	ťt. N/AΓ		<u>0.20 </u> ft.
Sinuosity:	Water	velocity:		Bank height		Bank	slope	
(check one)	(Approx.)	•		Right:			Right	:
		0.50	fps	Left:	2.5 _	_ft.	Lef	<u>75</u> degrees
□Meanderi	ng N/A□				3.0 _	_ft.		<u>55</u> degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	[□] No water ⊠0	Clear □Turb	id □Sh on	neen 🗆 Su n surface sci	rface um	□Algal □Oth mats	er:	
Substrate:	Bedrock 🗆 Bo	ulder 🛛 Cobb	le 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🛛 Organic 🗌	Other:	
(check all that apply) % of Substrate:	%%	6 <u>20</u> 9	% <u>25</u> %	<u>6 25 %</u>	<u>20 </u> %	<u> 10 </u> % <u> </u>	%	
Width of Riparian Zone	e: Vegetative	Layers:						
<u>ft</u> .	(check all that Avg. DBH	apply) of Dominants:	⊠ Trees 10.0	: D	⊠ Sapliı <u>1.5</u>	ngs/Shrubs: _in.	⊠ Herbs	
N/A⊠ Dominant Bank Veget:	(approx.)							
Sugar maple, red m	naple, black loc wood astee.	ust, beech, c	ucumber tr	ee, Japanese r	neado	owsweet, white sr	akeroot	, violet, woodland
Aquatic Habitats (ex: s	ubmerged or emerged	l aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, riffles	, deep pool	s):
coarse woody debr	is, leat packs							
Aquatic Organisms Ob	oserved (list):							
Caddisfly								
T&E Species Observed	d (list):							
none								
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pipe	es):				
Confined to ditch a	long existing ro	ad; culvert cr	ossing for	existing road				
Tributary is: (check one)	□ Natural	□ Ar	ificial, man-m	iade 🛛 Manip	ulated			
Stream Quality ^a : (check one)	🗆 High	□ Mo	oderate	⊠ Low				

sraa429

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 confined to ditch along existing road; begins at a knick point seep (praa486) within ditch; downstream crosses under road via 18" culvert and continues out of access road corridor; receives outflow from road cut seeps praa487 & 488.





Waterbody sraa429 facing north upstream



Waterbody sraa429 facing south downstream



Waterbody sraa429 facing west across

Survey Descriptio	n							
Project Name:		Waterbody Na	me:		v	/aterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to Dry Run				raa428		8/22/2016
State:	County:		Company:		Crew I	Member Initials:	Photos:	·
West Virginia	Randolph		NRG - ER	Μ	GB, A	AS	3 phot	OS
Tract Number(s):			Nearest Mile	epost:		Associated Wetla	nd ID(s):	
04-002-B002; acce	ss road 04-002	-B001.AR2	50.5			none		
Survey Type: (check one)		□Re-F	Route	⊠Access Road		□Other:		
Physical Attribute	S 🛛							
Stream Classification: (check one)		al 🖂 Inter	rmittent	□Perennial				
Waterbody Type:								
(check one)	□River ⊠ Str	eam 🗆 Dito	ch 🗆 C	anal 🗌 Other:	:			
онwм	OHWM Indicat	tor:						
Width:	(check all that apply	/)	⊠ Clear liı on bank	ne 🗆 Shelvin	g	□Wrested vegetation	Scourin	g
Height:	□Bent, n	natted, or missin	ng □ Wrack	line ⊠Litter ar	nd	□Abrupt plant	□Soil c	haracteristic change
	. vegetatio	n	-	debris		community chang	е	-
Width of Waterbody - " Bank to Top of Bank:	Fop of Width of to Too	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	Ater Edge to Dep	oth of Wate	r:
Bank to Top of Bank.	10 100	oi Siope.		Water Luge.		(, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0,4)	0.45 (1
<u>6.0</u> ft.	· -	<u>2.0 </u> ft.		N/A 🗆	<u>2.0 _</u> f	ft. N/A	_	<u>0.15</u> <u>π</u> .
Sinuosity:	Water	velocity:		Bank height		Ban	k slope	
(check one)	(Approx.)			Right:			Right	t:
, C		0.50	<u>f</u> ps	Left:	3.5 _	<u>_ft.</u>	Lef	<u>60</u> degrees t:
□Meanderi	ng N/A□			<u> </u>	4.0	_ft.		80 degrees
Qualitative Attribu	ites							
(check one)	\Box No water \boxtimes C	Clear □Turb	oid ⊡Sł or	neen ⊡Sui n surface scu	rface um	□Algal □Ot mats	her:	
Substrate:	Bedrock DBo	ulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🛛 Organic 🛛	Other:	
(check all that apply) % of Substrate:	%%	6 <u>30</u>	% <u>25</u> %	% <u>20 </u> % _	<u>15_</u> %	<u> 10 </u> %	%	
Width of Riparian Zon	e: Vegetative	Layers:						
	(check all that	apply)	☐ Trees	:: D	⊠ Sapliı	ngs/Shrubs:	\boxtimes Herbs	
<u>п</u> . N/A⊠	AVG. DBH (approx.)	or Dominants:	10.0	in	2.0	in.		
Dominant Bank Vegeta	ation (list):							
Sugar maple, yellov	w birch, sweet b	oirch, yellow	poplar, wite	ch hazel, Japan	iese m	neadowsweet, h	ay-scente	ed fern, goldenrod
Aquatic Habitats (ex: s	ubmerged or emerged	aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, riffl	es, deep poo	ls):
coarse woody debr	is, leaf packs							
Aquatic Organisms Of	oserved (list):							
Caddisfly								
T&E Species Observed	d (list):							
none								
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pip	es):				
Confined to ditch a	long existing ro	ad						
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	nade 🛛 🖾 Manipi	ulated			
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low				

sraa428

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 confined to ditch along existing road; begins at a knick point seep (praa485) within ditch; downstream continues out of access road corridor where it flows into sraa427; receives outflow from road cut seeps praa483 & 484.





Waterbody sraa428 facing northeast upstream



Waterbody sraa428 facing southwest downstream



Waterbody sraa428 facing northwest across

Li	near	Water	body	Data	Sheet
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Survey Description	า									
Project Name:		Waterbody Na	me:		w	aterbody ID:		Date:		
Atlantic Coast Pipeli	ne	Dry Run			sı	raa427		8/22/2016		
State:	County:		Company:		Crew M	Member Initials:	Photos	:		
West Virginia	Randolph		NRG - ER	Μ	GB, AS			3 photos		
Tract Number(s):			Nearest Mile	epost:		Associated Wet	land ID(s):			
04-002-B002; acces	s road 04-002	-B001.AR2	50.5			wraa449				
Survey Type: (check one)		□Re-F	Route	⊠Access Road	l	□Other:				
Physical Attributes	5 🖂									
Stream Classification: (check one)	Ephemera	l ⊠Inter	mittent	Perennial						
Waterbody Type:	•									
(check one)	River 🛛 Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗆 Other	:					
онwм	OHWM Indica	or:								
Width:9.0ft.	(спеск ан тпат аррі)	9	☑ Clear lir on bank	ne ⊔Shelvin	g	☐Wrested vegetation	⊠Scourir	ng LIWater staining		
Height: ft. N/A□	□Bent, n vegetatio	natted, or missin n	g ⊠ Wrack ∣	line ⊠Litter ar debris	nd	□ Abrupt plant community char	⊡Soil o nge	characteristic change		
Width of Waterbody - T	op of Width o	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to De	epth of Wate	er:		
ванк то тор ог ванк:	to loe	of Slope:		water Edge:		(4)	οριοχ.)			
<u>18.0</u> ft.	-	<u>6.0</u> ft.		N/A 🗆	<u>7.0_</u> f	t. N/	′A□	<u>0.50 </u> ft.		
Sinuosity:	Water	velocity:		Bank height		Ba	ank slope			
(check one)	(Approx.)			Right:			Righ	it:		
		<u> </u>	ps	Left:	5.0 _	<u>.</u> π.	Le	<u>60</u> degrees ft:		
	9 N/A□				3.0 _	ft.		60 degrees		
Qualitative Attribut	tes									
Water Appearance: (check one)	No water 🖂 🛛	Clear □Turb	id ⊓Sh	neen □Su	rface		Other:			
			on	surface scu	um	mats				
Substrate:	Bedrock 🗆 Bo	ulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	elay 🛛 Organic	□ Other:			
% of Substrate:	%%	6 <u>45</u>	% <u>25</u> %	% <u>15</u> %	<u>10_</u> %	<u> 5 </u> %	%			
Width of Riparian Zone	: Vegetative	Layers:								
	(check all that	apply)	⊠ Trees	: D	⊠ Saplir	ngs/Shrubs:	⊠ Herbs			
<u>80.0 π</u> . N/A□	AVG. DBH (approx.)	of Dominants:	10.0	in	1.0	in.				
Dominant Bank Vegeta	tion (list):									
Sugar maple, black	cherry, ironwo	od, green asl	n, bee balm	n, goldenrod, je	ewel w	eed, golden ra	gwort			
Aquatic Habitats (ex: su	bmerged or emerged	l aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, ri	ffles, deep poo	bls):		
coarse woody debri	s, leaf packs									
Aquatic Organisms Ob	served (list):									
Caddisfly, water stri	ders									
T&E Species Observed	(list):									
none										
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):						
No culvert or bridge	present for roa	ad crossing								
Tributary is: (check one)	⊠ Natural	□ Art	tificial, man-m	ade 🗆 Manip	ulated					
Stream Quality ^a :	□ Lliah		doroto							
	ш п ign	ivic ivic	Juerale							

sraa427

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 access road corridor in both directions; connected to PEM wetland wraa449; streams sraa426 & 428 are tributaries outside the survey corridor; vehicles are driven through stream – no culvert or bridge present.





Waterbody sraa427 facing east upstream



Waterbody sraa427 facing west downstream



Waterbody sraa427 facing north across

Survey Descriptio	n							
Project Name:		Waterbody Na	ne:		N	/aterbody ID:		Date:
Atlantic Coast Pipel	line	UNT to Dry F	Run		s	raa426		8/22/2016
State:	County:		Company:		Crew I	Member Initials:	Photos:	
West Virginia	Randolph		NRG - ER	М	GB, A	AS	3 phot	OS
Tract Number(s):			Nearest Mile	epost:		Associated Wetlan	d ID(s):	
04-002-B002; acce	ss road 04-002	-B001.AR2	50.5			wraa49		
Survey Type: (check one)		□Re-F	Route	⊠Access Road		□Other:		
Physical Attribute	S 🛛							
Stream Classification: (check one)	Ephemera	l ⊠Inter	mittent	Perennial				
Waterbody Type:								
(check one)	River Str	eam 🗆 Dito	h 🗆 Ca	anal 🗌 Other	:			
онум	OHWM Indicat	tor:						n DM/stan
Width: <u>3.0</u> ft		/	on bank		g		⊠ Scourin	staining
Height:	□Bent, n	natted, or missin	g 🗆 Wrack I	line ⊠Litter ar	nd	□Abrupt plant	□Soil c	haracteristic change
	· vegetatio	n		debris		community change		
Width of Waterbody - 1 Bank to Top of Bank:	op of Width of Toe	of Waterbody - '	Toe of Slope	Width of Waterb Water Edge:	ody - W	Ater Edge to Depti	h of Wate	r:
70 #		0.0 H		g	05			0.20 ft
<u> </u>	-	<u>3.0</u> π.		N/A□	1	τ. Ν/Α□]	<u> </u>
Sinuosity:	Water	elocity:		Bank height		Bank	slope	
Straight	(Approx.)	0.50	t	Right:	4.0	ft	Right	: 80 degrees
		0.50	īps	Left:	4.0		Lef	<u> </u>
	ng N/A□				4.0 _	_ft.		80 degrees
Qualitative Attribu	tes							
(check one)	[]] No water ⊠C	Clear □Turb	id ⊡Sh on	neen ⊡Su n surface sci	rface um	□Algal □Oth mats	er:	
Substrate:	Bedrock 🗆 Bo	ulder 🛛 Cobb	le 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🛛 Organic 🛛	Other:	
(check all that apply) % of Substrate:	%%	6 <u>30</u> 9	% <u>30 </u> %	% <u>20</u> %	<u>10_</u> %	<u> 10 </u> %	%	
Width of Riparian Zone	e: Vegetative	Layers:						
ft.	(check all that	apply) of Dominants:	⊠ Trees	: D	⊠ Sapliı	ngs/Shrubs:	⊠ Herbs	
N/A⊠	(approx.)	or Dominants.	13.0	in	1.5	in.		
Dominant Bank Vegeta	ition (list):		oplar long	naca maadaw	woot	atripad maple w	ubita ana	karaat ladu fara
wood aster	cherry, reu ma	pie, yellow p			sweet,	, striped maple, w		ikerool, lady leffi,
Aquatic Habitats (ex: si	ubmerged or emerged	aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, riffles	s, deep pool	s):
coarse woody debr	is, leal packs							
Aquatic Organisms Ob	served (list):							
caddisfly								
T&E Species Observed	l (list):							
none								
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pipe	es):				
Refuse in channel,	culvert crossing	g for existing	road, confi	ned to ditch ald	ong ro	as		
Tributary is: (check one)	□ Natural	□ Art	ificial, man-m	ade 🛛 Manip	ulated			
Stream Quality ^a : (check one)	🗆 High	⊠ Mc	oderate	□ Low				

sraa426

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:

Upstream continues out of access road corridor; crosses under existing gravel road via culvert; downstream continues out of access road corridor where it flows into sraa427; confined to ditch along existing gravel road; connected to PEM wetland wraa449; receives outflow from road cut seeps praa481 & 482.





Waterbody sraa426 facing south upstream



Waterbody sraa426 facing northeast downstream



Waterbody sraa426 facing east across

Survey Description	n										-
Project Name:		Waterb	ody Nam	ne:			W	aterbody ID:			Date:
Atlantic Coast Pipe	line	Dry R	un				S	rac103			1/16/2016
State:	County:			Company:			Crew N	lember Initials	::	Photos:	
West Virginia	Randolph			NRG			CR, S	SH		1-3	
Tract Number(s):				Nearest Mile	epost:		l	Associated W	etland	ID(s):	
04-002-B001				3.5				None			
Survey Type: (check one)	Cente	erline	⊠Re-R	oute	□Ac	cess Road		Other:			
Physical Attribute	es										
Stream Classification: (check one)	: □Ephe	meral		nittent	⊠Pe	rennial					
Waterbody Type: (check one) [River	Stream	Ditch	n 🗆 Ca	anal	Other:					
OHWM Width:	OHWM In (check all tha	dicator: at apply)		⊠ Clear lir	ne	□Shelvin	g	□Wrested	×	Scouring	g □Water
<u> 16 </u> ft.				on bank				vegetation			staining
Height: <u>1.5</u> ft.	⊠Be vege	ent, matted, o etation	r missing	j ⊠Wrack li	ne	⊠Litter ar debris	nd	□Abrupt plar community ch	nt nange	□Soil cl	naracteristic change
N/A∟ Width of Waterbody -	Top of Wi	dth of Water	body - T	oe of Slope	Width	of Waterb	odv - W	ater Edge to	Depth	of Water	•
Bank to Top of Bank:	to	Toe of Slope); ;		Water	Edge:	<i>s</i> ay 11	utor Eugo to	(Approx.)	•
<u>_20_</u> ft.		<u>2</u> ft.				_	<u>12_</u> ft.		N/A□		<u>_1_</u> ft.
Sinuosity:	wa	ater velocity:			Bank	neight			Bank s	slope	
(check one)	(Ар	pprox.)				Right:				Right	:
		_	<u>1.5_</u> fps			Left:	<u>4_</u> ft.			Left	<u>80</u> degrees
⊠Meander	ing N/J	A□					<u>3_</u> ft.				60 degrees
Qualitative Attribu	utes										
Water Appearance: (check one)	☐No water	⊠Clear	□Turbi	d ⊡Sh on	neen n surface	⊡Sui e scu	face Im	□Algal mats	□Othe	r:	
Substrate:	Bedrock	⊠ Boulder	⊠ Cobbl	e 🛛 Grave	el 🗆	Sand [∃ Silt/ c	lay 🗆 Organio	: □ (Other:	
(check all that apply) % of Substrate:	<u>60 % </u>	<u>15_%</u>	<u>10_</u> %	<u> 15 </u> %		% _	_%	%		%	
Width of Riparian Zon	e: Veget	ative Layers	:								
<u>50 ft</u> -	(check a Avg. I	all that apply) DBH of Domi	inants:	⊠ Trees _ <u>10_</u> in.	:	2	⊠ Saplir _ <u>2_</u> in.	ngs/Shrubs:	\ge	I Herbs	
N/A⊔ Dominant Bank Veget	ation (list):	.)									
Yellow birch, red o	ak, red map	le, beech,	Christm	nas fern, n	orther	n lady fe	rn				
Aquatic Habitats (ex: s	ubmerged or em	nerged aquatic	vegetation	, overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pool	s):
None											
Aquatic Organisms O	bserved (list):										
None											
T&E Species Observe	d (list):										
None											
Disturbances (ex: lives	tock access, mar	nure in waterbo	dy, waste	discharge pipe	es):						
None											
Tributary is: (check one)	⊠ Natu	Iral	□ Arti	ficial, man-m	ade	Manip	ulated				
Stream Quality ^a : (check one)	□ High	1	⊠ Moo	derate		□ Low					

Srac103

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 srac103 facing southeast upstream



Waterbody srac103 facing northwest downstream



Waterbody srac103 facing southwest across

Survey Description	n										_
Project Name:		Waterbo	ody Name):			Wa	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT t	o Dry R	un			SF	RAA400			1/16/2016
State:	County:	-	С	ompany:			Crew N	lember Initials	:	Photos:	
West Virginia	Randolph		Ν	RG			CR, S	Н		1-3	
Tract Number(s):	•		N	earest Mile	epost:			Associated W	etland	ID(s):	
04-002-B001;			3	.5				None			
Survey Type: (check one)		line	⊠Re-Ro	ute	□Ac	cess Road	1	Other:			
Physical Attribute	s										
Stream Classification: (check one)	□Epherr	ieral	⊠Interm	ittent	□Pe	rennial					
Waterbody Type: (check one)	□River ⊠	Stream	Ditch	□ Ca	anal	□ Other	:				
OHWM Width:	OHWM Ind (check all that a	icator: apply)		⊠ Clear lir	ne	□Shelvir	g	□Wrested vegetation		Scouring	g ⊟Water staining
Height: 0.5_ft.	□Ber vegeta	nt, matted, or ation	r missing	□Wrack li	ne	⊠Litter a debris	nd	Abrupt plan	it iange	□Soil cl	naracteristic change
N/AL Width of Waterbody -	Top of Wid	th of Water	body - To	e of Slope	Width	of Waterh	ody - W	ater Edge to	Denth	of Water	•
Bank to Top of Bank:	to T	oe of Slope	:		Water	Edge:	ouy - M	ater Luge to	(Approx.		
<u>_15_</u> ft.		<u>1_</u> ft.					<u>3_</u> ft.				<u>0.2</u> ft.
Sinuosity:	Wat	er velocity:			N/A⊔ Bank h	neight			Bank	slope	
(check one)	(Appl	rox.)				Right:				Right	:
		_	<u>2_</u> fps			l oft	<u>5_</u> ft.			Loft	<u>70</u> degrees
⊠Meanderi	ing N/A					Lon.	<u>4_</u> ft.			Len	60degrees
Qualitative Attribu	utes										
Water Appearance: (check one)	[□] No water	⊠Clear	□Turbid	□Sh on	ieen i surface	⊡Su sc	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder	⊠ Cobble	⊠ Grave	el 🗆	Sand	□ Silt/ cl	ay 🗆 Organic	: 🗆 (Other:	
(check all that apply) % of Substrate:	_% _2	0_%	<u>45_</u> %	<u>35</u> %		%	%	%		%	
Width of Riparian Zon	e: Vegeta	tive Layers:	1								
<u>50 ft</u> -	(check all Avg. D (approx.)	that apply) BH of Domi	nants:	⊠ Trees _ <u>10_</u> in.	:	[⊠ Saplin _ <u>2_</u> in.	gs/Shrubs:		Herbs	
Dominant Bank Veget	ation (list):										
Yellow birch, red oa	ak, beech, Cl	nristmas f	ern								
Aquatic Habitats (ex: s	ubmerged or eme	rged aquatic v	egetation,	overhanging	banks/ro	ots, leaf pao	cks, large	submerged wood	, riffles,	deep pool	s):
Rock piles, leaf pac	cks										
Aquatic Organisms Ol	oserved (list):										
None											
T&E Species Observe	d (list):										
Flows through culv	er under CR	46									
Disturbances (ex: livest None	ock access, manu	ire in waterboo	dy, waste d	ischarge pipe	es):						
Tributary is: (check one)	⊠ Natura	al	□ Artific	cial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a : (check one)	🗆 High		⊠ Mode	erate		□ Low					

Waterbody ID: SRAA400

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:

SRAC104 was changed to SRAA400





Waterbody SRAA400 facing southwest upstream



Waterbody SRAA400 facing northeast downstream



Waterbody SRAA400 facing west across
Survey Descriptio	n							
Project Name:		Waterbody Na	me:		W	aterbody ID:		Date:
Atlantic Coast Pipeline		UNT to Dry	Run		s	raa400		3/1/2016
State:	County:		Company:		Crew	Member Initials:	Photos:	
West Virginia	Randolph		NRG		GB, A	AS, CG	3 phot	OS
Tract Number(s):	1		Nearest Mile	epost:	1	Associated Wetla	nd ID(s):	
04-002-B001			4.3; MNF-6 A	Alternative		none		
Survey Type: (check one)	⊠Centerline	e □Re-	Route	□ Access Road		□Other:		
Physical Attribute	S							
Stream Classification: (check one)	Ephemera	al 🛛 🖾 Inte	rmittent	Perennial				
Waterbody Type:								
(check one)	∃River ⊠ Str	eam 🗌 Dite	ch 🗆 Ca	anal 🛛 🗆 Other:				
OHWM Width: _ <u>5.0</u> ft.	OHWM Indica (check all that apply	tor: /)	⊠ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	Scourin	g ⊡Water staining
Height:ft.	□Bent, r vegetatio	natted, or missir n	ng	ne ⊠Litter ar debris	d	□Abrupt plant community change	⊡Soil c e	haracteristic change
N/A⊔ Width of Waterbody -]	Top of Width (of Waterbody -	Toe of Slope	Width of Waterbo	odv - W	ater Edge to Dep	th of Wate	r:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:	, ,	(Appr	юх.)	
<u>_10.0</u> ft.	-	<u>4.0</u> ft.			<u>4.0_</u> ft.			<u>0.20</u> ft.
Sinuosity:	Water	velocity:		N/AL Bank beight		N/A Ban	_ k slope	
(check one)	(Approx.)			Right:		241	Right	::
		<u>_1.5_</u> fp:	6	Left:	<u>3.5_</u> ft		Lef	<u>80</u> degrees
□Meanderi	ng N/A□				<u>7.0_</u> ft			<u>60</u> degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	[□] No water ⊠0	Clear □Turt	oid □Sh	ieen 🗆 Sui	face	□Algal □Ot	her:	
			on	surface scu		mats		
Check all that apply)	Bedrock 🗆 Bo	ulder 🗆 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	⊥ Silt/ o	clay 🛛 Organic 🗆	☐ Other:	
% of Substrate: <u>4</u>	<u>15 % </u>	_%%	_ <u>20_</u> % _2	<u>0 % 10 % _5</u>	_%	%		
Width of Riparian Zone	e: Vegetative	E Layers:	⊠ т		7 O l'	(0)		
<u> </u>	Avg. DBH	of Dominants:	⊠ Trees 10.0 ii	: ⊵ n.	Sapiii 1.0 in	ngs/Snrubs:		
N/A⊠ Dominant Bank Vogate	(approx.)							
Sugar maple, north	ern red oak, be	ech, sweet b	irch, grape	, greenbrier, Cł	nristm	as fern, wood fe	rn	
Aquatic Habitats (ex: s	ubmerged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	e submerged wood, riffle	es, deep poo	s):
Small pools, leaf pa	acks, woody de	bris						
Aquatic Organisms Ob	oserved (list):							
none								
T&E Species Observed	d (list):							
none								
Disturbances (ex: livest	ock access, manure i	n waterbody, wast	e discharge pipe	es):				
Logging and mining	g, culvert cross	ing for CR 46	, logging ro	ad cut across	strean	n with no culvert	present.	
Tributary is: (check one)	[⊠] Natural	□ Ar	tificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	🗆 Hiah	🖂 M	oderate	□low				

sraa400

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:

Upstream continues out of corridor, downstream flows under county road 46 via culvert and continues out of corridor





Waterbody SRAA400 facing southwest upstream



Waterbody SRAA400 facing northeast downstream



Waterbody SRAA400 facing northwest across

Survey Description	on							
Project Name:		Waterbody N	ame:		N	/aterbody ID:		Date:
Atlantic Coast Pipeline		UNT to Dry	Run		s	raa401		3/1/2016
State:	County:		Company:		Crew I	Member Initials:	Photos	
West Virginia	Randolph		NRG		GB, A	AS, CG	3 pho	tos
Tract Number(s):			Nearest Mile	epost:		Associated Wetl	and ID(s):	
04-002-B001			4.5 MNF-6			wraa401		
Survey Type: (check one)	⊠Centerlir	ne ⊡Re	-Route	□Access Road	1	Other:		
Physical Attribute	es							
Stream Classification (check one)	: □Epheme	ral ⊠Int	ermittent	□Perennial				
Waterbody Type: (check one)	□River ⊠ S	tream 🗆 D	itch 🗆 C	anal 🛛 Other	:			
OHWM Width: _ <u>4.0_</u> ft.	OHWM Indic (check all that ap	ator: ply)	□ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	⊠Scourir	ig ⊡Water staining
Height: ft.	□Bent, vegetat	matted, or miss	ing □Wrack li	ne ⊠Litter a debris	nd	□ Abrupt plant community chang	⊡Soil o ge	characteristic change
Width of Waterbody -	Top of Width	of Waterbody	- Toe of Slope	Width of Waterb	ody - W	ater Edge to De	pth of Wate	er:
Bank to Top of Bank:	to To	e of Slope:	·	Water Edge:		(Ap)	prox.)	
<u>_12.0</u> ft.		<u>2.0</u> ft.		N/A□	<u>3.0</u> ft.	N/A	A	<u>0.20</u> ft.
Sinuosity:	Wate	r velocity:		Bank height		Ва	nk slope	
Straight	(Approx	(.) 10 f		Right:	25 ft		Righ	t: 35 degrees
□Meander		<u>1.0</u> 1	5	Left:	<u></u>		Let	<u></u> dog.coo
	N/AL]			<u>4.0_</u> π.	·		<u> </u>
Qualitative Attrib	utes							
(check one)	□No water ⊠	IClear □Tu	rbid □Sh or	neen ⊡Su n surface sci	rface um	□Algal □C mats	Other:	
Substrate:	Bedrock E	Boulder 🛛 🖾 Col	oble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🛛 Organic	□ Other:	
(check all that apply) % of Substrate:	%	% _5_%	_10	<u>% 15 % 50 %</u>	% _ <u>2</u>	<u>0_%%</u>		
Width of Riparian Zon	ne: Vegetativ	ve Layers:						
<u>ft</u> .	(check all th Avg. DB	at apply) H of Dominants	⊠ Trees <u>8.0_</u> in.	: .	⊠ Sapliı _ <u>1.5_</u> in	ngs/Shrubs: 	⊠ Herbs in.	
N/A⊠ Dominant Bank Veget	tation (list):							
Yellow poplar, bee	ch, sweet birch	n, sugar map	le, elderberr	y, blackberry, ç	greenb	orier, wood fern,	, Christma	as fern
Aquatic Habitats (ex: s	submerged or emerg	ed aquatic vegetat	ion, overhanging	banks/roots, leaf pac	ks, large	submerged wood, rif	fles, deep poo	ls):
Leaf packs, woody	debris, a few	small pools						
Aquatic Organisms O	bserved (list):							
none								
T&E Species Observe	ed (list):							
none								
Disturbances (ex: lives	stock access, manure	e in waterbody, wa	ste discharge pip	es):				
Crosses two old lo	gging roads (n	o culverts); a	rea extensiv	ely disturbed b	by logo	jing and past m	ining	
Tributary is: (check one)	[⊠] Natural		Artificial, man-m	ade 🗆 Manip	ulated			
Stream Quality ^a : (check one)	□ High		/loderate	□ Low				

sraa401

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

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

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

Notes:

Stream begins within the corridor within PFO wetland wraa402; downstream continues out of the corridor where it flows into sraa402.





Waterbody SRAA401 facing west upstream



Waterbody SRAA401 facing east downstream



Waterbody SRAA401 facing south across

Survey Description	on								
Project Name:		Waterbody I	Name:		W	aterbody ID:		Da	ite:
Atlantic Coast Pipe	line	UNT to Le	ft Fork Buckl	nannon River	S	rae201		7/2	22/2016
State:	County:	1	Company:		Crew I	Member Initials	: Pł	hotos:	
West Virginia	Randolph		NRG		CG, A	AS	1	-3	
Tract Number(s):			Nearest Mil	epost:	1	Associated W	etland II	D(s):	
04-001-B001			NA			none			
Survey Type: (check one)		ne 🗆 R	e-Route	⊠Access Road		□Other:			
Physical Attribute	es								
Stream Classification: (check one)	: □Epheme	ral □In	ntermittent	⊠Perennial					
Waterbody Type:									
(check one)	□River ⊠ S	tream 🗆 🛙	Ditch 🗆 C	anal 🗌 Other	:				
OHWM Width: _ <u>10_</u> ft.	OHWM Indic (check all that ap)	ator: oly)	□ Clear li on bank	ne 🗆 Shelvin	g	□Wrested vegetation	⊠S	couring	□Water staining
Height: ft. N/A□	⊠Bent, vegetat	matted, or mis ion	sing □Wrack I	ine ⊠Litter ar debris	nd	□ Abrupt plan community ch	t ⊵ ange	∃Soil cha	racteristic change
Width of Waterbody -	Top of Width	of Waterbody	/ - Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth of	f Water:	
Bank to Top of Bank:	to Too	e of Slope:		Water Edge:		_	(Approx.)		
<u>14_</u> ft.		<u>6</u> ft.			<u>3</u> ft.			_() <u>.3_</u> ft.
Sinuosity:	Wate	r velocity:		N/A⊔ Bank height			Bank slo	ne	
(check one)	(Approx	<i>.)</i>		Right:			Barne Sie	Right:	
Botraight		<u>1_</u> f	ps	l eft	<u>5_</u> ft.			l eft	75 degrees
□Meander	ing N/A□	l		Lon	<u>5</u> ft.				75 degrees
Qualitative Attrib	utes								
Water Appearance: (check one)	[□] No water ⊠	Clear DT	urbid 🗆 SI or	neen DSu n surface scu	rface um	□Algal [mats	□Other:		
Substrate:	Bedrock 🛛 E	Boulder 🛛 🗠 Co	obble 🛛 Grav	rel 🛛 Sand 🛛	□ Silt/ c	clay 🗆 Organic	🗆 Ot	her:	
(check all that apply) % of Substrate:	_% _55	<u>% 20 </u>	% <u>15</u> %	<u> 10 </u> %		_%%		%	
Width of Riparian Zon	e: Vegetativ	ve Layers:							
<u>ft</u> .	(check all th Avg. DBI	^{at apply)} H of Dominant	□ Tree s:	s:	⊠ Saplir _ <u>2_</u> in.	ngs/Shrubs:	×	Herbs	
Dominant Bank Veget	ation (list):								
Coltsfoot, birch, ma	aple, witch haz	el							
Aquatic Habitats (ex: s	ubmerged or emerg	ed aquatic vegeta	ation, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, de	ep pools):	
Boulders, pools									
Aquatic Organisms O	bserved (list):								
Insects, amphibian	S								
T&E Species Observe none	d (list):								
Disturbances (ex: lives	tock access, manure	e in waterbodv. wa	aste discharde pin	es):					
Culverted beneath	road	······································							
Tributary is: (check one)	□ Natural		Artificial, man-m	nade 🛛 Manip	ulated				
Stream Quality ^a : (check one)	□ High	\boxtimes	Moderate	□ Low					

Srae201

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 srae201 facing southeast upstream



Waterbody srae201 facing northwest downstream



Waterbody srae201 facing southwest across

Survey Description	on								
Project Name:		Waterbody Na	me:		v	aterbody ID:			Date:
Atlantic Coast Pipeline		UNT to Dry	Run		S	raa403			3/1/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		GB, A	AS, CG		3 phot	os
Tract Number(s):	1		Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B001			4.55 MNF-6			none			
Survey Type: (check one)	⊠Centerline	e □Re-	Route	□ Access Road		□Other:			
Physical Attribute	es								
Stream Classification	: □Ephemera	al ⊠Inte	rmittent	Perennial					
Waterbody Type:									
(check one)	□River ⊠ Str	ream 🗌 Dit	ch 🗆 Ca	anal 🗌 Other:	:				
ОНШМ	OHWM Indica	ator:							
Width:ft.	(спеск ал тат арр	<i>Y)</i>	☑ Clear lir on bank		g	☐Wrested vegetation	X	Scouring	g ⊡Water staining
Height:	□Bent, r	matted, or missir	ng ⊡Wrack li	ne ⊠Litter ar	nd	□Abrupt plan	t	□Soil c	haracteristic change
ft. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody -	Top of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Wate	1:
валк то тор от валк:	to loe	of Slope:		water Edge:			(Approx.)		
<u>8.0</u> ft.	-	<u>3.0</u> ft.			<u>3.0</u> ft.		N/∆ □	-	<u>0.25</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s		
(check one)	(Approx.))		Right:				Right	:
Bottaight		_ <u>1.25_</u> fp	S	L oft:	<u>5.0_</u> ft.			Loft	<u>85</u> degrees
□Meander	ing N/A□			-	<u>5.0_</u> ft.			Len	_ <u>70_</u> degrees
Qualitative Attrib	utes								
Water Appearance: (check one)	□No water 🛛 🛛	Clear □Turl	oid □Sh	ieen 🗆 Sui	rface	□Algal	□Othe	r:	
Substrato	V Podrook V P		on	surface scu		mats)thor:	
(check all that apply)						lay 🖾 Organic		Julei.	
% of Substrate:	<u>5 % <u>5</u>%</u>	_4 <u>5</u> _%	_ <u>15</u> _	<u>% 10 % 1</u>	<u>0 </u> %	_ <u>10</u> _%	%	, D	
Width of Riparian Zon	e: Vegetativ	e Layers:	□		7 0 l'a			I I a ale a	
ft.	Avg. DBH	of Dominants:	⊠ irees 70 in	2	u Sapili 1 5 in	ngs/Snrubs:	X	Herbs	
N/A⊠	(approx.)		<u></u>	-					
Yellow poplar, bee	ation (<i>list)</i> : ch, sweet birch	, yellow birch	, sugar maj	ole, woodland s	sedge,	, blackberry,	green	brier, v	vood fern,
Christmas fern Aquatic Habitats (ex: s	submerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles,	deep pool	s):
Leaf packs, woody	debris								
Aquatic Organisms O	bserved (list):								
none									
T&E Species Observe	d (list):								
none									
Disturbances (ex: lives	tock access, manure	in waterbody, wast	e discharge pipe	es):					
crosses logging roa	ad – no culvert;	; area extensi	vely disturb	ed by logging a	and pa	ast mining			
Tributary is: (check one)	[⊠] Natural		tificial, man-m	ade 🗌 🗆 Manipi	ulated				
Stream Quality ^a :	□ 1 P - 6			— I					
	i ⊢ ign	M ک	ouerate						

sraa403

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:

Upstream continues out of corridor, flows into sraa402 within the corridor; crosses an old logging road – no culvert present. Area is highly disturbed due to logging and mining.





Waterbody SRAA403 facing west upstream



Waterbody SRAA403 facing northeast downstream



Waterbody SRAA403 facing south across

Survey Description	on								
Project Name:		Waterbody Na	me:		W	aterbody ID:		Da	te:
Atlantic Coast Pipe	eline	Dry Run			SI	raa402		3/1	1/2016
State:	County:		Company:		Crew M	Member Initials	: F	Photos:	
West Virginia	Randolph		NRG		GB, A	AS, CG	:	3 photos	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B001			4.55 MNF-6			none			
Survey Type: (check one)	⊠Centerline	e □Re-I	Route	□Access Road		□Other:			
Physical Attribute	es								
Stream Classification (check one)	: □Ephemera	al 🛛 Inte	rmittent	Perennial					
Waterbody Type: (check one)	□River ⊠ Str	eam 🗆 Dite	ch 🗆 Ca	anal 🛛 Other:	:				
OHWM Width:	OHWM Indica (check all that appl	tor: /)	⊠ Clear lir	ne 🗆 Shelvin	g	□Wrested vegetation	\boxtimes	Scouring	□Water staining
Height:	□Bent, r	natted, or missir	ng ⊠Wrack li	ne ⊠Litter ar	nd	□Abrupt plan	t	□Soil char	acteristic change
N/A□	vegetatio	11		deblis		community ch	ange		
Width of Waterbody - Bank to Top of Bank:	Top of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth ((Approx.)	of Water:	
<u>ft</u> .	-	<u>4.5</u> ft.			<u>_7.0_</u> ft.			0.	<u>75_</u> ft.
Sinuosity:	Water	velocity:		Bank height		1	Bank s	lope	
(check one)	(Approx.)			Right:				Right:	
Betraight		<u>_1.75</u> fp	S	Left:	<u>12.0_</u> ft.			Left	60 degrees
□Meander	ring N/A□				<u>20.0_</u> ft				75 degrees
Qualitative Attrib	utes								
Water Appearance: (check one)	□No water ⊠0	Clear 🗆 Turb	oid □Sh on	leen ⊡Sui i surface sci	rface um	□Algal [mats	Other	:	
Substrate:	Bedrock Bo	ulder 🛛 Cobl	ole 🛛 Grave	el 🛛 Sand 🛛	_ □ Silt/ c	lav 🛛 Organic)ther:	
(check all that apply) % of Substrate:	<u>10 % <u>35</u>%</u>	2 <u>5_</u> %	_ <u>15</u>	<u> </u>	%	_ <u>5_</u> % _	%		
Width of Riparian Zor	ne: Vegetative	e Layers:							
<u>25.0 ft</u> ·	(check all that Avg. DBH (approx.)	apply) of Dominants:	⊠ Trees <u>9.0</u> in.	-	⊠ Saplir _ <u>1.0_</u> in	ngs/Shrubs:	\boxtimes	Herbs	
Dominant Bank Veget	tation (list):								
Yellow poplar, bee Christmas fern	ch, sweet birch	yellow birch	, sugar map	ole, woodland s	sedge,	blackberry,	greenl	brier, woo	od fern,
Aquatic Habitats (ex: s Leaf packs, woody	submerged or emerge / debris, step po	d aquatic vegetatic IOIS	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, c	deep pools):	
Aquatic Organisms O	bserved (list):								
none									
T&E Species Observe	ed (list):								
none									
Disturbances (ex: lives	stock access, manure i	n waterbody, wast	e discharge pipe	es):					
culvert crossing fo	r logging road; a	area extensiv	ely disturbe	ed by logging a	nd pas	st mining			
Tributary is: (check one)	[⊠] Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated				
Stream Quality ^a :									
(cneck one)	⊡ High	🖂 Mo	oderate	Low					

sraa402

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 corridor in both directions; upstream culvert crossing for existing logging road outside of corridor; streams sraa401 and sraa403 are tributaries.





Waterbody SRAA402 facing west upstream



Waterbody SRAA402 facing east downstream



Waterbody SRAA402 facing south across

Survey Descriptio	n								
Project Name:		Waterbody Na	ame:		Waterbody ID:				Date:
Atlantic Coast Pipeline		UNT to Dry	Run		S	sraa404			3/1/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		GB, A	AS		3 photo	os
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B001			4.65 MNF-6			Wraa404			
Survey Type: (check one)	⊠Centerli	ne ⊡Re-	Route	□ Access Road		□Other:			
Physical Attribute	s								
Stream Classification: (check one)	Epheme	ral ⊠Inte	ermittent	Perennial					
Waterbody Type:									
(check one)	River ⊠ S	tream	ich 🗆 Ca	anal 🗌 Other:					
OHWM Width: _ <u>3.0_ft.</u>	OHWM Indic (check all that ap	a tor: ply)	□ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	×	Scouring	□Water staining
Height:ft.	□Bent, vegetat	matted, or missi	ng □Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plan community ch	t ange	□Soil cł	naracteristic change
N/AL Width of Waterbody - 1	on of Width	of Waterbody -	Too of Slope	Width of Waterb	odv - M	later Edge to	Denth	of Water	•
Bank to Top of Bank:	to To	e of Slope:		Water Edge:	ouy n	rater Eage to	(Approx.)		•
<u>_10.0</u> ft.		<u>_2.0_</u> ft.			<u>2.5_</u> ft.			_	<u>0.20_</u> ft.
Cinuccitur	Mate			N/A 🗆			N/A 🗆		
(check one)	(Approx	r velocity: «)		Bank neight Right:			Bank s	Right:	
⊠Straight		<u>_0.75_</u> fr	os		<u>3.0_</u> ft				50 degrees
□Meanderi	ng N/A⊡]		Left:	<u>5.0_</u> ft			Lett	<u>60</u> degrees
Qualitative Attribu	tes			<u> </u>					
Water Appearance:	.								
(cneck one)	[⊥] No water ⊵	IClear ⊔Tur	bid ⊔Sh on	neen ⊔Sui n surface scu	rface um	∐Algal _ mats	_Othe	r:	
Substrate:	Bedrock 🛛 🖾	Boulder 🛛 Cob	ble 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🛛 Organic		Other:	
% of Substrate: <u>1</u>	<u>5 % 10 </u>	% _ <u>20</u> _% _	<u>20_% _25</u> %	5 <u>5</u> % <u>5</u> %		%			
Width of Riparian Zone	: Vegetati	ve Layers:							
	(check all th	at apply)	⊠ Trees	: D	🛛 Sapli	ngs/Shrubs:	\boxtimes	Herbs	
<u></u> . N/A⊠	(approx.)	n or Dominants:	<u>7.0</u> in.		1.25	in.			
Dominant Bank Vegeta	ntion (list):								1.6
Yellow birch, sweet	birch, beech,	yellow poplar	r, sugar map	ple, striped map	ole, gr	eenbrier, bla	CKDer	ry, woo	d tern
Aquatic Habitats (ex: s	ubmerged or emerg	ed aquatic vegetation	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles,	deep pools	s):
Leaf packs, woody	debris								
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	l (list):								
none									
Disturbances (ex: livest	ock access, manure	e in waterbody, was	te discharge pipe	es):					
Crosses existing po	werline ROW	; surrounding	area highly	disturbed by lo	ogging	g and past mi	ning		
Tributary is: (check one)	[⊠] Natural	□ A	rtificial, man-m	ade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	□ High	⊠M	loderate	□ Low					

Sraa404

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

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

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

Notes:

Begins within the corridor inside of PFO wetland wraa404; downstream continues out of corridor





Waterbody SRAA404 facing northeast upstream



Waterbody SRAA404 facing southwest downstream



Waterbody SRAA404 facing southeast across

Survey Descriptio	n								
Project Name:		Waterbody Na	me:		v	laterbody ID:		C	Date:
Atlantic Coast Pipe	line	UNT to Dry I	Run		S	irae001		3	/3/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CG, A	AS		1-3	
Tract Number(s):	1		Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B001			50.9			Wraa404			
Survey Type: (check one)	⊠Centerlin	e □Re-F	Route	□Access Road		□Other:			
Physical Attribute	S								
Stream Classification:									
(cneck one)	□Ephemer	al 🛛 Inter	rmittent	Perennial					
Waterbody Type: (check one)	River St	ream 🗆 Dito	ch 🗆 C	anal 🗌 Other	:				
онwм	OHWM Indica	ator:							
Width: <u>3</u> ft.	(спеск ан тпат арр	<i>IY)</i>	☐ Clear lir on bank	ne ∐Shelvin	g	☐Wrested vegetation	×	Scouring	⊠Water staining
Height:	⊠Bent,	matted, or missin	ng ⊡Wrack li	ne 🗆 Litter ar	nd	□Abrupt plan	t	⊠Soil ch	aracteristic change
<u>0.5_</u> ft. N/A□	vegetatio	on	-	debris		community ch	lange		-
Width of Waterbody - 1	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:			(Approx.)		
<u>_10_</u> ft.	-	<u>2</u> ft.			<u>2</u> ft.			-	<u>0.2</u> ft.
Sinuosity:	Water	velocity:		N/A∐ Bank beight			N/AL	lone	
(check one)	(Approx.)			Right:			Dalik S	Right:	
		<u>_0.5_</u> fps	3	L offi	<u>4_</u> ft.			L offi	50 degrees
⊠Meanderi	ng N/A 🗆			Left:	_4_ft.			Left:	50 degrees
Qualitative Attribu	ites								
Water Appearance:	7								
(cneck one)	-No water ⊠	Clear LTurb	oid ⊔Sh or	neen ⊔Su n surface sci	rface um	∐Algal I mats	_]Other	f:	
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobb	ole 🗆 Grav	el 🗆 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	: □ C	Other:	
% of Substrate:	<u>65_% _20_</u>	% <u>10</u> %		%%	<u>5</u> %	%		%	
Width of Riparian Zone	e: Vegetativ	e Layers:							
40.4	(check all tha	t apply)	☐ Trees	: 5	🛛 Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>10 n</u> . N/A□	а vg. DBn (approx.)	f of Dominants:	<u>6</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Vegeta	ation (list):								
Birch, sedges, map	le								
Aquatic Habitats (ex: se	ubmerged or emerge	ed aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools):
Overhanging veg									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	l (list):								
none									
Disturbances (ex: livest	ock access, manure	in waterbody, waste	e discharge pipe	es):					
road									
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low					

Srae001

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 SRAE001 facing west upstream



Waterbody SRAE001 facing north downstream



Waterbody SRAE001 facing northwest across

Survey Description	n										
Project Name:		Waterbo	ody Nam	e:			v	laterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Dry Ru מ	un			S	rae002			3/3/2016
State:	County:	•	C	company:			Crew I	Member Initials	8:	Photos:	
West Virginia	Randolph		Ν	IRG			CG, A	AS		1-3	
Tract Number(s):			N	learest Mile	epost:			Associated W	/etland	ID(s):	
04-002-B001; 04-002	-B028		5	60.9				none			
Survey Type: (check one)	⊠Centerl	line	□Re-Ro	oute	□Ac	cess Road	I	□Other:			
Physical Attribute	s										
Stream Classification:											
(check one)	Ephem	eral	⊠Interm	ittent	□Pe	erennial					
Waterbody Type: (check one)	∃River ⊠	Stream	Ditch	□ Ca	anal	□ Other	:				
ОНWM	OHWM Indi	cator:							_		
Width: ft.	(check all that a	pply)		Clear lir on bank	ne	□Shelvin	g	□Wrested vegetation		Scouring	g □Water staining
Height:	⊠Ben	t, matted, or	r missing	□Wrack li	ne	□Litter a	nd	□Abrupt plar	nt	⊠Soil cl	haracteristic change
_ <u>1</u> π. N/A□	vegeta	ation				debris		community ch	nange		
Width of Waterbody -	Top of Widt	th of Waterl	body - To	e of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Ballk to Top of Ballk.	τοια	be of Slope	:		water	Eage:			(Approx.,)	<i>(</i>
<u>_20_</u> ft.		<u>3</u> ft.				-	<u>3</u> ft.		N/A□		<u>_0.5_</u> ft.
Sinuosity:	Wate	er velocity:			Bank I	neight			Bank	slope	
(check one)	(Appri	ox.)				Right:				Right	:
		-	<u>1_</u> fps			Left:	<u>/</u> ft.			Left	<u>70</u> degrees
Meander	ing N/A						<u>4_</u> ft.				45 degrees
Qualitative Attribu	utes										
Water Appearance: (check one)	□No water	⊠Clear	□Turbid	□ Sh on	een surface	⊡Su e sci	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder [⊠ Cobble	e ⊠ Grave	el 🖂	Sand	⊐ Silt/ c	lay 🗆 Organio	; □(Other:	
(check all that apply)	0/ 00	2.07	DE 0/	40.0/	4	E 0/		0/ 0/		0/	
	% _2(<u> </u>	<u>23 </u> %	<u>40</u> %		<u>5</u> %		_%%)	%	
Width of Riparian Zon	e: Vegetat	tive Layers:				r	🛛 Sanlir	nge/Shrube		7 Horbs	
<u>ft</u> .	Avg. DE	BH of Domi	nants:	- nees. 8 in.	•	2	_ 1 in.	igs/onitubs.	Ľ		
N/A⊠ Dominant Bank Vogot	(approx.)					-					
Maple, beech, oak	ation (<i>iist)</i> .										
Aquatic Habitats (ex: s	ubmerged or emer	ged aquatic v	regetation,	overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	l, riffles,	deep pool	s):
Riffles, pools, boul	der										
Aquatic Organisms Ol	oserved (list):										
none											
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	ock access, manu	re in waterboo	dy, waste d	lischarge pipe	es):						
road											
Tributary is: (check one)	⊠ Natura	ıl	□ Artifi	cial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a : (check one)	⊠ High		□ Mod	erate		□ Low					

Srae002

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 SRAE002 facing southwest upstream



Waterbody SRAE002 facing northeast downstream



Waterbody SRAE002 facing southeast across

Survey Description	on								
Project Name:		Waterbody	lame:		v	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Dry	/ Run		S	irae003			3/3/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CG, /	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s):		
04-002-B001			50.9			none			
Survey Type: (check one)	⊠Centerlir	ne 🗆 Re	e-Route	□Access Road		□Other:			
Physical Attribute	es								
Stream Classification: (check one)	: ⊠Epheme	ral □In	termittent	Perennial					
Waterbody Type:	-								
(check one)	□River ⊠ S	tream 🗆 🗆	Ditch 🗆 C	anal 🗆 Other:	:				
ОНШМ	OHWM Indic	ator:							
Width:ft.	(check all that ap	ριγ)	Clear line on bank	ne 🗆 Shelvin	g	☐Wrested vegetation		Scouring	l □Water staining
Height:	□Bent,	matted, or miss	sing DWrack I	ine ⊠Litter ar	⊠Litter and □Abrupt pla			⊠Soil cł	naracteristic change
ft. N/A□	vegetat	ion		debris		community ch	ange		
Width of Waterbody -	Top of Width	of Waterbody	- Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water	:
валк то тор от валк:	to lo	e of Slope:		water Edge:			(Approx.)		
<u>_2</u> ft.		<u>1_</u> ft.			<u>0.5_</u> ft.		N/A 🗆	-	<u>_0.1_</u> ft.
Sinuosity:	Wate	r velocity:		Bank height			Bank s	lope	
(check one)	(Approx	K.)		Right:				Right	:
Bottaight		0.25	fps	l eft:	<u>1_</u> ft.			l eft	<u>45</u> degrees
□Meander	ing N/A□]		Lon.	<u>1_</u> ft.			Lon	45 degrees
Qualitative Attrib	utes								
Water Appearance: (check one)	□No water ⊠	IClear □Tu	urbid □Sł or	neen DSui n surface scu	rface um	□Algal mats	□Other	r:	
Substrate:	Bedrock 🗆 E	Boulder 🛛 Co	bble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ o	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	% <u>20</u> %	% <u>40</u> %	40_%		_%%		%	
Width of Riparian Zon	e: Vegetati	ve Layers:							
	(check all th	at apply)	⊠ Trees	:: D	⊠ Sapli	ngs/Shrubs:	\boxtimes	Herbs	
<u>π</u> · N/A⊠	(approx.)	H of Dominant	5: <u>4</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Veget	ation (list):								
Beech, maple, birc	h								
Aquatic Habitats (ex: s	submerged or emerg	ed aquatic vegeta	tion, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, o	deep pools	3):
none									
Aquatic Organisms O	bserved (list):								
none									
T&E Species Observe	d (list):								
none									
Disturbances (ex: lives	tock access, manure	e in waterbody, wa	ste discharge pip	es):					
road									
Tributary is: (check one)	⊠ Natural		Artificial, man-m	nade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	🗆 High		Moderate	⊠ Low					

Srae003

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 SRAE003 facing southwest upstream



Waterbody SRAE003 facing north downstream



Waterbody SRAE003 facing southeast across
Survey Description	า	L =							
Project Name:		Waterbody Nar	ne:		W	/aterbody ID:		Date:	
Atlantic Coast Pipeli	ine	UNI to LICK	Run		S	rae179		6/13/	2016
State:	County:		Company:		Crew I	Member Initials	: P	hotos:	
West Virginia	Randolph		NRG		CG, S	SA, KO		1-3	
Tract Number(s):	•		Nearest Mile	epost:		Associated W	etland I	D(s):	
04-001-B001			NA			none			
Survey Type: (check one)			Poute	MAccess Road		□ Other:			
			louic						
Stream Classification:	5								
(check one)	[⊠] Ephemera	al 🗌 Inter	mittent	Perennial					
Waterbody Type: (check one)	River 🛛 Str	eam 🗆 Dito	h 🗆 Ca	anal 🗌 Other:					
онwм	OHWM Indica	tor:							
Width: _2_ft.	(check all that appl	<i>V)</i>	□ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	\boxtimes	Scouring	□Water staining
Height: 0 25 ft	⊠Bent, r	natted, or missin	g	ne 🗆 Litter ar	nd	□Abrupt plan	t	Soil characte	eristic change
N/A□	vegetatio	1 1		deblis		community ch	ange		
Width of Waterbody - T Bank to Top of Bank:	op of Width to Toe	of Waterbody - ⁻ of Slope:	Foe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth c (Approx.)	of Water:	
		4 4			л <u>и</u>			0.05	ft
<u></u> II.	-	<u>1</u> π.		N/A 🗆 🚽	<u> </u>		N/A□	0.00_	
Sinuosity:	Water	velocity:		Bank height			Bank sl	оре	
Straight	(Approx.)	0.1 fpg		Right:	1 ft			Right: 30	dearees
□Moondorin		<u>_0.1_</u> ips		Left:	<u> </u>			Left:	
					<u> 1 </u> ft.			30	degrees
Qualitative Attribu	tes								
(check one)	No water ⊠0	Clear □Turb	id □Sh on	neen ⊡Sur nisurface scu	face Im	□Algal [mats	□Other:		
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	le 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic	□ O	ther:	
(check all that apply) % of Substrate:	%	_% <u>5</u> %	<u>15</u> %	%	<u>5</u> %	%		%	
Width of Riparian Zone	: Vegetative	e Layers:	— —	_			_		
<u> </u>	(check all that Avg. DBH	of Dominants:		s: [Sapli	ngs/Shrubs:	\boxtimes	Herbs	
N/A⊠ Dominant Bank Vagata	(approx.)				-				
Goldenrod, fern, gra	asses								
Aquatic Habitats (ex: su	bmerged or emerge	d aquatic vegetation	n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood	, riffles, d	leep pools):	
none									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	e discharge pipe	es):					
Crosses road, roads	side ditch								
Tributary is: (check one)	□ Natural	□ Art	ificial, man-m	ade 🛛 🖾 Manipu	ulated				
Stream Quality ^a : (check one)	□ High	□ Mo	derate	⊠ Low					

Srae179

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:

Graenn TM
grave load



Waterbody SRAE179 facing east upstream



Waterbody SRAE179 facing west downstream



Waterbody SRAE179 facing north across

Survey Descriptio	n									1-	
Project Name:		Waterbo	ody Nan	ne:			N	laterbody ID:		Γ	Date:
Atlantic Coast Pipe	line	UNT to	Lick H	Run			s	rae180		6	5/13/2016
State:	County:			Company:			Crew I	Member Initials	S:	Photos:	
West Virginia	Randolph			NRG			CG, S	SA, KO		1-3	
Tract Number(s):				Nearest Mile	epost:			Associated W	/etland	ID(s):	
04-001-B001				NA				none			
Survey Type:		lino		outo		coss Pood					
				oute							
Stream Classification:	15										
(check one)	⊠Ephem	eral		nittent	□P€	erennial					
Waterbody Type:											
(check one)	∃River ⊠	Stream	Ditcl	h 🗆 Ca	anal	□ Other:					
онwм	OHWM Indi	cator:							5	10 ·	
Width: 2 ft.	(Check all that a	ppiy)		on bank	ne	Sheivin	g	VV rested vegetation	Z	Scouring	⊔ water staining
Height:	⊠Ben	t matted or	r missing	n. ⊡Wrack li	ne	□I itter ar	nd	□Abrupt plan	nt	⊠Soil ch	aracteristic change
<u>0.25</u> ft.	vegeta	ation		,		debris		community ch	nange		aracterione change
Width of Waterbody -	Top of Widt	th of Waterl	body - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water:	
Bank to Top of Bank:	to To	pe of Slope	:	-	Water	Edge:			(Approx.)	
<u>_5_</u> ft.		<u>1</u> ft.					ft.				ft.
Sinuccity	Wat				N/A⊠ Bank	hoight			N/A⊠ Bank (slono	
(check one)	(Appr	ox.)			Dalik	Right:			Dalik	Right:	
⊠Straight		_	fps			L offic	<u>1_</u> ft.				<u>30</u> degrees
□Meanderi	ing N/A	\boxtimes				Left:	<u>1_</u> ft.			Left	<u>30</u> degrees
Qualitative Attribu	ites								1		
Water Appearance:	_										
(check one)	[⊥] No water	⊠Clear	□Turbi	d ⊡Sh on	ieen i surface	⊟Sui e scu	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder [⊠ Cobbl	e 🛛 Grave	el 🛛	Sand [⊠ Silt/ o	clay 🗆 Organio		Other:	
% of Substrate:	%	%	<u>5</u> %	<u> 15 </u> %	_7	<u>′5_</u> %	<u>5</u> %	%		%	
Width of Riparian Zon	e: Vegetat	ive Lavers:									
	(check all	that apply)		□ Trees	8:		🛛 Saplii	ngs/Shrubs:	\triangleright	I Herbs	
<u>ft</u> · N/A⊠	Avg. DE (approx.)	BH of Domi	nants:	<u> </u>	_in.	-	<u>2</u> in.				
Dominant Bank Vegeta	ation (list):										
Goldenrod, fern, gr	asses, birch,	maple									
Aquatic Habitats (ex: s	ubmerged or emer	ged aquatic v	regetation	, overhanging	banks/ro	oots, leaf pac	ks, large	submerged wood	l, riffles,	deep pools):
none											
Aquatic Organisms Ol	oserved (list):										
none											
T&E Species Observed	d (list):										
none											
Disturbances (ex: livest	ock access, manu	re in waterboo	dy, waste	discharge pipe	es):						
Crosses road											
Tributary is: (check one)	□ Natura	ıl	□ Arti	ficial, man-m	ade	🛛 Manip	ulated				
Stream Quality ^a : (check one)	□ High		□ Mo	derate		⊠ Low					

Srae180

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)

scar 18



Waterbody SRAE180 facing northeast upstream



Waterbody SRAE180 facing southwest downstream



Waterbody SRAE180 facing northwest across

Survey Descriptio	n	-							
Project Name:		Waterbody Na	me:		w	aterbody ID:		Da	te:
Atlantic Coast Pipe	line	UNT to Lick	Run		SI	raa405		3/5	5/2016
State:	County:		Company:		Crew M	Member Initials	: F	Photos:	
West Virginia	Randolph		NRG		GB, AS,	CG		4 photos	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B001			51.45			wraa409			
Conteck one)	⊠Centerline	e □Re-I	Route	□ Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)		al 🛛 🖂 Inter	rmittent	Perennial					
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:	:				
OHWM Width: 3.0 ft.	OHWM Indica (check all that apply	tor: /)	⊠ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	\boxtimes	Scouring	□Water staining
Height: 	□Bent, r vegetatic	natted, or missir n	ng	ne ⊠Litter ar debris	nd	□Abrupt plan community ch	t ange	□Soil char	acteristic change
Width of Waterbody - 1	Top of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth o	of Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		J	(Approx.)		
<u>_12.0</u> ft.	-	<u>2.0</u> ft.			<u>2.5_</u> ft.		N/A□	0.	<u>25_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)			Right:				Right:	
		<u> 0.50 </u> fp	S	Left:	<u>8.0_</u> ft.			l eft	75 degrees
□Meanderi	ng N/A□			-	<u>7.0_</u> ft.				70 degrees
Qualitative Attribu	ites								
Water Appearance: (check one)	[□] No water ⊠0	Clear 🗆 Turk	oid □Sh on	leen ⊡Sui I surface scu	rface um	□Algal mats	□Other	:	
Substrate:	Bedrock 🗆 Bo	ulder 🛛 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 40 %</u>	<u> 15 </u> %	<u>20</u> %	<u>15_</u> %	<u> 10 </u> %		%	
Width of Riparian Zone	e: Vegetative	E Layers:							
<u>ft</u> .	(check all that Avg. DBH (approx.)	apply) of Dominants:	⊠ Trees _ <u>9.0_</u> in	: D	⊠ Saplir _ <u>0.75_</u> i	ngs/Shrubs: n.	\boxtimes	Herbs	
Dominant Bank Vegeta	ation (list):								
Umbrella magnolia, Alleghenv blackber	sugar maple, rv. greenbrier.	beech, yellow aolden ragwo	v poplar, bla ort. wood fe	ack locust, blac rn	k chei	rry, sweet bir	ch, Ja	panese s	piraea,
Aquatic Habitats (ex: si Leaf packs, woody	ubmerged or emerged debris	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, c	deep pools):	
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	d (list):								
none									
Disturbances (ex: livest	ock access, manure i	n waterbody, wast	e discharge pipe	es):					
Road crossing with	no culvert, old	strip mine, re	ecently sele	ectively logged,	high s	sediment loa	d from	road, dit	ched in part
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🛛 🖂 Manipu	ulated				
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low					

sraa405

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:

Upstream continues out; upstream of main gravel road confined to ditch; water moves through pore space in gravel bed for main road, flows across older abandoned road – no culvert present for either; entire area is an old strip mine that is now selectively logged; hydrologically connected to PEM wetland wraa409.





Waterbody SRAA405 facing northwest upstream



Waterbody SRAA405 facing southeast downstream



Waterbody SRAA405 facing northeast across

Survey Descriptio	n								
Project Name:		Waterbody Na	me:		v	laterbody ID:		D	ate:
Atlantic Coast Pipeline		UNT to Lick	Run		SI	raa412		3/	/28/2016
State:	County:		Company:		Crew I	Member Initials:	F	Photos:	
West Virginia	Randolph		NRG		GB, F	RP		3 Photo	5
Tract Number(s):			Nearest Mile	epost:		Associated We	etland	ID(s):	
04-002-B001; access re	oad 04-002-B001.	AR6	51.4			none			
Survey Type: (check one)		e □Re-I	Route	⊠Access Road		□Other:			
Physical Attribute	s								
Stream Classification:									
(cneck one)		al 🛛 🖾 Inter	rmittent	Perennial					
Waterbody Type: (check one)	River Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:					
онwм	OHWM Indica	tor:							
Width: <u>4.0</u> ft.	(check all that appl	()	☑ Clear lir on bank	ne ⊡Shelvin	g	☐Wrested vegetation	\boxtimes	Scouring	⊔ Water staining
Height:	□Bent, r	natted, or missir	ng ⊡Wrack li	ne ⊠Litter ar	nd	□Abrupt plant		□Soil cha	aracteristic change
ft. N/A□	vegetatio	n		debris		community cha	ange		
Width of Waterbody - 1	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(*	Approx.)		
<u>_8.0</u> ft.	-	<u>3.0</u> ft.			<u>3.5_</u> ft.	N			<u>).33_</u> ft.
Sinuosity:	Water	velocity:		Bank height		E	Bank s	lope	
(check one)	(Approx.)	,		Right:		_		Right:	
		<u> 1.0 </u> fps	3	Left:	<u>4.0_</u> ft.			l oft	<u>55</u> degrees
	ng N/A□			-	<u>4.5_</u> ft.			-	65 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	No water 🛛 🕅	Clear DTurk	oid ⊡Sh	een Su	face		Other		
			on	surface scu	lm	mats		•	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic)ther:	
(check all that apply) % of Substrate:	%	_% _ <u>45</u> _%	_ <u>35_%</u> _1	<u>0% 5% 5</u>	%	%			
Width of Riparian Zone	: Vegetative	- Lavers:							
	(check all that	apply)	⊠ Trees	: 2	🛛 Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>ft</u> ·	Avg. DBH (approx.)	of Dominants:	<u> 10.0 </u> ii	n. <u>-</u>	<u>1.0</u> in	I.		in.	
Dominant Bank Vegeta	tion (list):								
White ash, yellow p	oplar, sugar m	aple, black lo	cust, elderl	berry, Japanes	e spira	aea, violet wo	odlan	d sedge	, Christmas fern
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, o	deep pools):	
Leaf packs, woody	debris								
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pipe	es):					
Culvert crossing for	existing grave	l road; artifici	al drainage	e on old strip mi	ne; hi	ghly disturbed	d area	a.	
Tributary is:									
Stream Quality ^a	□ Natural	⊠ Ar	tificial, man-m	ade 🗆 Manipi	ulated				
(check one)	□ High		oderate	⊠ Low					

sraa412

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 corridor in both directions; artificial feature for water control on old strip mine bench.





Waterbody SRAA412 facing north upstream



Waterbody SRAA412 facing southwest downstream



Waterbody SRAA412 facing west across

Survey Descripti	on										
Project Name:		Wa	terbody Na	me:			v	Vaterbody ID:			Date:
Atlantic Coast Pipeline	•	UN	IT to Lick	Run			S	raa413			3/28/2016
State:	County:			Company:			Crew	Member Initials	5:	Photos:	
West Virginia	Randol	oh		NRG			GB, F	RP		3 Phot	os
Tract Number(s):				Nearest Mil	epost:			Associated W	etland	ID(s):	
04-002-B001; access	road 04-002	2-B001.AR6		51.45				none			
Survey Type: (check one)	□c	enterline	□Re-F	Route	⊠Ac	cess Road		□Other:			
Physical Attribut	es										
Stream Classification (check one)	ו: □EI	phemeral	⊠Inter	mittent	□Pe	rennial					
Waterbody Type											
(check one)	□River	⊠ Stream	□ Dito	ch 🗆 C	anal	□ Other:					
онwм	OHWN	Indicator:							_		
Width: <u>4.0</u> ft.	(check a	ll that apply)		⊠ Clear lii on bank	ne	Shelving	g	□Wrested vegetation	Σ	Scouring	J □Water staining
Height:		Bent, matte	ed, or missin	lg ⊡Wrack I	ine	⊠Litter ar	nd	□Abrupt plan	nt	□Soil cł	naracteristic change
<u>0.75</u> ft. N/A□	v	regetation				debris		community ch	nange		
Width of Waterbody -	· Top of	Width of W	aterbody -	Toe of Slope	Width	of Waterbo	ody - W	ater Edge to	Depth	of Water	-
Bank to Top of Bank		to Toe of S	lope:		Water	Edge:			(Approx.)	
<u>_10.0</u> ft.		3.5	_ft.				<u>3.5_</u> ft.			-	<u>0.25</u> ft.
Sinuosity:		Water velo	city:		N/A⊡ Bank h	eiaht			Bank	slone	
(check one)		(Approx.)	ony.		Daint	Right:			Danie	Right	:
			<u>_1.0_</u> fps	6		Loft:	<u>6.0_</u> ft			Loft	<u>75</u> degrees
□Meande	ering	N/A□				Leit.	<u>15.0_</u> ft	t.		Len	<u>65</u> degrees
Qualitative Attrib	outes				•						
Water Appearance: (check one)	\Box No water	⊠Clea	r 🗆 Turb	oid □Sł	neen Surface	□Sur	face	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulde	er 🛛 Cobb	ole 🛛 Grav	el 🛛	Sand D	 ⊠ Silt/ o	clay 🛛 Organic	; [] (Other:	
(check all that apply) % of Substrate:	%	%	45 %	35 %	10%5	5% 5	%	%			
	^										
Width of Riparian Zo	ne: Ve	eck all that apply	yers:	⊠ Trees	:	Þ	Sapli	nas/Shrubs:	\boxtimes	Herbs	
<u>ft</u> .	Av	g. DBH of D	Dominants:	<u>10.0</u> i	n.	_	. <u>1.0</u> in	ı.		in.	
N/A⊠ Dominant Bank Vege	etation (list):	prox.)									
White ash, yellow	poplar, su	igar maple	e, black lo	cust, elder	berry, 、	Japanese	e spira	aea, violet, w	voodla	and sed	ge, Christmas fern
Aquatic Habitats (ex:	submerged of	r emerged aqu	atic vegetatio	n, overhanging	banks/roo	ots, leaf pacl	ks, large	e submerged wood	, riffles,	deep pools	s):
Leaf packs, wood	y debris										
Aquatic Organisms C	Observed (lis	st):									
none											
T&E Species Observe	ed (list):										
none											
Disturbances (ex: live	stock access,	manure in wa	terbody, waste	e discharge pip	es):						
Culvert crossing for	or existing	gravel ro	ad; artifici	al drainage	e on olo	d strip mi	ne co	onfined to ditc	h alo	ng exist	ing gravel road
Tributary is:						_ . .					
Stream Quality a .		Natural	⊠ Ar	uticial, man-m	ade	🗆 Manipı	uated				
(check one)		High	□ Mo	oderate		⊠ Low					

sraa413

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 corridor in both directions; artificial feature for water control on old strip mine bench.





Waterbody SRAA413 facing northeast upstream



Waterbody SRAA413 facing south downstream



Waterbody SRAA413 facing east across

Survey Descriptio	n								
Project Name:		Waterbody Na	ame:		w	/aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Lick	Run		SI	raa406			3/7/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		GB, KM			3 photo	DS
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B001			51.6			wraa412			
Survey Type: (check one)	⊠Centerlin	e □Re	Route	□ Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)	Ephemer	ral ⊠Inte	ermittent	Perennial					
Waterbody Type: (check one)	∃River ⊠ St	ream 🗆 Di	tch 🗆 Ca	anal 🛛 Other:					
OHWM Width: 4.0 ft.	OHWM Indica (check all that app	ator:	⊠ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation		Scouring	g ⊟Water staining
Height: 	□Bent, vegetati	matted, or missi on	ng □Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plan community ch	it iange	□Soil cł	naracteristic change
Width of Waterbody - 1	Fop of Width	of Waterbody ·	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to Toe	e of Slope:		Water Edge:	-	-	(Approx.))	
<u>_10.0</u> ft.		<u>3.0</u> ft.			<u>3.5_</u> ft.			-	<u>0.15</u> ft.
Sinuosity:	Water	velocity		N/A 🗆 Bank beight			N/A∐ Bank s	alone	
(check one)	(Approx.			Right:			Dalik	Right	:
⊠Straight		_ <u>0.75_</u> f	ps		<u>4.0_</u> ft.			1.44	80 degrees
□Meanderi	ng N/A□			Len:	<u>4.0_</u> ft.			Len	: <u>60</u> degrees
Qualitative Attribu	ites			1					
Water Appearance:		<u>a</u> = =			,				
	No water ≥	Clear 🗆 l ui	bid LISP	neen ⊡Sur nisurface scu	tace Im	⊔ Algal mats		r:	
Substrate:	Bedrock 🗆 B	oulder 🛛 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic	; □(Other:	
% of Substrate:	%	<u>% 30 %</u>	<u>20</u> %	<u> 15 </u> %	<u>25_</u> %	<u> 10 </u> %		%	
Width of Riparian Zone	e: Vegetativ	e Lavers:							
	(check all the	at apply)	⊠ Trees	: 🛛 🛛	Saplir 🛛	ngs/Shrubs:	\boxtimes	I Herbs	
<u>п</u> . N/A⊠	(approx.)	1 of Dominants	<u>9.0</u> in	· –	_ <u>0.50_</u> i	n.			
Dominant Bank Vegeta	ation (list):								
Beech, sugar maple sedge	e, yellow popla	ar, sweet birc	h, umbrella	magnolia, yello	w birc	h, blackberry	y, Chr	istmas	fern, woodland
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vegetati	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	5):
Leaf packs, woody	debris								
Aquatic Organisms Ob	oserved (list):								
none									
T&E Species Observed	d (list):								
none									
Disturbances (ex: livest	ock access, manure	in waterbody, was	te discharge pipe	es):					
Area is highly distu	rbed by past m	nining and loo	gging						
Tributary is: (check one)	⊠ Natural	□ A	rtificial, man-m	iade 🗆 Manipi	ulated				
Stream Quality ^a : (check one)	🗆 High	× N	loderate	□ Low					

sraa406

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

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

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

Notes:

Stream begins within the corridor as outflow from PFO wetland wraa412; downstream continues out of corridor.





Waterbody SRAA406 facing west upstream



Waterbody SRAA406 facing east downstream



Waterbody SRAA406 facing north across

Survey Description	n								
Project Name:		Waterbody Na	me:		w	laterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to Lick	Run		SI	raa407			3/7/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		GB, KM	l		3 phote	os
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B001			51.65			wraa413			
Survey Type: (check one)		e □Re-I	Route	□ Access Road		□Other:			
Physical Attributes	S								
Stream Classification: (check one)	Ephemera	al 🛛 🖾 Inter	rmittent	Perennial					
Waterbody Type:									
(check one)	River Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:	:				
OHWM Width: 4.0 ft.	OHWM Indicat (check all that apply	tor: /)	⊠ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	×	Scouring	g ⊟Water staining
Height:	□Bent, n	natted, or missir	ng ⊡Wrack li	ne 🛛 Litter ar	nd	□Abrupt plan	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	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth (Approx	of Water	:
Bank to rop of Bank.	10 100	oi Siope.		Water Luge.			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, ,	0.20 #
<u>10.0_</u> ft.		<u>_3.0_</u> ft.		N/A□ —	<u>3.5_</u> ft.		N/A□	-	<u>_0.20_</u> II.
Sinuosity:	Water	velocity:		Bank height			Bank s	slope	
(check one)	(Approx.)			Right:	40 #			Right	70 dogrado
		<u>_1.0_</u> fps	6	Left:	<u>4.0_</u> 11.			Left	<u>70</u> degrees
	ng N/A□			-	<u>4.0_</u> ft.				<u>85</u> degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	No water ⊠C	Clear Durb	oid □Sh on	leen ⊡Sui i surface scu	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock 🛛 Bo	ulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic	; 🗆 (Other:	
(check all that apply) % of Substrate:	<u>% 10 </u> %	% <u>45</u> %	<u> 15 </u> %	<u>10 </u> %	<u>10_</u> %	<u> 10 </u> %		%	
Width of Rinarian Zone	. Vegetative	a lavers:							
Math of Ripanan Zone	(check all that	apply)	⊠ Trees	: D	⊠ Saplir	ngs/Shrubs:	\triangleright	I Herbs	
<u>ft</u> . N/∆⊠	Avg. DBH	of Dominants:	<u>_9.0_</u> in	· -	_ <u>0.75_</u> i	n.			
Dominant Bank Vegeta	tion (list):								
Sugar maple, sweet sedge	t birch, umbrell	a magnolia, y	yellow popl	ar, yellow birch	, beec	ch, blackberry	y, Chr	ristmas	fern, woodland
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pool	s):
Leaf packs, woody	debris								
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	l (list):								
none									
Disturbances (ex: livesto	ock access, manure i	n waterbody, wast	e discharge pipe	es):					
Area is an old strip	mine, selective	ly logged							
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low					

sraa407

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

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

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

Notes:

Stream continues out of corridor in both directions; seep wetland wraa413 is adjacent but there is no surface hydrology connection.





Waterbody SRAA407 facing west upstream



Waterbody SRAA407 facing north downstream



Waterbody SRAA407 facing east across

Survey Descripti	on										
Project Name:		W	aterbody Na	ame:			v	aterbody ID:			Date:
Atlantic Coast Pipeline	! 	U	NT to Lick	Run			SI	raa414			3/28/2016
State:	County:			Company:			Crew I	Member Initials	8:	Photos:	
West Virginia	Randol	ph		NRG			GB, F	RP		3 Phot	os
Tract Number(s):				Nearest Mil	epost:			Associated W	/etland	ID(s):	
04-002-B001; access	road 04-00	2-B001.AR	5	51.55				none			
Survey Type: (check one)	□c	enterline	□Re-	Route	⊠Ac	cess Road		□Other:			
Physical Attribut	es										
Stream Classification (check one)	ו: □E	phemeral	⊠Inte	ermittent	□Pe	erennial					
Watarbady Typa:		prioritorial									
(check one)	□River	⊠ Stream	n 🗆 Dit	ch 🗆 C	anal	□ Other:	:				
онwм	OHWN	M Indicator:							_		
Width: <u>3.0</u> ft.	(спеск а	all that apply)		⊠ Clear lii on bank	ne	Shelvin	g	☐Wrested vegetation	Σ	Scouring	J □Water staining
Height:	[Bent, mat Bent, mat	ed, or missi	ng 🗆 Wrack I	ine	⊠Litter ar	nd	□Abrupt plar	nt	□Soil cl	haracteristic change
<u>0.50</u> ft. N/A□	``	egetation/				debris		community cl	nange		
Width of Waterbody	• Top of	Width of W	Vaterbody -	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>_9.0</u> ft.		2.0	<u>)</u> ft.			_	<u>2.5_</u> ft.			_	<u>0.25</u> ft.
Sinuccity		Wator vol	ocityr		N/A	hoight			N/AL	slopo	
(check one)		(Approx.)	Joily.		Daliki	Right:			Dalik	Right	
⊠ Straight			<u>_1.0_</u> fp	s		····j····	<u>6.0_</u> ft.				70 degrees
□Meande	ering	N/A□				Left:	<u>12.0_</u> ft	t.		Left	: <u>70</u> degrees
Qualitative Attrib	outes								1		
Water Appearance: (check one)			ar ⊡Tur	hid ⊡Sł	heen	□Su	rface		□Othe	r.	
	No water			or	surface	e sci	um	mats			
Substrate:	Bedrock	Bould	er 🛛 Cob	ble 🛛 🛛 Grav	el 🛛	Sand 2	⊠ Silt/ c	clay 🛛 Organio	c □ (Other:	
% of Substrate:	%	%	<u>35</u> %	_ <u>35</u> _%	<u>15 </u>	%	_10	<u>)</u> % <u>5</u> %	_	_%	
Width of Riparian Zo	ne: Ve	eqetative La	vers:								
	(ch	neck all that app	V)	☑ Trees	:	\square	🛛 Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>ft</u> ∙	Av (ap	/g. DBH of oprox.)	Dominants:	<u> 10.0 i</u>	n.	-	<u>1.0</u> in	l.		in.	
Dominant Bank Vege	tation (list):										
White ash, yellow	poplar, su	ugar mapl	e, black lo	ocust, elder	berry,	Japanes	e spira	aea, violet, w	voodla	and sed	ge, Christmas fern
Aquatic Habitats (ex:	submerged o	or emerged aq	uatic vegetati	on, overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	d, riffles,	deep pool	s):
Leaf packs, wood	y debris										
Aquatic Organisms C	Observed (li	ist):									
none											
T&E Species Observe	ed (list):										
none											
Disturbances (ex: live	stock access,	manure in wa	aterbody, was	te discharge pip	es):						
Culvert crossing for	or existing	g gravel ro	ad; artific	ial drainage	e on ol	d strip mi	ine co	nfined to dite	ch alo	ng exist	ing gravel road.
Tributary is: (check one)		Natural	⊠A	rtificial, man-m	nade	🗆 Manipi	ulated				
Stream Quality ^a :						I I					
(check one)		High	\Box M	oderate		\boxtimes Low					

sraa414

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 corridor in both directions; artificial feature for water control on old strip mine bench.





Waterbody SRAA414 facing northeast upstream



Waterbody SRAA414 facing south downstream



Waterbody SRAA414 facing southeast across

Survey Description	on										
Project Name:		Waterb	ody Name):			v	/aterbody ID:			Date:
Atlantic Coast Pipeline		UNT t	o Lick R	un			S	raa415			3/28/2016
State:	County:		С	ompany:			Crew I	Member Initials	:	Photos:	
West Virginia	Randolpl	h	N	IRG			GB, F	RP		3 Phot	os
Tract Number(s):			Ν	earest Mile	epost:			Associated W	etland	ID(s):	
04-002-B001; access r	oad 04-002-	B001.AR6	5	1.65				none			
Survey Type: (check one)	□Cei	nterline	□Re-Ro	ute	⊠A	ccess Road		□Other:			
Physical Attribute	es										
Stream Classification: (check one)	: □Epł	nemeral	⊠Interm	ittent	□P	erennial					
Waterbody Type:											
(check one)	River	⊠ Stream	□ Ditch		anal	□ Other:					
OHWM Width: 3.0 ft.	OHWM (check all t	Indicator: that apply)		☑ Clear lir on bank	ne	□Shelvin	g	□Wrested vegetation		Scouring	g ⊟Water staining
Height:ft.	ve	Bent, matted, c getation	or missing	□Wrack li	ne	⊠Litter ar debris	nd	Abrupt plan	it iange	□Soil cl	haracteristic change
N/A 🗆	Tam of A			(0)	VA/: altia	of Matoria	l 14	latan Edua ta	Dawih	of Mator	
Bank to Top of Bank:	top of t	o Toe of Slope	body - To e:	e of Slope	Water	Edge:	bay - w	ater Edge to	(Approx.		-
<u>_8.0</u> ft.		<u>2.5</u> ft.					<u>2.0_</u> ft.		NI/A 🗆	-	<u>0.20</u> ft.
Sinuosity:		Nater velocitv	:		Bank	height			Bank	slope	
(check one)	(Approx.)				Right:				Right	:
Bottagit			<u>0.75_</u> fps			Loft-	<u>3.0_</u> ft.			l oft	<u>85</u> degrees
□Meander	ing r	N/A□					<u>8.0_</u> ft.			Len	60_ degrees
Qualitative Attribu	utes										
Water Appearance: (check one)	☐No water	⊠Clear	□Turbid	□ Sh on	een surfac	⊡Sui e sci	face Im	□Algal mats	□Othe	r:	
Substrate:	Bedrock	□ Boulder	⊠ Cobble	⊠ Grave	el 🛛	Sand	⊠ Silt/ d	clay 🛛 Organic	; 🗆 (Other:	
(check all that apply) % of Substrate:	%	%	25 %	30 %	25	%	10	0% 10%		%	
Width of Piparian Zon	o: Vog					-					
	(chec	k all that apply)	-	⊠ Trees	:		🛛 Saplii	ngs/Shrubs:	\boxtimes	Herbs	
<u>ft</u> . N/∆⊠	Avg (appr	. DBH of Dom	inants:	<u> 10.0 </u> ir	า.	-	<u>1.0</u> in	I.		in.	
Dominant Bank Veget	ation (list):	,									
White ash, yellow p	ooplar, sug	gar maple, b	lack locu	ust, elderl	berry,	Japanes	e spira	aea, violet, w	voodla	and sed	ge, Christmas fern
Aquatic Habitats (ex: s	submerged or e	emerged aquatic	vegetation,	overhanging	banks/re	oots, leaf pac	ks, large	submerged wood	, riffles,	deep pool	s):
Leaf packs, woody	debris										
Aquatic Organisms O	bserved (list):									
none											
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	tock access, m	nanure in waterbo	dy, waste d	ischarge pipe	es):						
artificial drainage c	on old strip	mine confir	ed to dit	ch along	existi	ng gravel	road				
Tributary is: (check one)	□ N	atural	🛛 Artifi	cial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a :							-				
(check one)	ΠH	igh	🗆 Mode	erate		\boxtimes Low					

sraa415

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

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

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

Notes:

Begins at a nick point within ditch along existing road, downstream flows into perennial stream sraa416 soon after leaving access road corridor; artificial feature for water control on old strip mine bench.





Waterbody SRAA415 facing northeast upstream



Waterbody SRAA415 facing southwest downstream



Waterbody SRAA415 facing southeast across
Linear Waterbody Data Sheet

Survey Description	on											
Project Name:	Water	Waterbody Name:					aterbody ID:			Date:		
Atlantic Coast Pipeline	UNT	UNT to Lick Run				SI	sraa416			3/28/2016		
State:	County:		C	Company:			Crew N	rew Member Initials:				
West Virginia Randolph			Ν	NRG			GB, F	3, RP 3 F			os	
Tract Number(s):	Nearest Milepost:					Associated Wetland ID(s):						
04-002-B001; access i	02-B001.AR6	.R6 51.9					none					
Survey Type: (check one)		Centerline	Re-Route			⊠Access Road		□Other:				
Physical Attribute	es											
Stream Classification (check one)	tream Classification: heck one)		□Intermi	mittent								
Waterbody Type:												
(check one)	□River	Stream Stream	Ditch	□ Ca	anal	□ Other:						
OHWM O		OHWM Indicator:										
Width:ft.	(CHECK)	ali (nat appiy)		on bank				☐Wrested vegetation	Þ	Scouring Dwater staining		
Height:		Bent, matted,	or missing	□Wrack li	ne	⊠Litter ar	nd	□Abrupt plar	nt	□Soil cl	haracteristic change	
<u> </u>	,	vegetation				debris		community ch	nange			
Width of Waterbody - Bank to Top of Bank:	Top of	Width of Wate	erbody - To	e of Slope	Width o	of Waterbo	ody - W	ater Edge to	Depth (Approx	of Water	fi	
Bank to rop of Bank.		10 100 01 310	<i>.</i>		Water	Luge.			(, 199), 634	/	0.75 (
<u>ft.</u>		<u>_6.5_</u> ft			N/A 🗆		<u>7.0_</u> ft.		N/A□	-	<u>_0.75_</u> π.	
Sinuosity:		Water velocit	v :		Bank h	eight			Bank	slope		
(check one)		(Approx.)				Right:				Right	:	
			<u>1.5_</u> fps			l eft	<u>4.0_</u> ft.			l eft	<u>75</u> degrees	
⊠Meander	ring	N/A□				-	<u>8.0_</u> ft.			Lon	<u>60</u> degrees	
Qualitative Attrib	utes											
Water Appearance: (check one)		r ⊠Clear	□Turbid	□Sh	ieen	□Sur	face	□Algal	□Othe	r:		
Cubatrata				on	surface	SCL	um	mats		Oth a m		
Substrate: (check all that apply)		Boulder		⊠ Grave	el 🖂 :	Sand	Silt/ C	ay 🛛 Organio		Other:		
% of Substrate:	%	%	_ <u>55</u> _%	_ <u>30</u> _%	<u>10</u> %	0	<u>0</u> %	% <u> 5</u> %		%		
Width of Riparian Zon	ne: V	egetative Layer	s:			_						
70.0 ft-		heck all that apply)	ninants [.]	[™] Trees: ⊠			Saplir	Saplings/Shrubs: 🛛 🖂 H				
N/A 🗆	(a)	pprox.)		<u> 10.0 </u> ir	1.	-	<u>1.0</u> in			<u></u> m.		
Dominant Bank Veget White ash, vellow r	tation (list) poplar. s	: ugar maple. I	olack locu	ıst. eldert	oerrv. J	Japanes	e spira	aea. violet. w	/oodla	and sed	de. Christmas fern	
Aquatic Habitats (ev. s	submerged			overbanding	hanks/roo	ts leaf nac		submerged wood	riffloe	deen nool	<u></u>	
Leaf packs, woody	v debris,	small pools	s vegetation, t	overnanging	Dariks/100	ns, leai pac	ks, laiye	submerged wood	1, 111105,	deep pool	5).	
Aquatic Organisms O	bserved (/	list):										
invertebrates												
T&E Species Observe	ed (list):											
none												
Disturbances (ex: lives	tock access	, manure in waterb	ody, waste di	ischarge pipe	es):							
Culvert crossing for	or existing	g gravel road	; area is c	old strip n	nine no	ow selec	tively	logged timbe	er land	ł		
Tributary is: (check one)		Natural		cial, man-m	ade	Manipu	ulated					
Stream Quality ^a : (check one)	m Quality ^a : one) □ □ □ □		X Mode	derate								
r ·			_ wout									

Waterbody ID:

sraa416

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Notes:

Continues out of access road corridor in both directions; intermittent stream sraa415 is a tributary outside of corridor; culvert crossing for existing gravel road.





Waterbody SRAA416 facing northeast upstream



Waterbody SRAA416 facing south downstream



Waterbody SRAA416 facing north across