

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to South Fork Rockfish River		Waterbody ID: snea022
State: Virginia		County: Nelson	Company: NRG	Crew Member Initials: GB, SA
Tract Number(s): 08-001-B003; red tract 08-001-B005		Nearest Milepost: 158.8		Associated Wetland ID(s): wnea020
Date: 10/9/2015				
Photos: 3 Photos				
Physical Attributes				
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial (weakly).				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 8.0 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
OHWM Height: 0.85 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 15.0 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 6.0 ft.		Width of Waterbody - Water Edge to Water Edge: 6.5 ft.
				N/A <input type="checkbox"/> Depth of Water: (Approx.) 0.25 ft.
N/A <input type="checkbox"/>				
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) 1.25 fps		Bank height Right: 5.0 ft. Left: 8.0 ft.
		N/A <input type="checkbox"/>		Bank slope Right: 50 degrees Left: 65 degrees
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 40% 25% 30% _____% 5% _____%				
Width of Riparian Zone: _____ ft.		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
N/A <input checked="" type="checkbox"/>		Avg. DBH of Dominants: (approx.) 13.0 in. 1.0 in.		
Dominant Bank Vegetation (list): Chestnut oak, northern red oak, white oak, hickory, red maple, black locust, sweet birch, black gum, poison ivy, wood aster, Japanese stiltgrass, buttercup, clearweed				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs, woody debris, pools, riffles				
Aquatic Organisms Observed (list): Water striders, crayfish, invertebrates				
T&E Species Observed (list): none				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Culvert crossings for roads				
Tributary is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

snea022

^a **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 into snea021 outside corridor; crosses under two roads via culvert; flow from wnea020 goes to stream outside corridor. Could not map portion in red tract 08-001-B005.

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





Waterbody SNEA022 facing northeast upstream



Waterbody SNEA022 facing southwest downstream



Waterbody SNEA022 facing northwest across

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to South Fork Rockfish River		Waterbody ID: snea020
Date: 10/9/2015				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA	Photos: 3 Photos
Tract Number(s): 08-001-B003		Nearest Milepost: 158.9	Associated Wetland ID(s): none	
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 3.0 ft.		OHWM Indicator: <i>(check all that apply)</i>		
Height: 0.65 ft.		<input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 7.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 1.5 ft.	Width of Waterbody - Water Edge to Water Edge: 2.0 ft.	Depth of Water: <i>(Approx.)</i> 0.25 ft.	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 1.0 fps		Bank slope Right: 65 degrees Left: 55 degrees
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Bank height Right: 3.0 ft. Left: 4.0 ft.				
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i>				
<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 55% 10% 25% 5% 5% _____%				
Width of Riparian Zone: _____ ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
N/A <input checked="" type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 13.0 in. 1.0 in.		
Dominant Bank Vegetation <i>(list)</i> : Chestnut oak, northern red oak, white oak, hickory, red maple, black locust, redbud, black gum, Japanese stilt grass, wood aster, meadow rue, buttercup				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs, woody debris				
Aquatic Organisms Observed <i>(list)</i> : none				
T&E Species Observed <i>(list)</i> : none				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Culvert crossings for roads				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

snea020

^a **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.

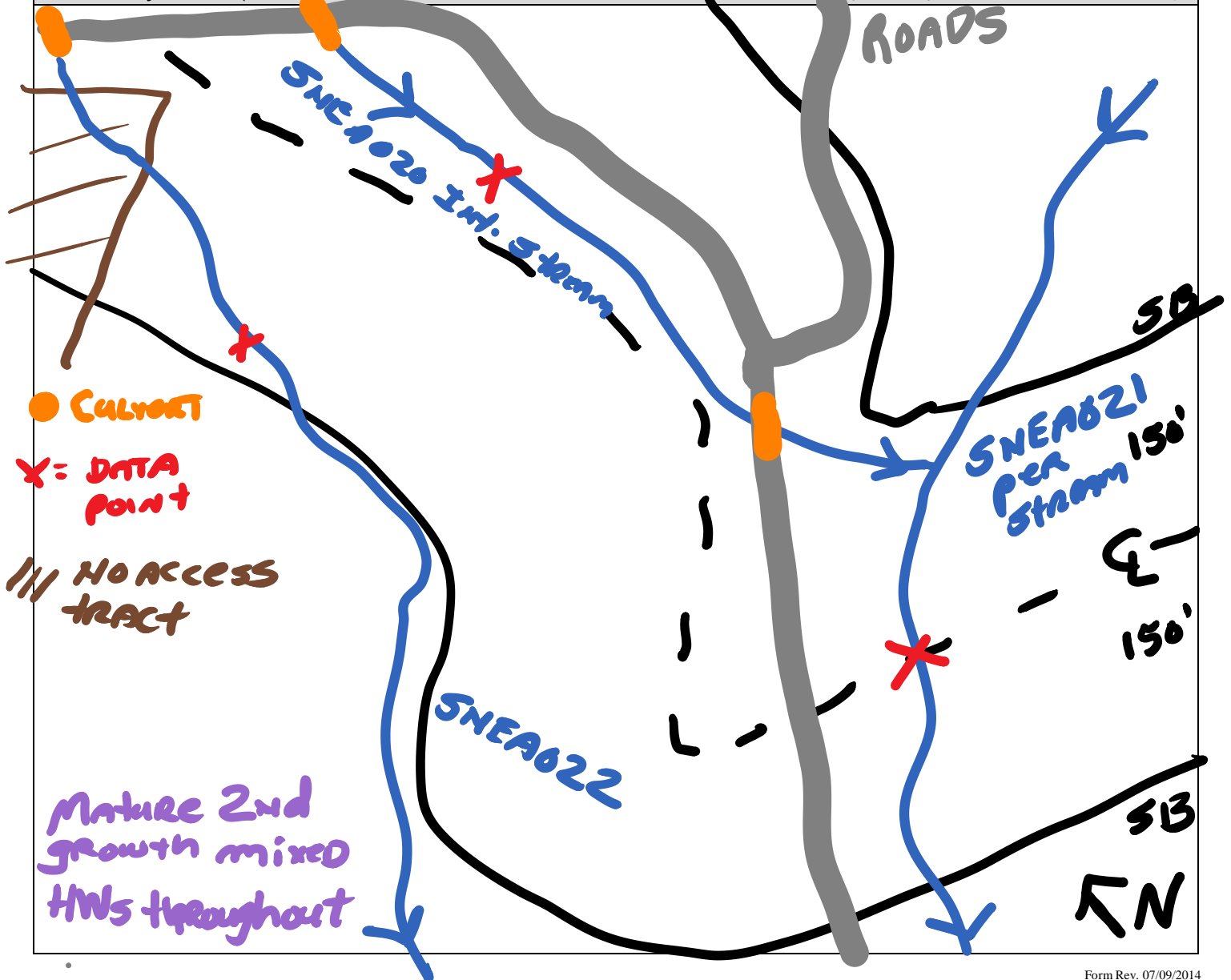
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 into snea021; crosses under two roads via culvert; flow is underground for short stretch upstream of downstream culvert.

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





Waterbody SNEA020 facing north upstream



Waterbody SNEA020 facing south downstream



Waterbody SNEA020 facing east across

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: South Fork Rockfish River		Waterbody ID: snea021
Date: 10/9/2015				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA	Photos: 3 Photos
Tract Number(s): 08-001-B003		Nearest Milepost: 158.9	Associated Wetland ID(s): none	
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>16.0</u> ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
OHWM Height: <u>1.75</u> ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: <u>26.0</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>9.0</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>12.0</u> ft.	Depth of Water: <i>(Approx.)</i> <u>1.0</u> ft.	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: <i>(Approx.)</i> <u>1.5</u> fps	Bank height Right: <u>7.0</u> ft. Left: <u>4.0</u> ft.	Bank slope Right: <u>60</u> degrees Left: <u>45</u> degrees	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% <u>40</u> % <u>40</u> % <u>15</u> % <u>5</u> % _____% _____%				
Width of Riparian Zone: <u>100</u> ft.	Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs			
N/A <input type="checkbox"/>	Avg. DBH of Dominants: <i>(approx.)</i> <u>11.0</u> in. <u>1.5</u> in.			
Dominant Bank Vegetation <i>(list)</i> : Chestnut oak, northern red oak, white oak, hickory, red maple, black locust, redbud, black gum, Japanese stilt grass, wood aster, meadow rue, buttercup, witch hazel, sweet birch, knotweed, ash, mountain laurel				
Aquatic Habitats <i>(ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools)</i> : Pools, riffles, woody debris				
Aquatic Organisms Observed <i>(list)</i> : fish, crayfish, water striders, frog				
T&E Species Observed <i>(list)</i> : none				
Disturbances <i>(ex: livestock access, manure in waterbody, waste discharge pipes)</i> : Parallel road fill to west				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

snea021

^a **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.

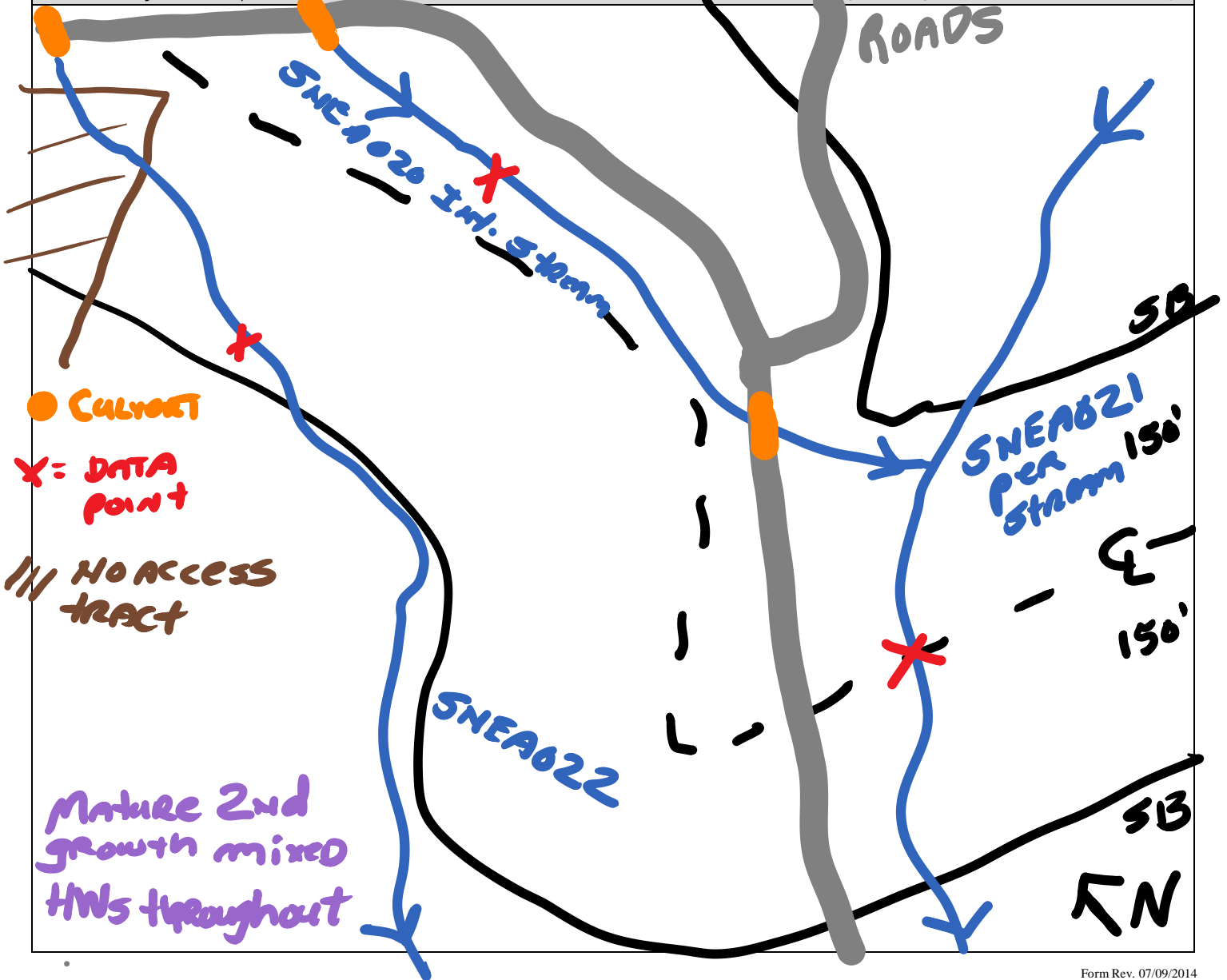
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 both directions, snea020 is a tributary within corridor, snea022 is a tributary outside corridor; parallel to paved road

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





Waterbody SNEA021 facing east-northeast upstream



Waterbody SNEA021 facing west-southwest downstream



Waterbody SNEA021 facing south-southeast across

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River		Date: 10/23/2015
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, AS	Photos: 1-3
Tract Number(s): 08-001-B055		Nearest Milepost: 165.4	Associated Wetland ID(s): None	
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: _ 6 _ ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: _ 0.8 _ ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: _ 15 _ ft.	Width of Waterbody - Toe of Slope to Toe of Slope: _ 1 _ ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> _ 5 _ ft.	Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> _ 0.3 _ ft.	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: <i>(Approx.)</i> _ 1 _ fps N/A <input type="checkbox"/>	Bank height Right: _ 8 _ ft. Left: _ 7 _ ft.	Bank slope Right: _ 80 _ degrees Left: _ 70 _ degrees	
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> % of Substrate: _____ % _____ % _____ % <u>15</u> % <u>35</u> % <u>35</u> % <u>15</u> % _____ %				
Width of Riparian Zone: _ 40 _ ft. N/A <input type="checkbox"/>	Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> <u>10</u> in. <u>2</u> in.			
Dominant Bank Vegetation <i>(list)</i> : Tulip poplar, black cherry, northern Spicebush, Japanese stiltgrass, multiflora rose, Japanese honeysuckle, purple aster, Christmas fern, America hog peanut, sassafras				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs, overhanging roots and banks				
Aquatic Organisms Observed <i>(list)</i> : Caddisfly larvae, stonefly nymph				
T&E Species Observed <i>(list)</i> : None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

Snec053

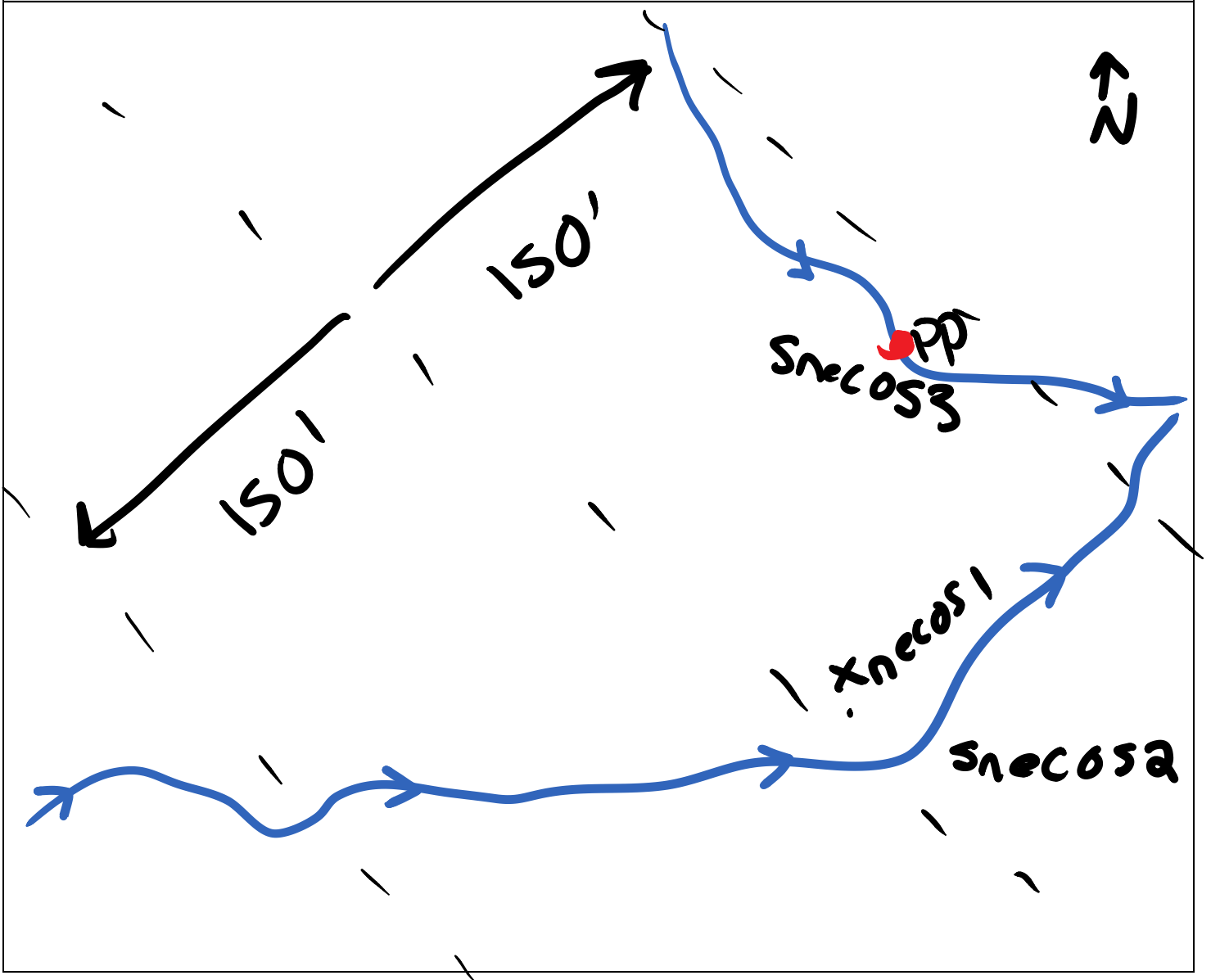
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEC053 facing northwest upstream



Waterbody SNEC053 facing southeast downstream



Waterbody SNEC053 facing northeast across

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River		Waterbody ID: Snec052
Date: 10/23/2015				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, AS	Photos: 1-3
Tract Number(s): 08-001-B055		Nearest Milepost: 165.4	Associated Wetland ID(s): None	
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: _6_ ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: _0.8_ ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: _12_ ft.	Width of Waterbody - Toe of Slope to Toe of Slope: _1_ ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> _5_ ft.	Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> _0.3_ ft.	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: <i>(Approx.)</i> _1_ fps N/A <input type="checkbox"/>	Bank height Right: _4_ ft. Left: _3_ ft.	Bank slope Right: _80_ degrees Left: _60_ degrees	
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% <u>15</u> % <u>20</u> % <u>30</u> % <u>35</u> % _____% _____%				
Width of Riparian Zone: _40_ ft. N/A <input type="checkbox"/>	Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs			
Avg. DBH of Dominants: <i>(approx.)</i> <u>12</u> in. <u>2</u> in.				
Dominant Bank Vegetation <i>(list)</i> : Tulip poplar, black cherry, northern Spicebush, Japanese stiltgrass, multiflora rose, Japanese honeysuckle, purple aster, Christmas fern, America hog peanut				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs, overhanging roots and banks				
Aquatic Organisms Observed <i>(list)</i> : Caddisfly larvae, stonefly nymph				
T&E Species Observed <i>(list)</i> : None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Two lane dirt track runs across stream				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

Snec052

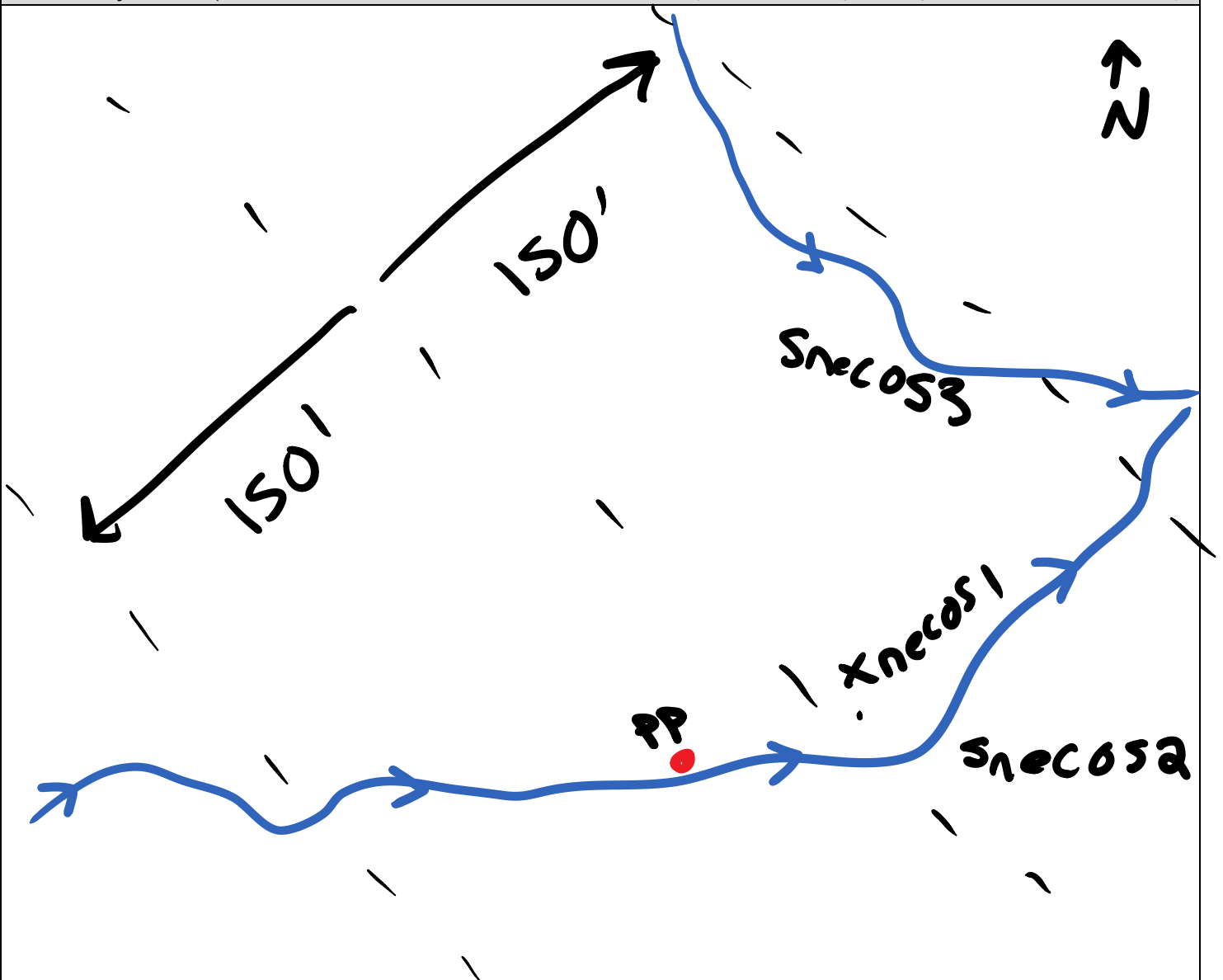
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEC052 facing west upstream



Waterbody SNEC052 facing east downstream



Waterbody SNEC052 facing north across

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River		Waterbody ID: Snec051
Date: 10/23/2015				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, AS	Photos: 1-3
Tract Number(s): 08-001-B055		Nearest Milepost: 165.5	Associated Wetland ID(s): None	
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 4 ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: 0.5 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 10 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 1 ft.	Width of Waterbody - Water Edge to Water Edge: 3 ft.	Depth of Water: <i>(Approx.)</i> 0.1 ft.	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 0.5 fps		Bank slope Right: 60 degrees Left: 60 degrees
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Bank height Right: 4 ft. Left: 4 ft.				
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 10% 5% 45% 40% _____% _____%				
Width of Riparian Zone: 10 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 10 in. 2 in.		
Dominant Bank Vegetation <i>(list)</i> : Tulip poplar, black cherry, beech, red oak, northern Spicebush, cinnamon fern, Japanese stiltgrass, southern lady fern, multiflora rose , Japanese honeysuckle , purple aster				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs				
Aquatic Organisms Observed <i>(list)</i> : Caddisfly larvae, stonefly nymph				
T&E Species Observed <i>(list)</i> : None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

Snec051

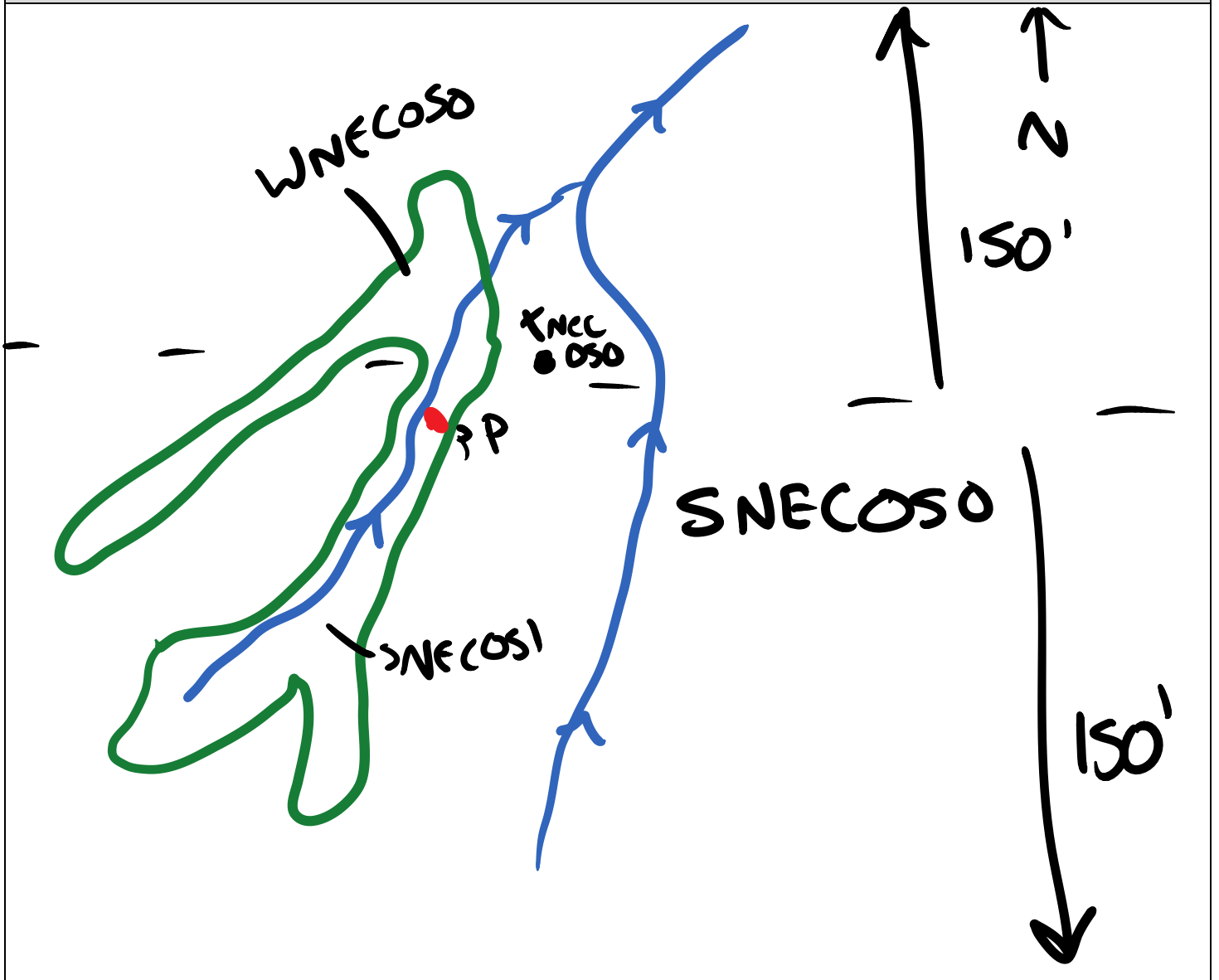
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEC051 facing southwest upstream



Waterbody SNEC051 facing northeast downstream



Waterbody SNEC051 facing northwest across

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River		Waterbody ID: Snec050
Date: 10/23/2015				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, AS	Photos: 1-3
Tract Number(s): 08-001-B055		Nearest Milepost: 165.5	Associated Wetland ID(s): None	
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 7 ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: 0.8 ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 10 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 1 ft.	Width of Waterbody - Water Edge to Water Edge: 5 ft.	Depth of Water: <i>(Approx.)</i> 0.3 ft.	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 1 fps		Bank slope Right: 70 degrees Left: 50 degrees
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Bank height Right: 4 ft. Left: 3 ft.				
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 5% 40% 40% 15% _____% _____%				
Width of Riparian Zone: 40 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 8 in. 2 in.		
Dominant Bank Vegetation <i>(list)</i> : Tulip poplar, black cherry, beech, red oak, northern Spicebush, cinnamon fern, Japanese stiltgrass, southern lady fern, <u>multiflora rose</u> , <u>Japanese honeysuckle</u> , <u>purple aster</u>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs				
Aquatic Organisms Observed <i>(list)</i> : Caddisfly larvae, stonefly nymph				
T&E Species Observed <i>(list)</i> : None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

Snec050

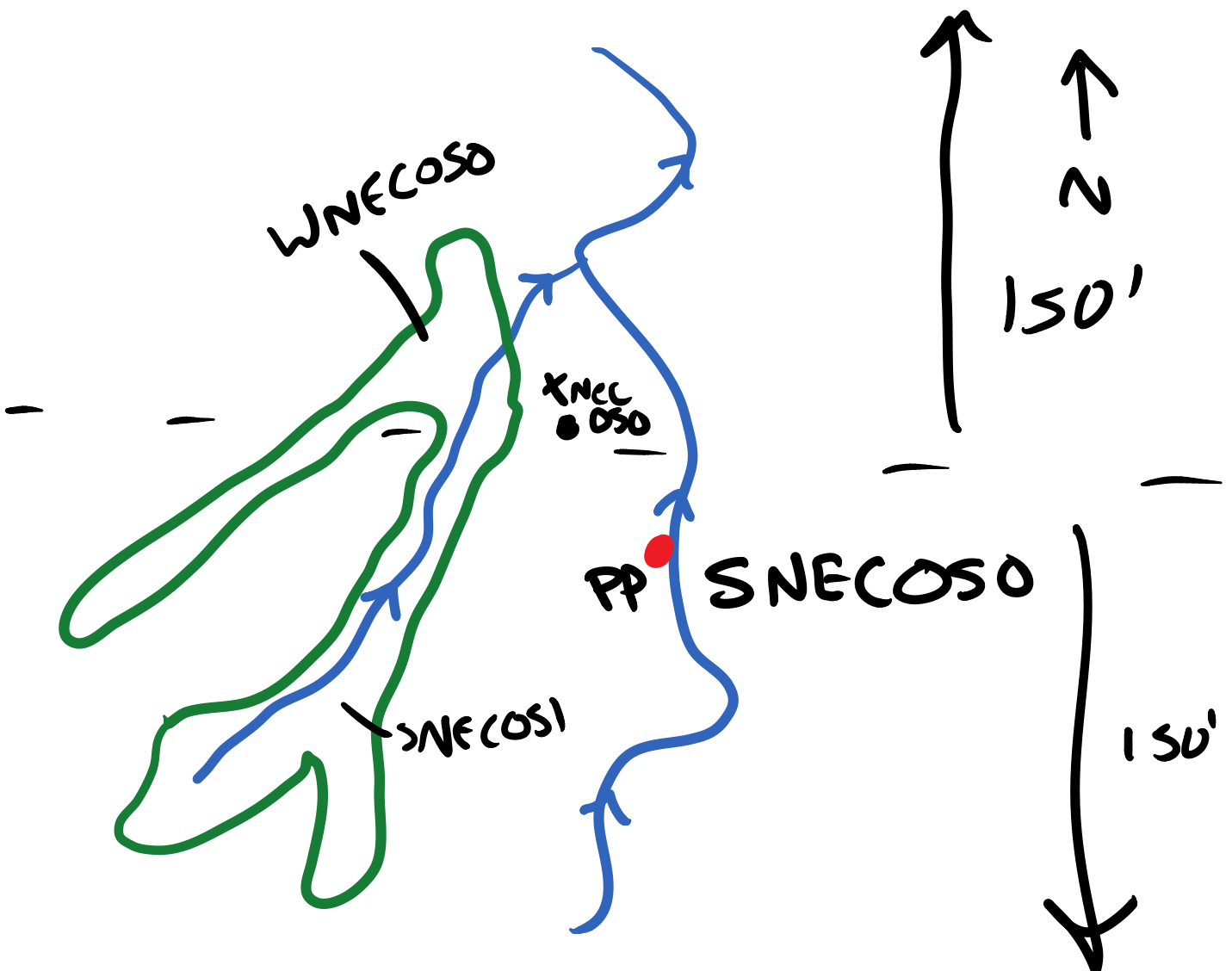
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEC050 facing south upstream



Waterbody SNEC050 facing north downstream



Waterbody SNEC050 facing east across

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River		Waterbody ID: snea051
Date: 5/6/2015				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA	Photos: 3 photos
Tract Number(s): 08-111-A004		Nearest Milepost: 161.6		Associated Wetland ID(s): wnea051
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 4.0 ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
OHWM Height: 1.0 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 6.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 3.0 ft.	Width of Waterbody - Water Edge to Water Edge: 3.5 ft.	Depth of Water: <i>(Approx.)</i> 0.50 ft.	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 0.75 fps		Bank slope Right: 75 degrees Left: 25 degrees
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: ___% ___% 15% 15% 50% 15% 5% ___%				
Width of Riparian Zone: 150 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input type="checkbox"/> Herbs		
N/A <input checked="" type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 13.0 in. 1.0 in.		
Dominant Bank Vegetation <i>(list)</i> : Yellow poplar, sycamore, black cherry, white oak, spicebush, multiflora rose, wingstem, garlic mustard, wood fern, Japanese honeysuckle, Virginia creeper, poison ivy				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Small pools, riffles, leaf packs, some emergent vegetation				
Aquatic Organisms Observed <i>(list)</i> : Salamander, frog, invertebrates				
T&E Species Observed <i>(list)</i> : none				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None apparent				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

snea051

^a **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.

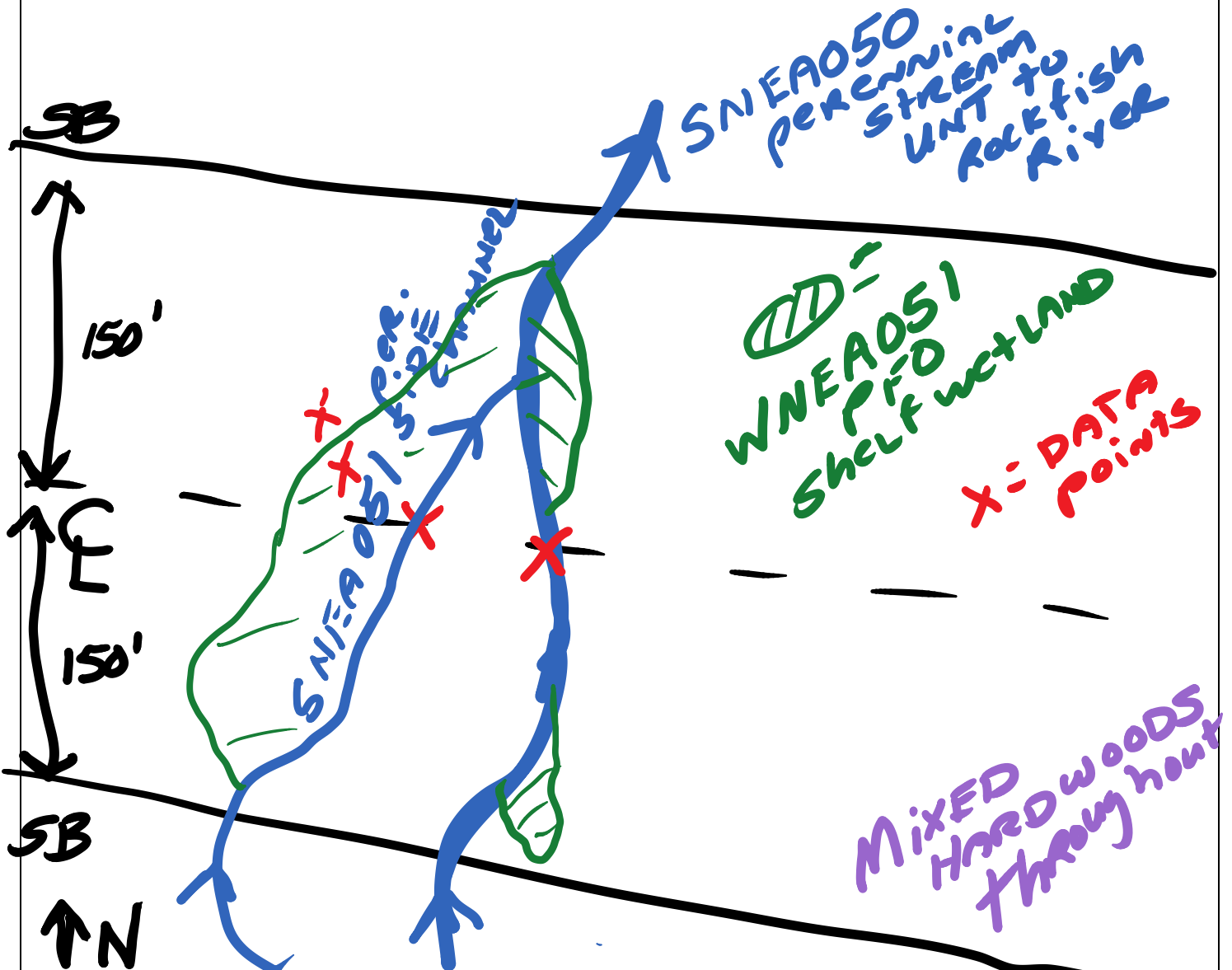
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

Unnamed perennial stream, tributary to Rockfish River; side channel to snea050; associated with shelf PFO wetland wnea051.

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





Waterbody SNEA051 facing southwest upstream



Waterbody SNEA051 facing northeast downstream



Waterbody SNEA051 facing southeast across

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River		Waterbody ID: snea050
Date: 5/6/2015				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA	Photos: 3 photos
Tract Number(s): 08-111-A004		Nearest Milepost: 161.6		Associated Wetland ID(s): wnea051
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 9.0 ft.		OHWM Indicator: <i>(check all that apply)</i>		
Height: 2.0 ft.		<input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 13.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 7.5 ft.	Width of Waterbody - Water Edge to Water Edge: 8.5 ft.	Depth of Water: <i>(Approx.)</i> 1.25 ft.	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 1.5 fps		Bank slope Right: 90 degrees Left: 40 degrees
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: 10 % _____ % 45 % 20 % 15 % 10 % _____ % _____ %				
Width of Riparian Zone: 150 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input type="checkbox"/> Herbs		
N/A <input checked="" type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 13.0 in. 1.0 in.		
Dominant Bank Vegetation <i>(list)</i> : Yellow poplar, sycamore, black cherry, white oak, spicebush, multiflora rose, wingstem, garlic mustard, wood fern, Japanese honeysuckle, Virginia creeper, poison ivy				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Pools, riffles, overhanging banks and roots				
Aquatic Organisms Observed <i>(list)</i> : Fish, invertebrates				
T&E Species Observed <i>(list)</i> : none				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None apparent				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

snea050

^a **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.

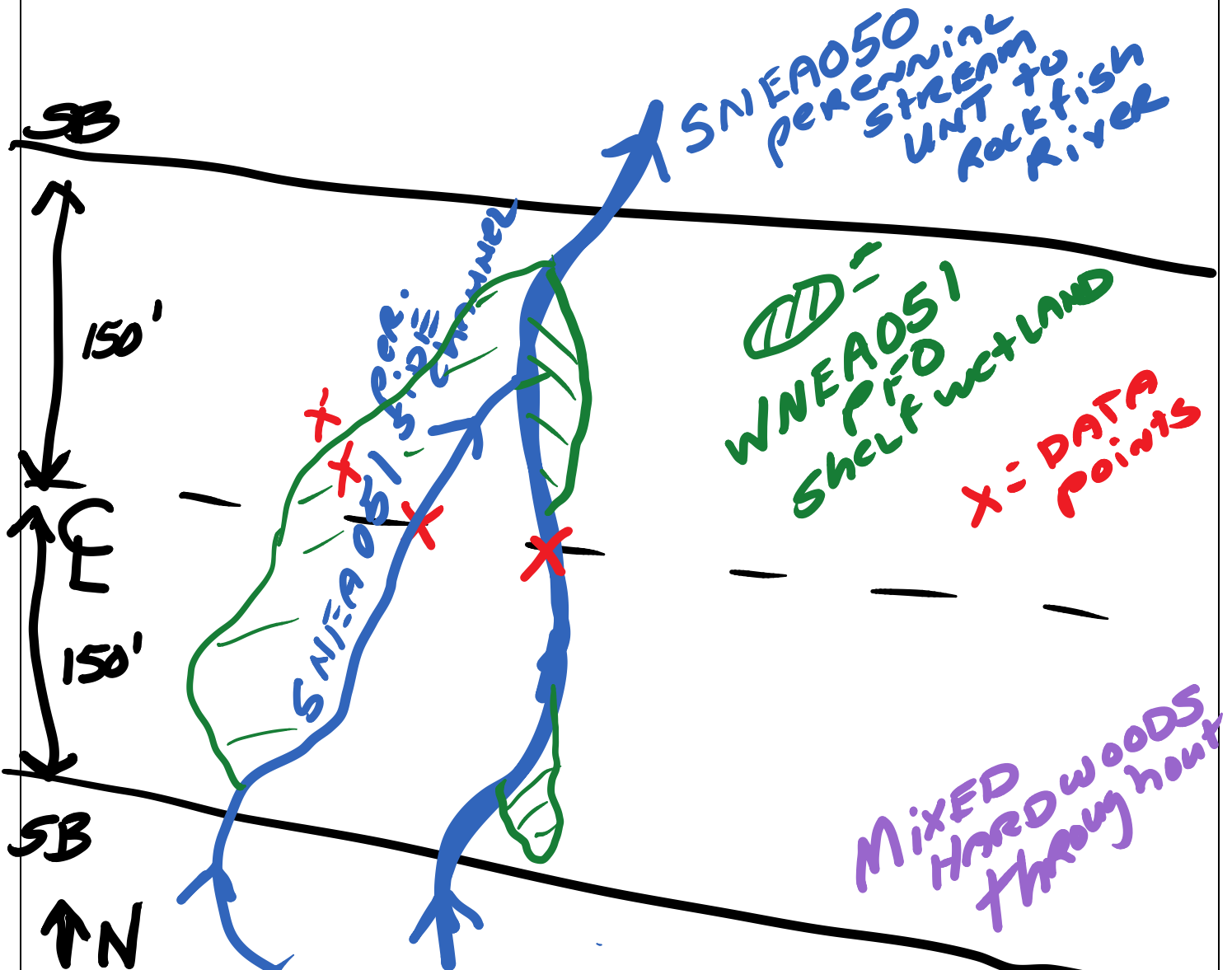
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

Unnamed perennial stream, tributary to Rockfish River; continues out of corridor in both directions (downstream continues into no access tract 08-111-A002); snea051 is a side channel; associated with shelf PFO wetland wnea051.

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





Waterbody SNEA050 facing west-southwest upstream



Waterbody SNEA050 facing east-northeast downstream



Waterbody SNEA050 facing south-southeast across

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River		Waterbody ID: snea052
Date: 5/6/2015				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA	Photos: 3 photos
Tract Number(s): 08-113		Nearest Milepost: 162.0	Associated Wetland ID(s): Small fringe shelf wetlands within bankful	
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 9.0 ft.		OHWM Indicator: <i>(check all that apply)</i>		
Height: 2.0 ft.		<input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 16.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 5.5 ft.	Width of Waterbody - Water Edge to Water Edge: 7.5 ft.	Depth of Water: <i>(Approx.)</i> 1.25 ft.	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 1.75 fps		Bank slope Right: 40 degrees Left: 60 degrees
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		
Bank height Right: 4.0 ft. Left: 5.0 ft.				
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: ___% ___% 45% 20% 25% 10% ___% ___%				
Width of Riparian Zone: 125 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input type="checkbox"/> Herbs		
N/A <input checked="" type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 13.0 in. 1.5 in.		
Dominant Bank Vegetation <i>(list)</i> : Yellow poplar, sycamore, sweet birch, basswood, red maple, beech, red oak, spicebush, Christmas fern, buttercup, chain fern, false nettle, wood fern, Virginia creeper, Japanese honeysuckle, witch hazel				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Pools, riffles, overhanging banks and roots, leaf packs				
Aquatic Organisms Observed <i>(list)</i> : Minnows, crayfish,, invertebrates				
T&E Species Observed <i>(list)</i> : none				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Logging road crossing via culvert				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

snea052

^a **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.

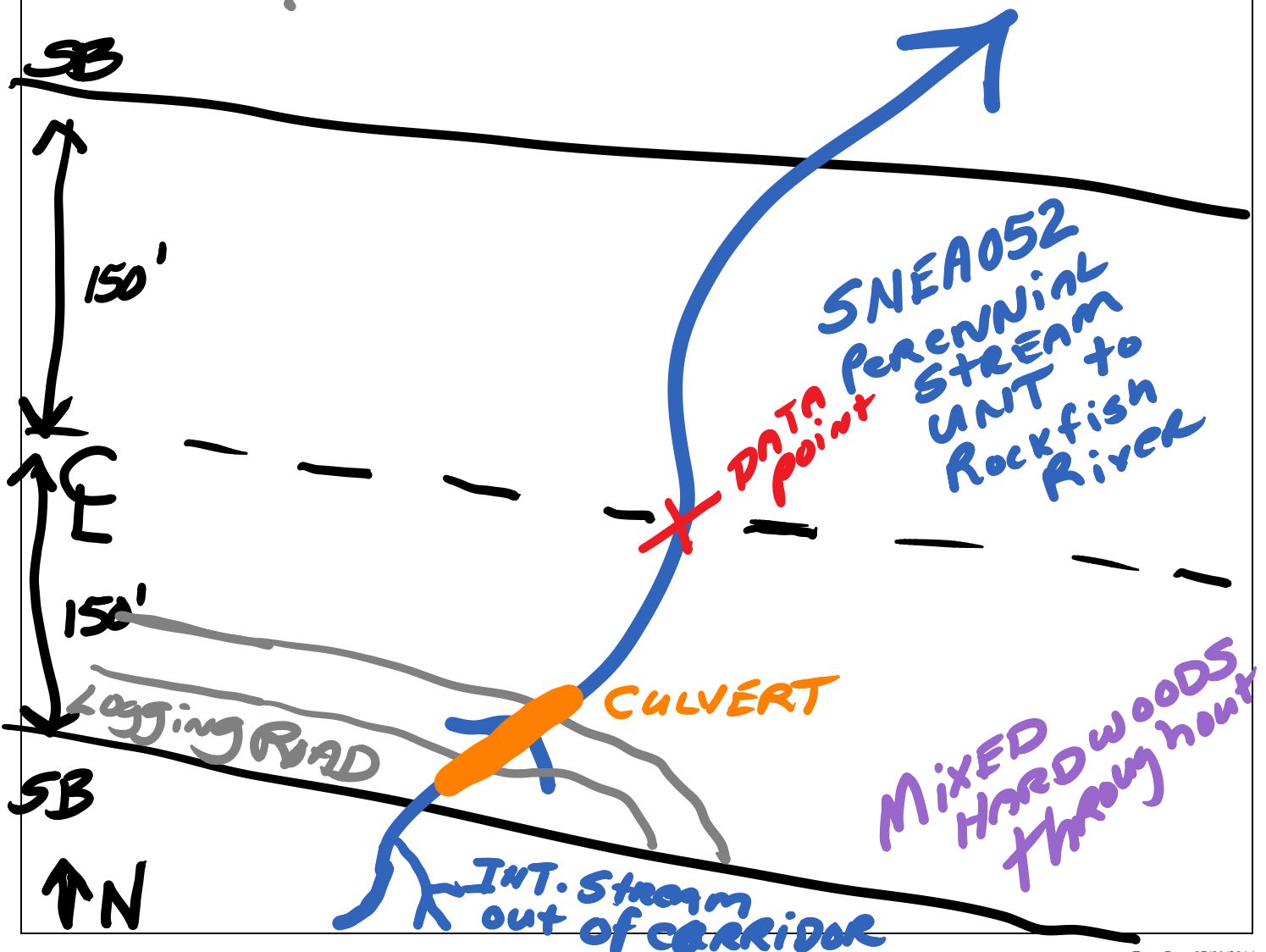
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

Unnamed perennial stream, tributary to Rockfish River; continues out of corridor in both directions; culvert crossing for logging road in corridor; tributary confluence approximately 25 feet south of corridor edge.

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





Waterbody SNEA052 facing west-southwest upstream



Waterbody SNEA052 facing northeast downstream



Waterbody SNEA052 facing northwest across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: snez002		Date: 6/2/2016	
State: Virginia	County: Nelson	Company: ERM	Crew Member Initials: SS
Photos: 1-3			
Tract Number(s): 08-121-A031		Nearest Milepost: 171	Associated Wetland ID(s): wnez004
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 4 ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: 0.75 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 5 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 4 ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 4 ft.	Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> 0.5 ft.
Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: <i>(Approx.)</i> 1 fps N/A <input type="checkbox"/>	Bank height Right: 1 ft. Left: 6 ft.	Bank slope Right: 90 degrees Left: 85 degrees
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> % of Substrate: _____% _____% 30% 30% 40% _____% _____% _____%			
Width of Riparian Zone: 250 ft. N/A <input type="checkbox"/>		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> 8 in. 2 in.	
Dominant Bank Vegetation <i>(list)</i> : Liriodendron tulipifera, Acer rubrum			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None			
Aquatic Organisms Observed <i>(list)</i> : Bullfrog			
T&E Species Observed <i>(list)</i> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:

snez002

^a **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.

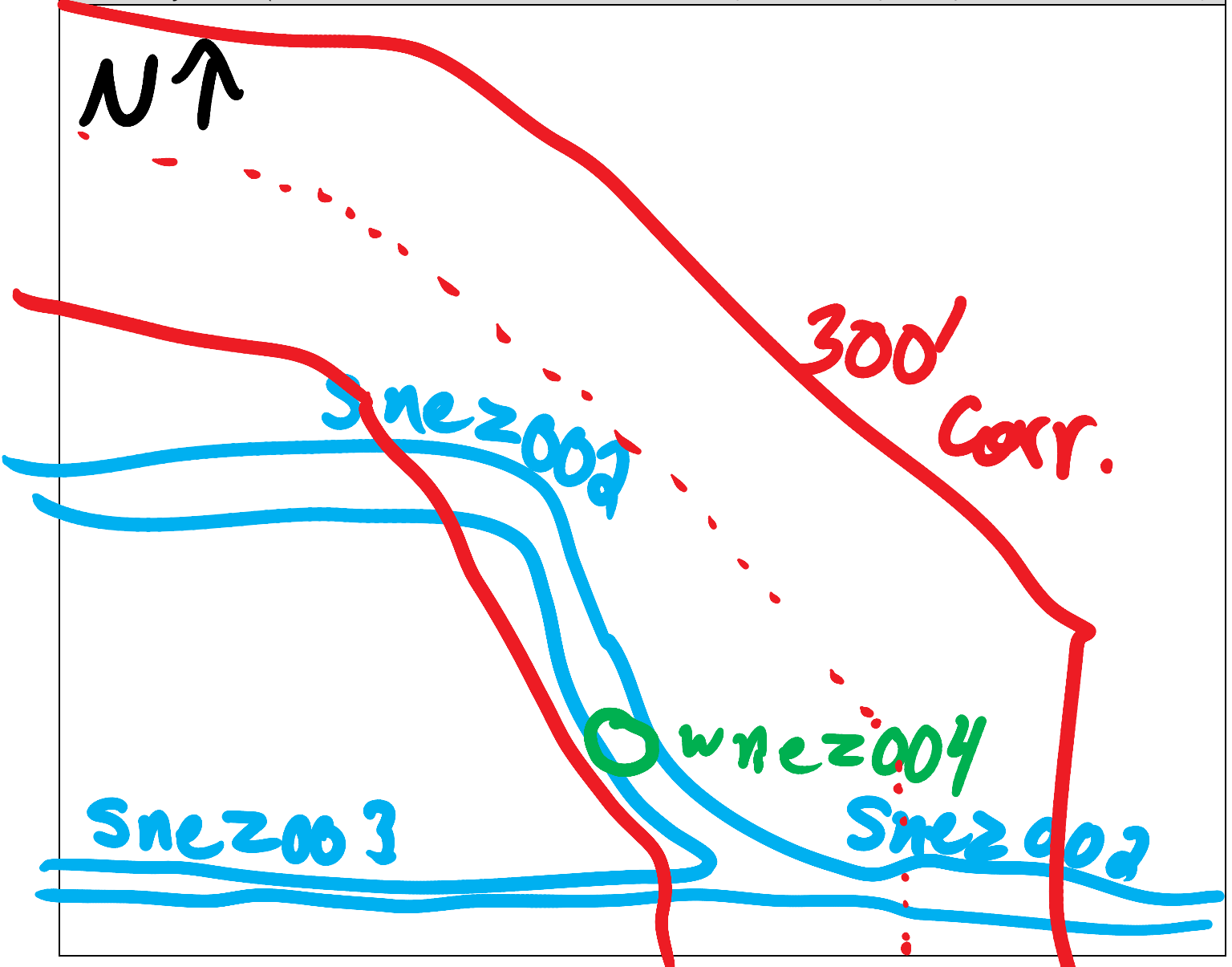
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

This is a perennial stream with some very small wetland fringe areas. This stream is also culverted at the roadway and within an open field area.

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





Waterbody snez002 facing west upstream



Waterbody snez002 facing east downstream



Waterbody snez002 facing south across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: snez003		Date: 6/2/2016	
State: Virginia	County: Nelson	Company: ERM	Crew Member Initials: SS
Photos: 1-3			
Tract Number(s): 08-121-A031		Nearest Milepost: 171	Associated Wetland ID(s): None
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: _ 3 _ ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: _ 0.75 _ ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: _ 4 _ ft.	Width of Waterbody - Toe of Slope to Toe of Slope: _ 3 _ ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> _ 3 _ ft.	Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> _ 0.5 _ ft.
Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: <i>(Approx.)</i> _ 1 _ fps N/A <input type="checkbox"/>	Bank height Right: _ 1 _ ft. Left: _ 1 _ ft.	Bank slope Right: _ 85 _ degrees Left: _ 85 _ degrees
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> % of Substrate: _____ % _____ % <u>30</u> % <u>30</u> % <u>40</u> % _____ % _____ % _____ %			
Width of Riparian Zone: _ 250 _ ft. N/A <input type="checkbox"/>	Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> <u>8</u> in. <u>2</u> in.		
Dominant Bank Vegetation <i>(list)</i> : Liriodendron tulipifera, Acer rubrum			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None			
Aquatic Organisms Observed <i>(list)</i> : None			
T&E Species Observed <i>(list)</i> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:

snez003

^a **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:

This is a smaller perennial stream.

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





Waterbody snez003 facing south upstream



Waterbody snez003 facing north downstream



Waterbody snez003 facing west across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish Creek	
Waterbody ID: snez001		Date: 5/26/2016	
State: Virginia	County: Nelson	Company: ERM	Crew Member Initials: SS, AS
Photos: 1 - 3			
Tract Number(s): 08-086-A036		Nearest Milepost: 171	Associated Wetland ID(s): None
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 4 ft.		OHWM Indicator: <i>(check all that apply)</i> <input type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: 1 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 5 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 4 ft.	Width of Waterbody - Water Edge to Water Edge: 3 ft.	Depth of Water: <i>(Approx.)</i> 0.5 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 1.5 fps	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Bank height Right: 1 ft. Left: 4 ft.		Bank slope Right: 45 degrees Left: 90 degrees	
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% _____% 5% 65% 30% _____% _____% _____%			
Width of Riparian Zone: 250 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 5 in. 2 in.	
Dominant Bank Vegetation <i>(list)</i> : Acer rubrum, Nyssa sylvatica			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None			
Aquatic Organisms Observed <i>(list)</i> : None			
T&E Species Observed <i>(list)</i> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low			

Waterbody ID:

snez001

^a **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.

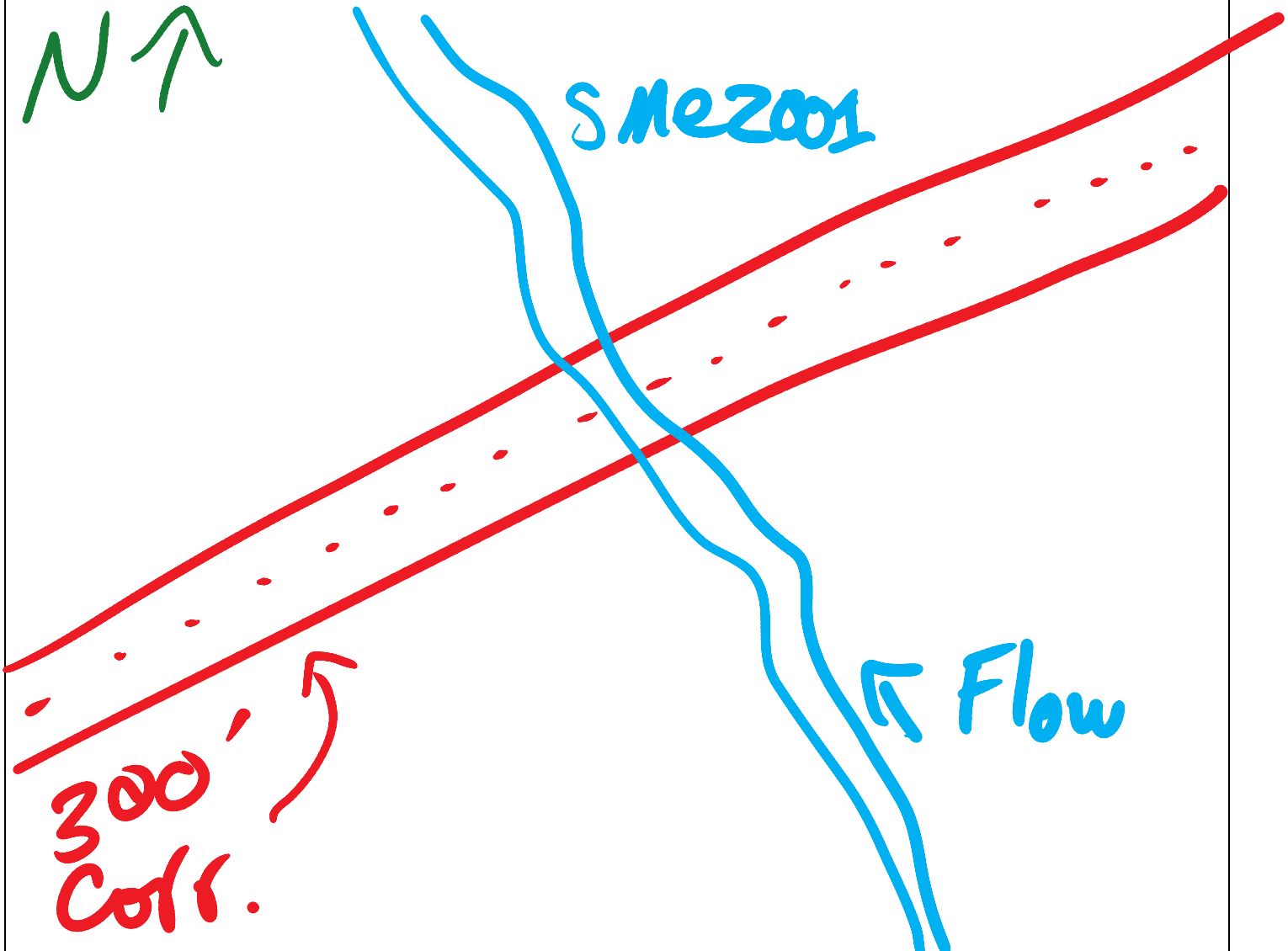
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

This is an incised perennial stream in an open woodland.

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





Waterbody snez001 facing southwest upstream



Waterbody snez001 facing northeast downstream



Waterbody snez001 facing northwest across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: SNEC054		Date: 12/15/2015	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, SA
Photos: 1-3			
Tract Number(s): 08-086-A036		Nearest Milepost: 172	Associated Wetland ID(s): None
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: <u>20</u> ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: <u>2</u> ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: <u>35</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>8</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>15</u> ft.	Depth of Water: <i>(Approx.)</i> <u>1</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> <u>1</u> fps	Bank height: Right: <u>4</u> ft. Left: <u>4</u> ft.
N/A <input type="checkbox"/>		Bank slope: Right: <u>60</u> degrees Left: <u>80</u> degrees	
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: <u>90</u> % <u>5</u> % <u> </u> % <u> </u> % <u>5</u> % <u> </u> % <u> </u> %			
Width of Riparian Zone: <u>50</u> ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> <u>16</u> in. <u>2</u> in.	
Dominant Bank Vegetation <i>(list)</i> : Sweet-gum, sycamore, ironwood, Japanese honeysuckle, Christmas fern, virginia pine			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Riffle, pools, leaf packs, overhanging banks			
Aquatic Organisms Observed <i>(list)</i> : Fish, water striders			
T&E Species Observed <i>(list)</i> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Upstream is a small two track path crossing the stream and downstream just outside the corridor the stream flows under a dirt road through a culvert			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Snec054

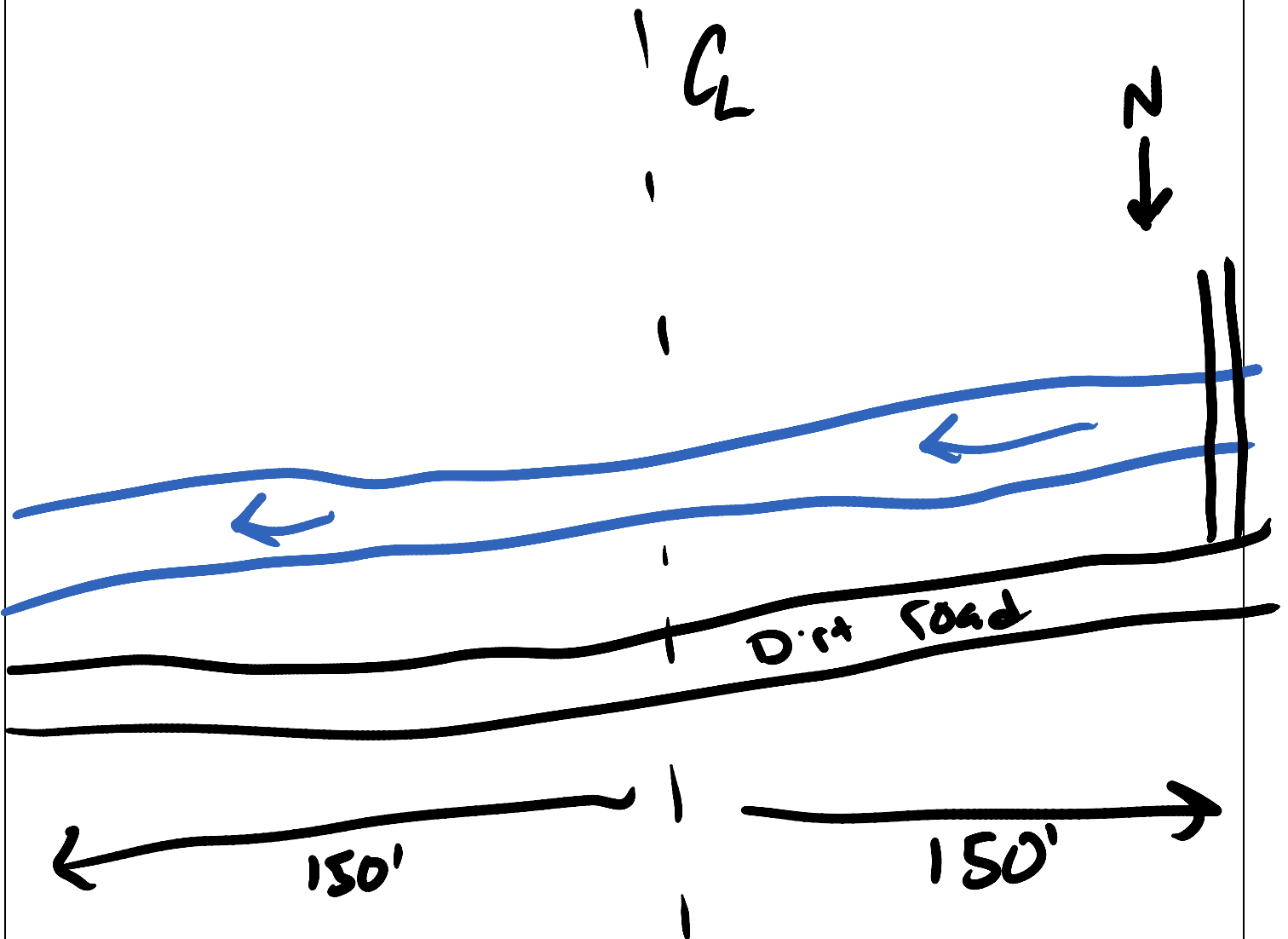
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEC054 facing west upstream



Waterbody SNEC054 facing east downstream



Waterbody SNEC054 facing north across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: snea400		Date: 2/19/2016	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA
Photos: 3 photos			
Tract Number(s): 08-086-A036		Nearest Milepost: 171.4	Associated Wetland ID(s): wnea400
Survey Type: <i>(check one)</i> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 9.0 ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: 1.0 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 20.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 7.0 ft.	Width of Waterbody - Water Edge to Water Edge: 9.0 ft.	Depth of Water: <i>(Approx.)</i> 0.50 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 1.5 fps	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
		Bank height Right: 5.0 ft. Left: 5.0 ft.	
		Bank slope Right: 50 degrees Left: 60 degrees	
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____ % _____ % 55 % 35 % 10 % _____ % _____ % _____ %			
Width of Riparian Zone: 75 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 6.0 in. 1.0 in.	
Dominant Bank Vegetation <i>(list)</i> : Black cherry, yellow popular, alder, multiflora rose, blackberry, Japanese honeysuckle, fescue, bittercress, annual bluegrass, wing stem, panic grass, goldenrod			
Aquatic Habitats <i>(ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools)</i> : Riffles, occasional pools, scattered woody debris, some overhanging roots			
Aquatic Organisms Observed <i>(list)</i> : none			
T&E Species Observed <i>(list)</i> : none			
Disturbances <i>(ex: livestock access, manure in waterbody, waste discharge pipes)</i> : Culvert crossing for Starvale Lane; historic livestock access			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

snea400

^a **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.

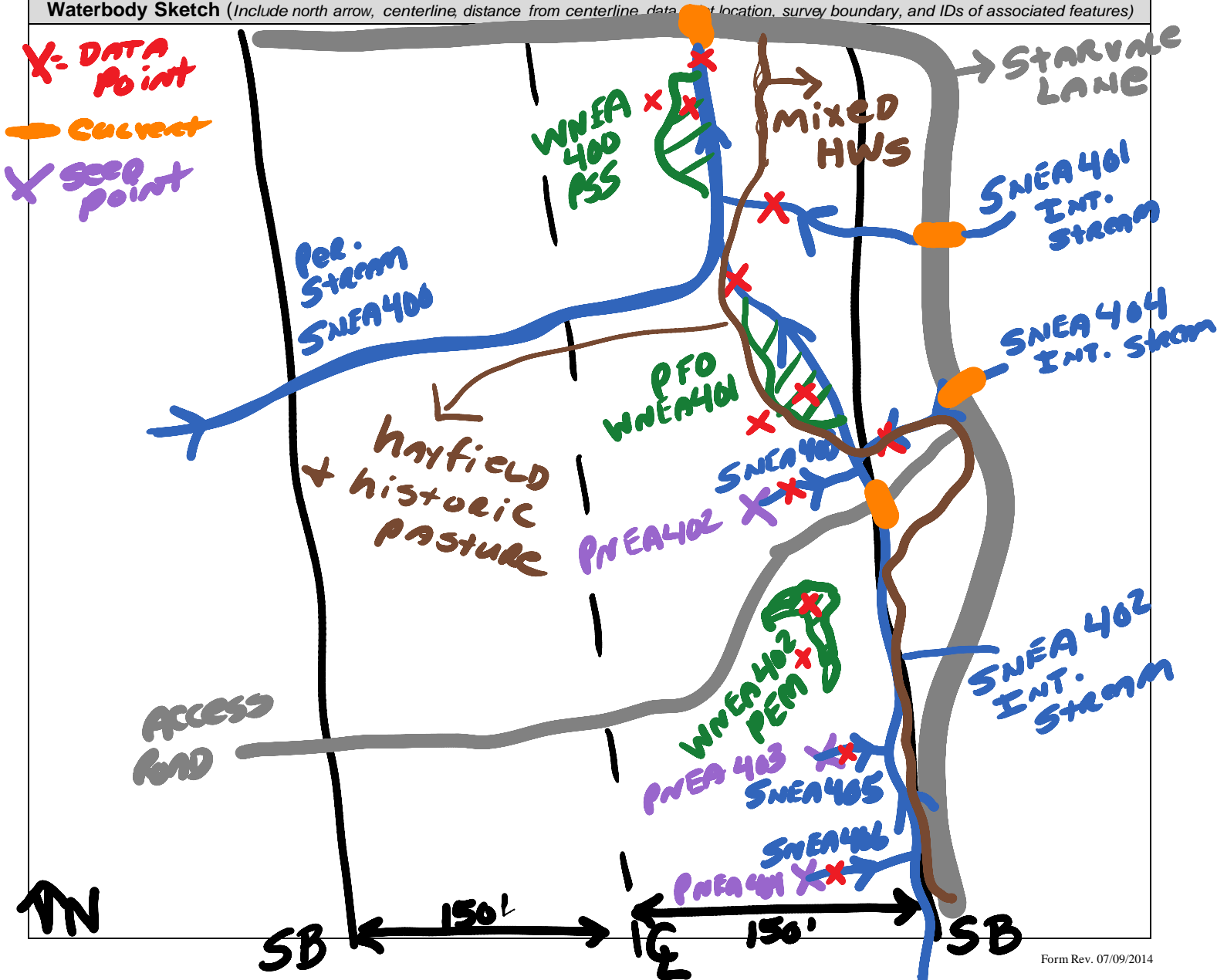
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 parallels rerouted centerline for considerable distance; culvert crossing at Starvale Lane; surrounding area is historic pasture with a thin buffer of dense shrubs with occasional tree. Connected to PEM wetland wnea400; snea401 and snea402 are tributaries.

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



Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: Snea400		Date: 2/24/2016	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CG, AS
Photos: 1-3			
Tract Number(s): 08-086-A035		Nearest Milepost: 171.1	Associated Wetland ID(s):
Survey Type: <i>(check one)</i> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: _13_ ft.		OHWM Indicator: <i>(check all that apply)</i>	
Height: _0.4_ ft.		<input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
N/A <input type="checkbox"/>		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: _20_ ft.	Width of Waterbody - Toe of Slope to Toe of Slope: _10_ ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> _13_ ft.	Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> _0.5_ ft.
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: <i>(Approx.)</i> _1_ fps N/A <input type="checkbox"/>	Bank height Right: _4_ ft. Left: _6_ ft.	Bank slope Right: _35_ degrees Left: _50_ degrees
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i>			
% of Substrate: _____% <u>5</u> % <u>50</u> % <u>35</u> % <u>10</u> % _____% _____% _____%			
Width of Riparian Zone: _____ ft. N/A <input checked="" type="checkbox"/>	Vegetative Layers: <i>(check all that apply)</i>		
	<input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
	Avg. DBH of Dominants: <i>(approx.)</i> <u>8</u> in. <u>1.5</u> in.		
Dominant Bank Vegetation <i>(list)</i> : Alder, Virginia pine, cedar, Japanese honeysuckle			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Woody debris, riffles, runs			
Aquatic Organisms Observed <i>(list)</i> : none			
T&E Species Observed <i>(list)</i> : none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Two 36 inch culverts under road			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Snea400

^a **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.

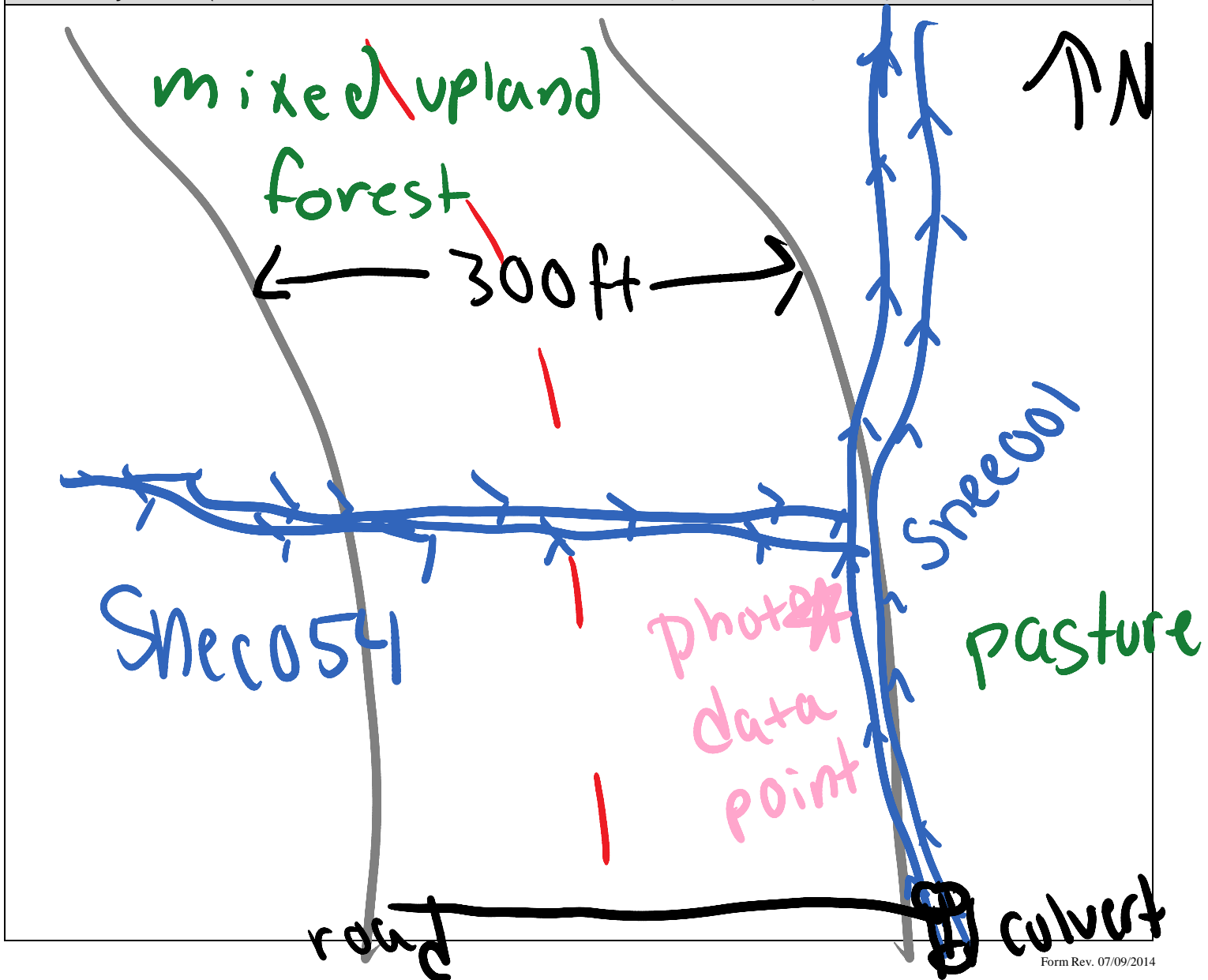
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 snec054 flows into snea400 (renamed snea400)

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





Waterbody SNEA400 facing south upstream



Waterbody SNEA400 facing north downstream



Waterbody SNEA400 facing east across



SNEA400 facing south upstream



SNEA400 facing north downstream



SNEA400 facing east across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: snea402		Date: 2/19/2016	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA
Photos: 3 photos			
Tract Number(s): 08-086-A038		Nearest Milepost: 171.6	
Associated Wetland ID(s): wnea401 and wnea402			
Survey Type: <i>(check one)</i> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 4.0 ft.		OHWM Indicator: <i>(check all that apply)</i>	
Height: 0.75 ft.		<input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
N/A <input type="checkbox"/>		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: 10.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 3.0 ft.	Width of Waterbody - Water Edge to Water Edge: 4.0 ft.	Depth of Water: <i>(Approx.)</i> 0.33 ft.
Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 1.0 fps	
N/A <input type="checkbox"/>		Bank height: Right: 8.0 ft. Left: 7.0 ft.	
Bank slope: Right: 80 degrees Left: 55 degrees			
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i>			
<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____ % _____ % 35 % 30 % 25 % 5 % 5 % _____ %			
Width of Riparian Zone: 50 ft.		Vegetative Layers: <i>(check all that apply)</i>	
N/A <input type="checkbox"/>		<input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
		Avg. DBH of Dominants: <i>(approx.)</i> 6.0 in. 1.0 in.	
Dominant Bank Vegetation <i>(list)</i> : yellow poplar, sycamore, eastern red cedar, alder, black walnut, multiflora rose, tree of heaven, blackberry, panic grass, fescue, Japanese honeysuckle			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): leaf packs, riffle, some overhanging roots			
Aquatic Organisms Observed <i>(list)</i> : none			
T&E Species Observed <i>(list)</i> : none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Culvert crossing for access road; historic livestock access			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

snea402

^a **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.

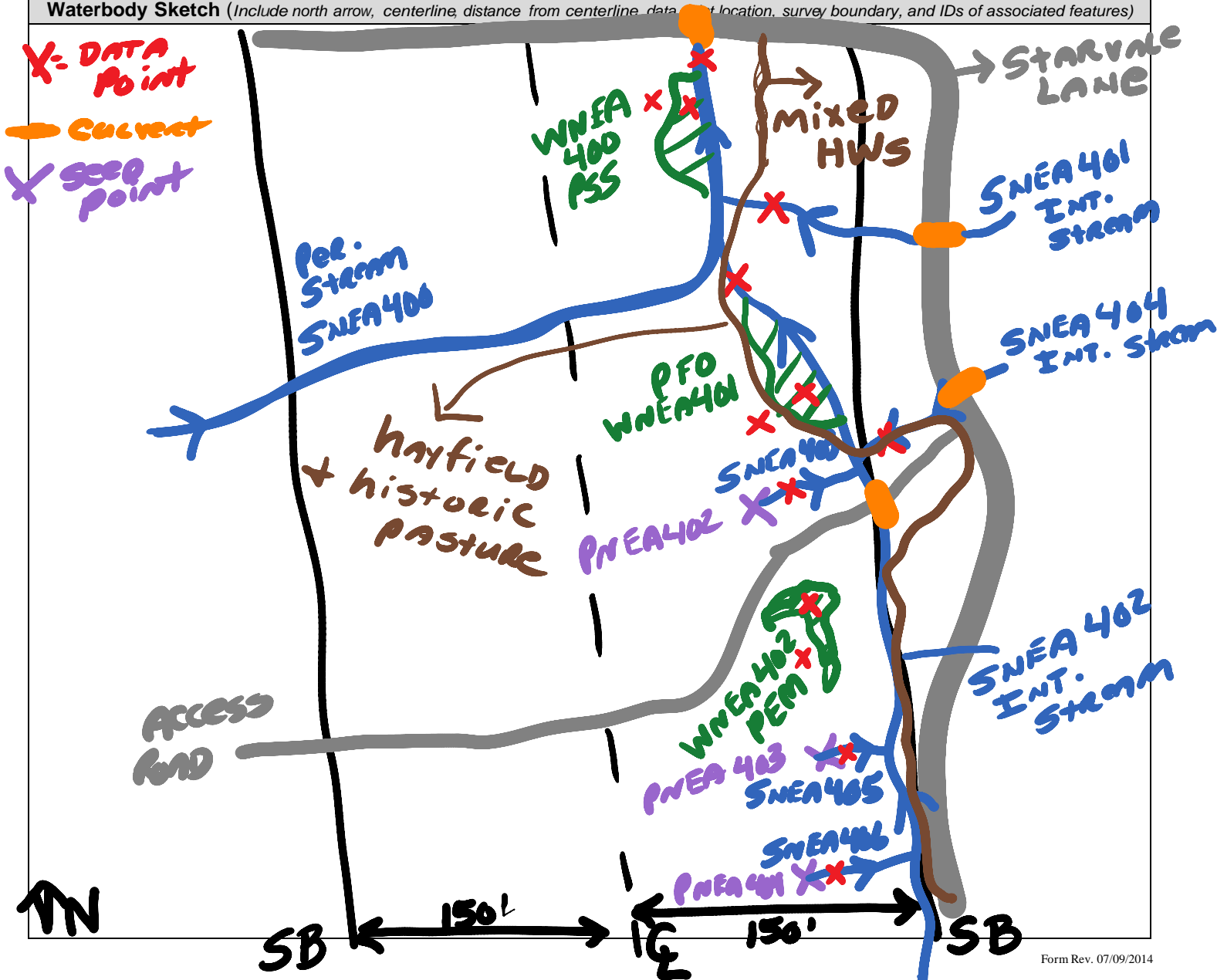
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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; culvert crossing for access road; downstream flows into snea400 within the corridor; streams snea403, 404, 405, and 406 are tributaries with confluences within the corridor; direct hydrologic connection to PFO wetland wnea401; indirectly (subterranean) hydrologic connection to PEM wetland wnea402.

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





Waterbody SNEA402 facing south upstream



Waterbody SNEA402 facing north downstream



Waterbody SNEA402 facing east across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: snea404		Date: 2/19/2016	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA
Photos: 3 photos			
Tract Number(s): 08-086-A038		Nearest Milepost: 171.9	Associated Wetland ID(s): none
Survey Type: <i>(check one)</i> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 4.0 ft.		OHWM Indicator: <i>(check all that apply)</i>	
Height: 0.5 ft.		<input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
N/A <input type="checkbox"/>		<input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: 10.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 3.0 ft.	Width of Waterbody - Water Edge to Water Edge: 3.0 ft.	Depth of Water: <i>(Approx.)</i> 0.25 ft.
Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 0.75 fps	Bank height: Right: 6.0 ft. Left: 8.0 ft.
N/A <input type="checkbox"/>		Bank slope: Right: 60 degrees Left: 65 degrees	
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i>			
% of Substrate: _____% _____% 35% 25% 25% 10% 5% _____%			
Width of Riparian Zone: 30 ft.		Vegetative Layers: <i>(check all that apply)</i>	
N/A <input type="checkbox"/>		<input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
		Avg. DBH of Dominants: <i>(approx.)</i> 7.0 in. 0.75 in.	
Dominant Bank Vegetation <i>(list)</i> : yellow poplar, white pine, Virginia pine, alder, multiflora rose, eastern red cedar, sycamore, flowering dogwood, blackberry, fescue, sensitive fern, deer-tongue grass, bittercress, annual bluegrass, chickweed			
Aquatic Habitats <i>(ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools)</i> : leaf packs, woody debris			
Aquatic Organisms Observed <i>(list)</i> : none			
T&E Species Observed <i>(list)</i> : none			
Disturbances <i>(ex: livestock access, manure in waterbody, waste discharge pipes)</i> : refuse in channel, historic livestock access, culvert crossing for Starvale Lane			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			



Waterbody SNEA404 facing east upstream



Waterbody SNEA404 facing west downstream



Waterbody SNEA404 facing north across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: snea403		Date: 2/19/2016	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA
Photos: 3 photos			
Tract Number(s): 08-086-A038		Nearest Milepost: 171.9	Associated Wetland ID(s): none
Survey Type: <i>(check one)</i> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 2.0 ft.		OHWM Indicator: <i>(check all that apply)</i>	
Height: 0.35 ft.		<input checked="" type="checkbox"/> Clear line on bank	
N/A <input type="checkbox"/>		<input type="checkbox"/> Shelving	
		<input type="checkbox"/> Wrested vegetation	
		<input type="checkbox"/> Scouring	
		<input type="checkbox"/> Water staining	
<input type="checkbox"/> Bent, matted, or missing vegetation		<input type="checkbox"/> Wrack line	
		<input type="checkbox"/> Litter and debris	
		<input type="checkbox"/> Abrupt plant community change	
		<input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: 3.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 2.0 ft.	Width of Waterbody - Water Edge to Water Edge: 1.0 ft.	Depth of Water: <i>(Approx.)</i> 0.15 ft.
N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Sinuosity: <i>(check one)</i>	Water velocity: <i>(Approx.)</i>	Bank height	Bank slope
<input checked="" type="checkbox"/> Straight	0.40 fps	Right: 3.0 ft.	Right: 80 degrees
<input type="checkbox"/> Meandering	N/A <input type="checkbox"/>	Left: 3.0 ft.	Left: 90 degrees
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i>			
<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____ % _____ % 10 % 15 % 45 % 25 % 5 % _____ %			
Width of Riparian Zone: _____ ft.	Vegetative Layers: <i>(check all that apply)</i>		
N/A <input checked="" type="checkbox"/>	<input type="checkbox"/> Trees:		
	<input checked="" type="checkbox"/> Saplings/Shrubs:		
	<input checked="" type="checkbox"/> Herbs		
Avg. DBH of Dominants: <i>(approx.)</i> _____ in. 0.50 in.			
Dominant Bank Vegetation <i>(list)</i> : sumac, alder, blackberry, fescue, goldenrod, wingstem, Japanese honeysuckle, broom sedge			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): none			
Aquatic Organisms Observed <i>(list)</i> : none			
T&E Species Observed <i>(list)</i> : none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): historic livestock access			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

snea403

^a **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.

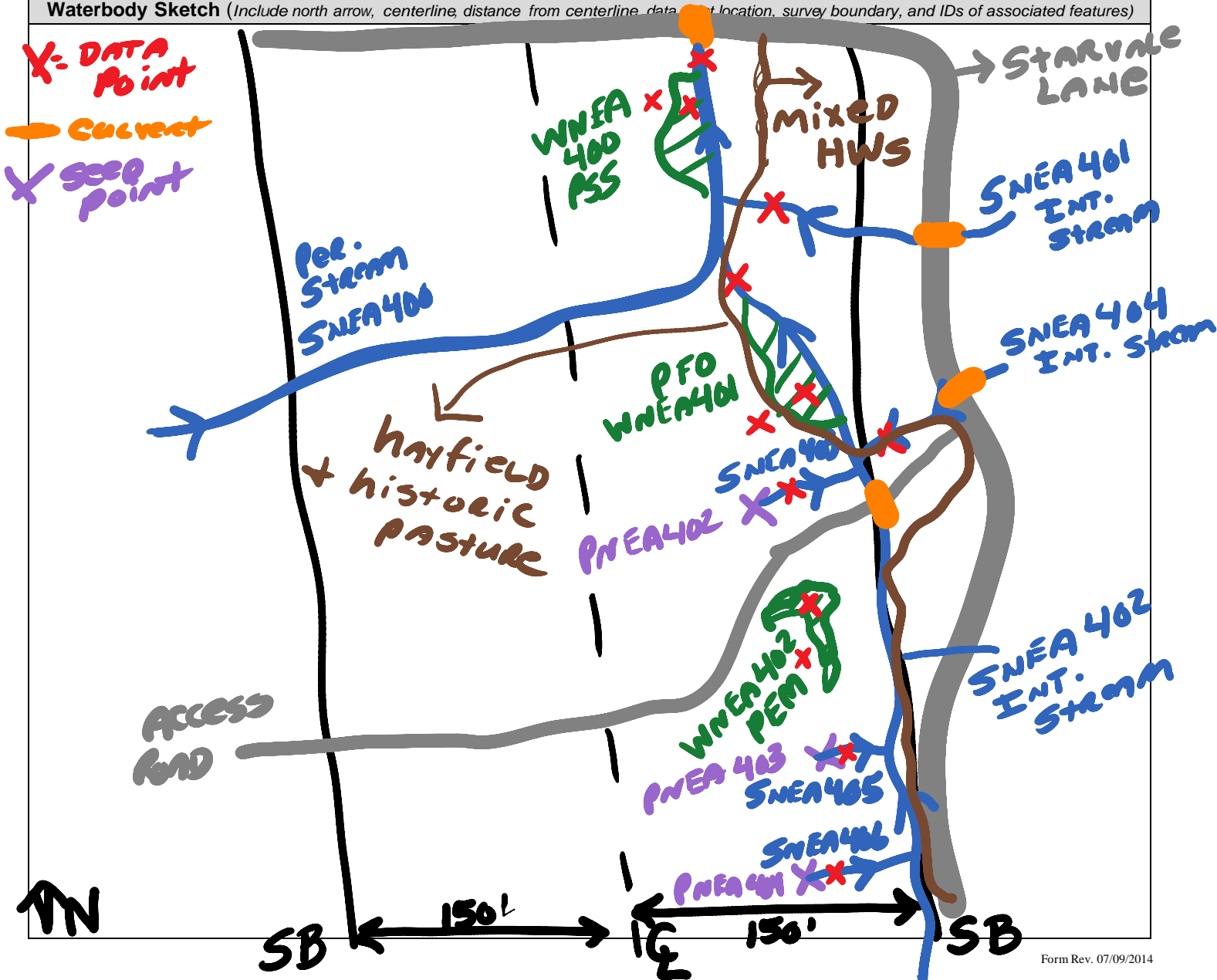
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 seep pnea402 and flows into intermittent stream snea402 – all within the corridor; within hayfield/historic pasture; seep origin is at toe of slope/floodplain interface.

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





Waterbody SNEA403 facing west-southwest upstream



Waterbody SNEA403 facing east-northeast downstream



Waterbody SNEA403 facing south-southeast across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: snea405		Date: 2/19/2016	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA
Photos: 3 photos			
Tract Number(s): 08-086-A038		Nearest Milepost: 172.0	Associated Wetland ID(s): none
Survey Type: <i>(check one)</i> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 2.0 ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: 0.25 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 3.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 2.0 ft.	Width of Waterbody - Water Edge to Water Edge: 1.0 ft.	Depth of Water: <i>(Approx.)</i> 0.15 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 0.25 fps	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Bank height Right: 3.0 ft. Left: 3.0 ft.		Bank slope Right: 85 degrees Left: 85 degrees	
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____ % _____ % 10 % 15 % 45 % 25 % 5 % _____ %			
Width of Riparian Zone: _____ ft.		Vegetative Layers: <i>(check all that apply)</i> <input type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input checked="" type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> _____ in. 0.50 in.	
Dominant Bank Vegetation <i>(list)</i> : sumac, alder, blackberry, fescue, goldenrod, wingstem, Japanese honeysuckle, broom sedge			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): none			
Aquatic Organisms Observed <i>(list)</i> : none			
T&E Species Observed <i>(list)</i> : none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): historic livestock access			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

snea405

^a **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.

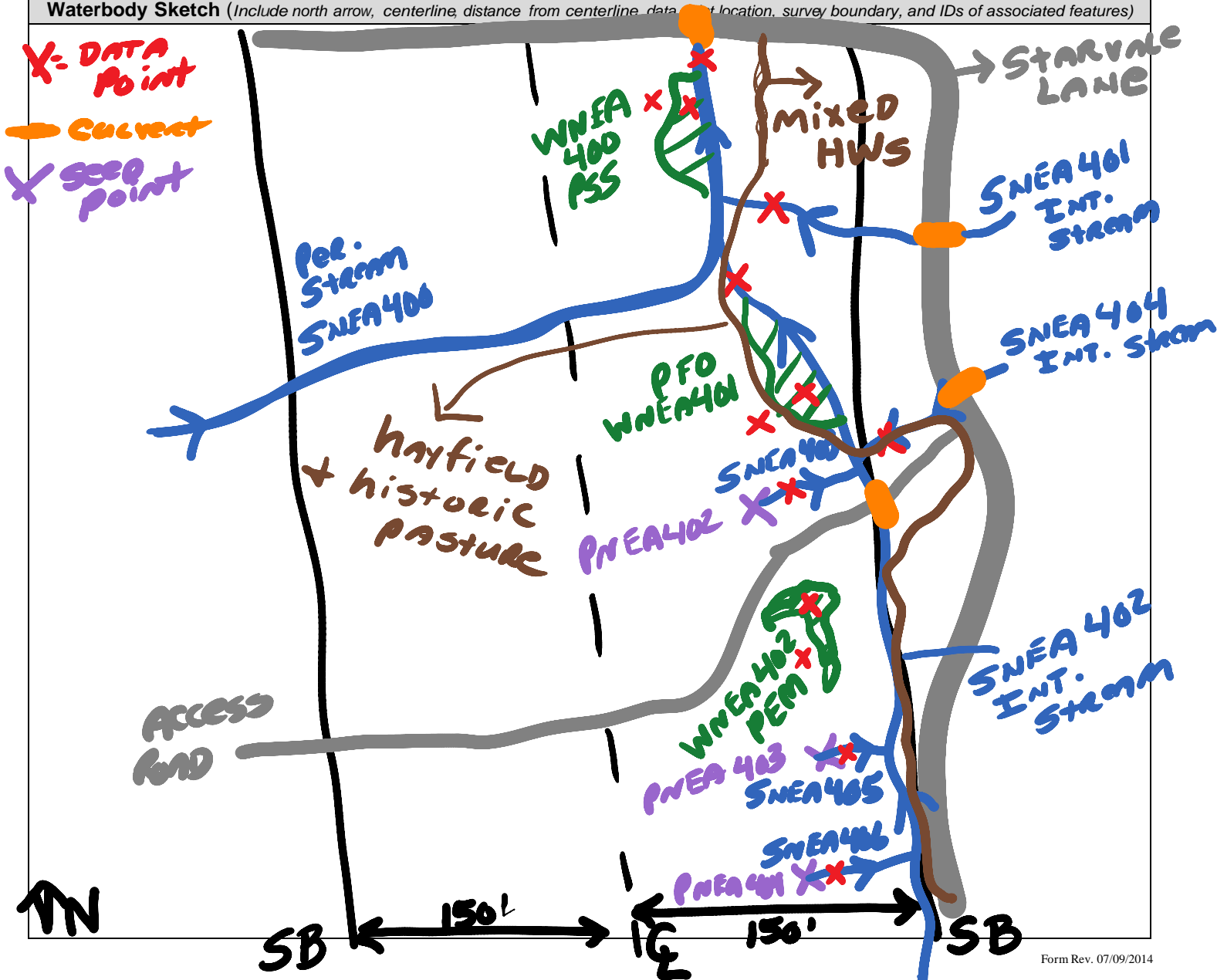
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 seep pnea403 and flows into intermittent stream snea402 – all within the corridor; within hayfield/historic pasture; seep origin is at toe of slope/floodplain interface.

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





Waterbody SNEA405 facing west upstream



Waterbody SNEA405 facing east downstream



Waterbody SNEA405 facing south across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Rockfish River	
Waterbody ID: snea406		Date: 2/19/2016	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, SA
Photos: 3 photos			
Tract Number(s): 08-086-A038		Nearest Milepost: 172.05	Associated Wetland ID(s): none
Survey Type: <i>(check one)</i> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 2.0 ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: 0.25 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 3.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 2.0 ft.	Width of Waterbody - Water Edge to Water Edge: 1.25 ft.	Depth of Water: <i>(Approx.)</i> 0.15 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 0.20 fps	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Bank height Right: 3.0 ft. Left: 3.0 ft.		Bank slope Right: 80 degrees Left: 80 degrees	
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____ % _____ % 10 % 10 % 50 % 25 % 5 % _____ %			
Width of Riparian Zone: _____ ft.		Vegetative Layers: <i>(check all that apply)</i> <input type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input checked="" type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> _____ in. 0.50 in.	
Dominant Bank Vegetation <i>(list)</i> : sumac, alder, blackberry, fescue, goldenrod, wingstem, Japanese honeysuckle, broom sedge			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): none			
Aquatic Organisms Observed <i>(list)</i> : none			
T&E Species Observed <i>(list)</i> : none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): historic livestock access			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

snea406

^a **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.

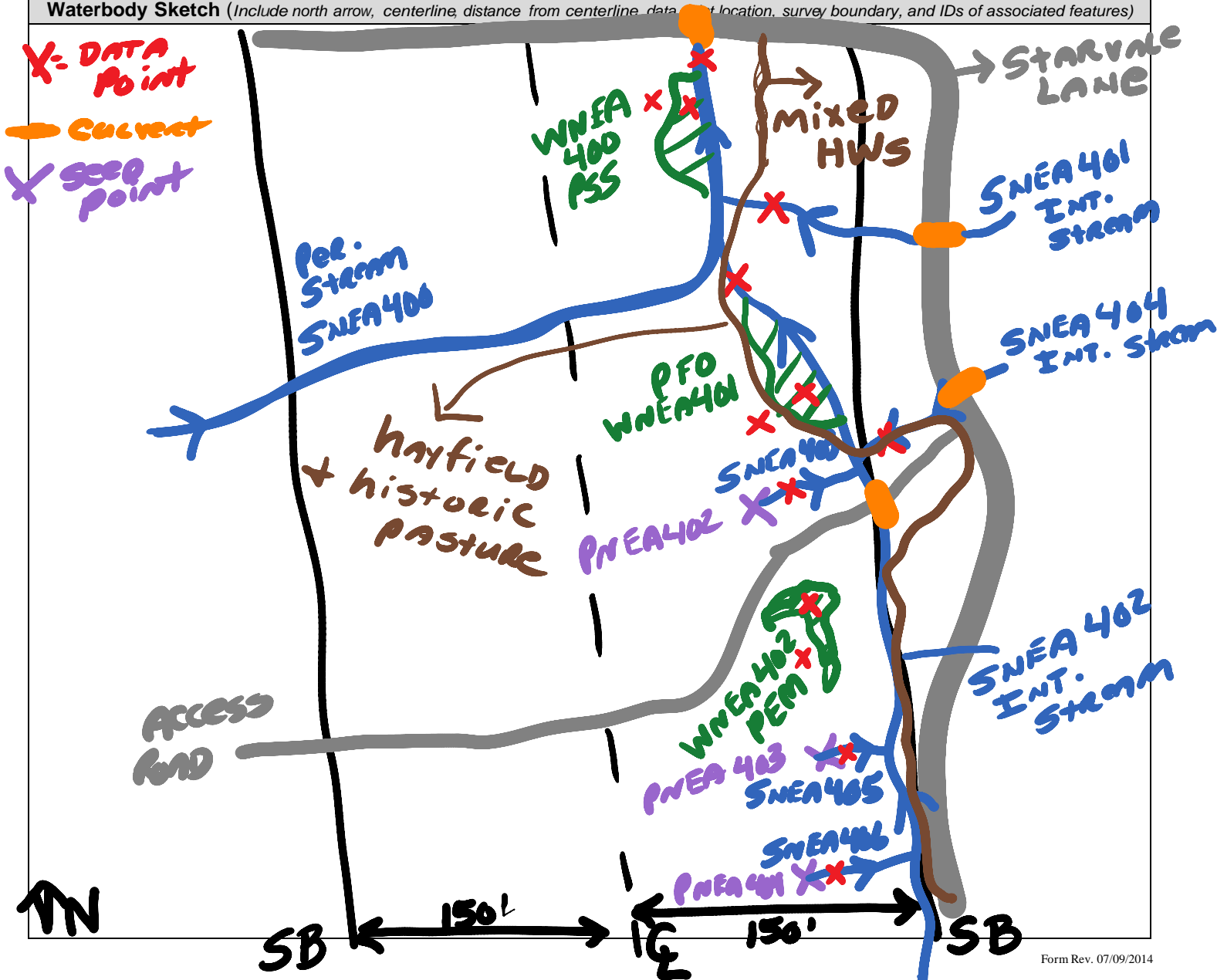
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 seep pnea404 and flows into intermittent stream snea402 – all within the corridor; within hayfield/historic pasture; seep origin is at toe of slope/floodplain interface.

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





Waterbody SNEA406 facing west upstream



Waterbody SNEA406 facing east downstream



Waterbody SNEA406 facing south across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Dutch Creek	
Waterbody ID: Sney001		Date: 8/26/2016	
State: Virginia	County: Nelson	Company: Dominion	Crew Member Initials: KO, SA
Photos: 1-3			
Tract Number(s): 08-086-A045		Nearest Milepost: 173	Associated Wetland ID(s): none
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 4 ft.		OHWM Indicator: <i>(check all that apply)</i>	
Height: .3 ft.		<input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 9 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 5 ft.	Width of Waterbody - Water Edge to Water Edge: 5 ft.	Depth of Water: <i>(Approx.)</i> .2 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> .75 fps	Bank height Right: 3 ft. Left: 4 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Bank slope Right: 65 degrees Left: 65 degrees			
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% _____% 5% 45% 25% 25% _____% _____%			
Width of Riparian Zone: 40 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 10 in. 1 in.	
Dominant Bank Vegetation <i>(list)</i> : Mountain Laurel, Smilax, Chestnut Oak, Red Maple, Tulip Poplar, Clubmoss, Wood Aster, Green Ash, Hickory, Yellow Birch, low bush blueberry, hog peanut vine			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Overhanging roots, riffles, small pools			
Aquatic Organisms Observed <i>(list)</i> : Dragonfly, Stonefly, minnows, mosquito larvae, crawfish			
T&E Species Observed <i>(list)</i> : none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Sney001

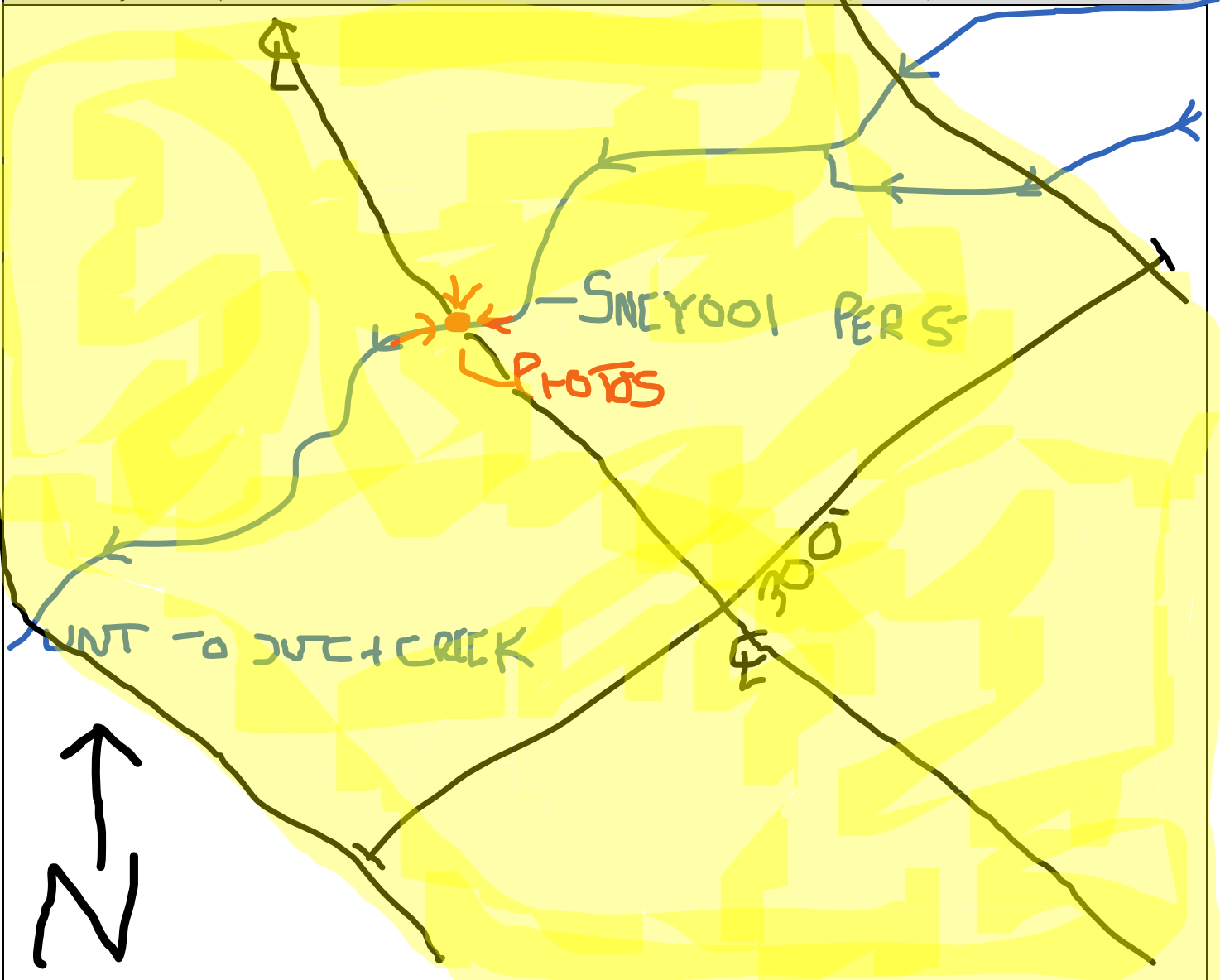
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEY001 facing east upstream



Waterbody SNEY001 facing west downstream



Waterbody SNEY001 facing south across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Dutch Creek	
Waterbody ID: Sney002		Date: 8/26/2016	
State: Virginia	County: Nelson	Company: Dominion	Crew Member Initials: KO, SA
Photos: 1-3			
Tract Number(s): 08-086-A045		Nearest Milepost: 173	Associated Wetland ID(s): none
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 4 ft.		OHWM Indicator: <i>(check all that apply)</i> <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining	
OHWM Height: .1 ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 8 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 5 ft.	Width of Waterbody - Water Edge to Water Edge: 3 ft.	Depth of Water: <i>(Approx.)</i> .1 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> .5 fps	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Bank height Right: 3 ft. Left: 3 ft.		Bank slope Right: 65 degrees Left: 65 degrees	
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% _____% _____% 5% 25% 70% _____% _____%			
Width of Riparian Zone: 40 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 10 in. 1 in.	
Dominant Bank Vegetation <i>(list)</i> : Mountain Laurel, Smilax, Chestnut Oak, Red Maple, Tulip Poplar, Clubmoss, Wood Aster, Green Ash, Hickory, Yellow Birch, low bush blueberry, hog peanut vine			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): none			
Aquatic Organisms Observed <i>(list)</i> : Stonefly, mosquito larvae			
T&E Species Observed <i>(list)</i> : none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Sney002

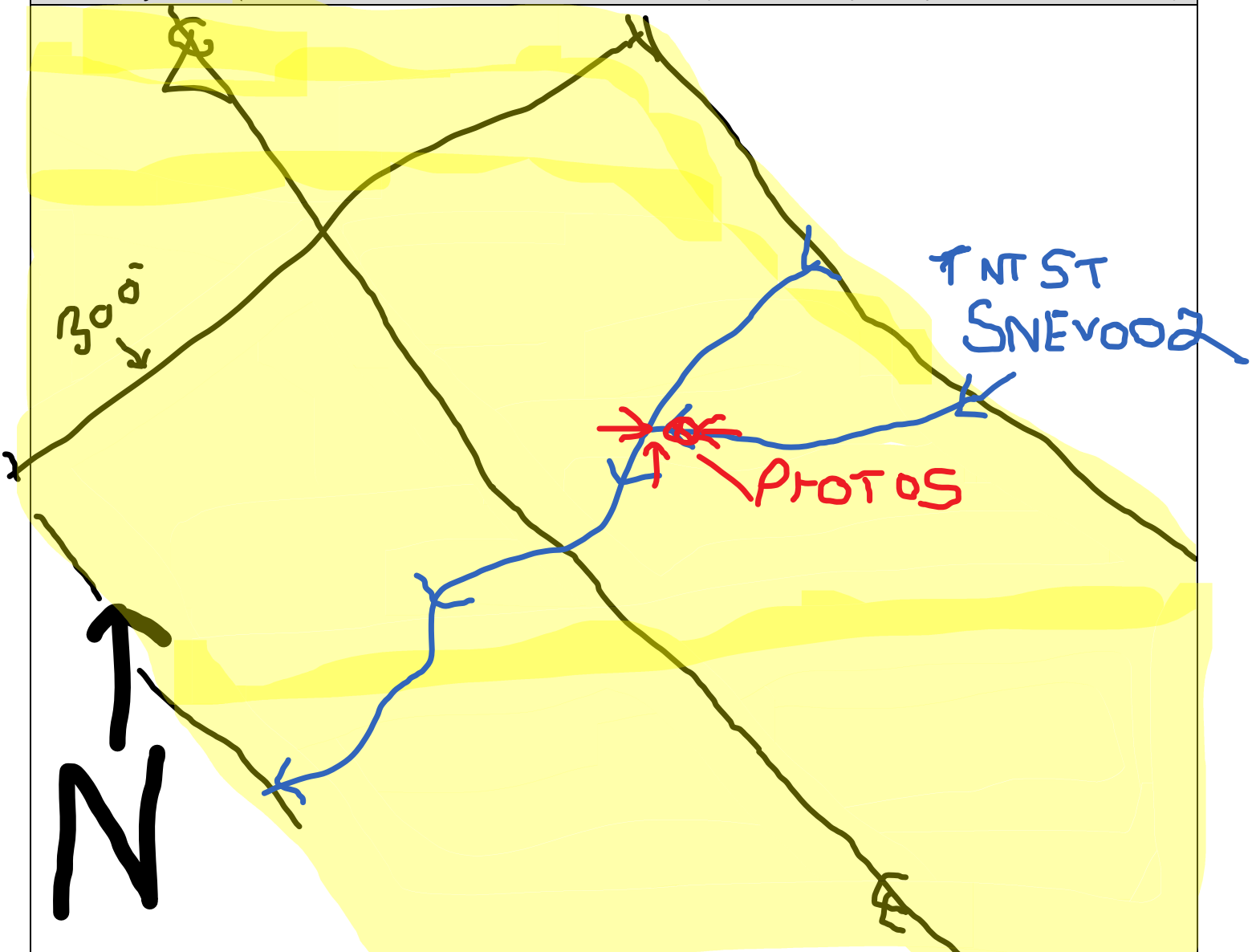
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEY002 facing east upstream



Waterbody SNEY002 facing west downstream



Waterbody SNEY002 facing north across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Dutch Creek	
Waterbody ID: SNEC057		Date: 12/16/2015	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, SA
Photos: 1-3			
Tract Number(s): 08-086-A036		Nearest Milepost: 172	Associated Wetland ID(s): None
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: <u>25</u> ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: <u>2.5</u> ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: <u>35</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>10</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>22</u> ft.	Depth of Water: <i>(Approx.)</i> <u>1.5</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> <u>1.5</u> fps	Bank height: Right: <u>6</u> ft. Left: <u>4</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Bank slope: Right: <u>70</u> degrees Left: <u>50</u> degrees			
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: <u>10</u> % <u>20</u> % <u>15</u> % <u>50</u> % <u>5</u> % _____ % _____ % _____ %			
Width of Riparian Zone: <u>50</u> ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> <u>12</u> in. <u>2</u> in.	
Dominant Bank Vegetation <i>(list)</i> : Sweet-gum, sycamore, red cedar, mountain laurel, Japanese honeysuckle, Christmas fern, lycopodium			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Riffle, pools, leaf packs, overhanging banks			
Aquatic Organisms Observed <i>(list)</i> : Fish, water striders			
T&E Species Observed <i>(list)</i> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Snec057

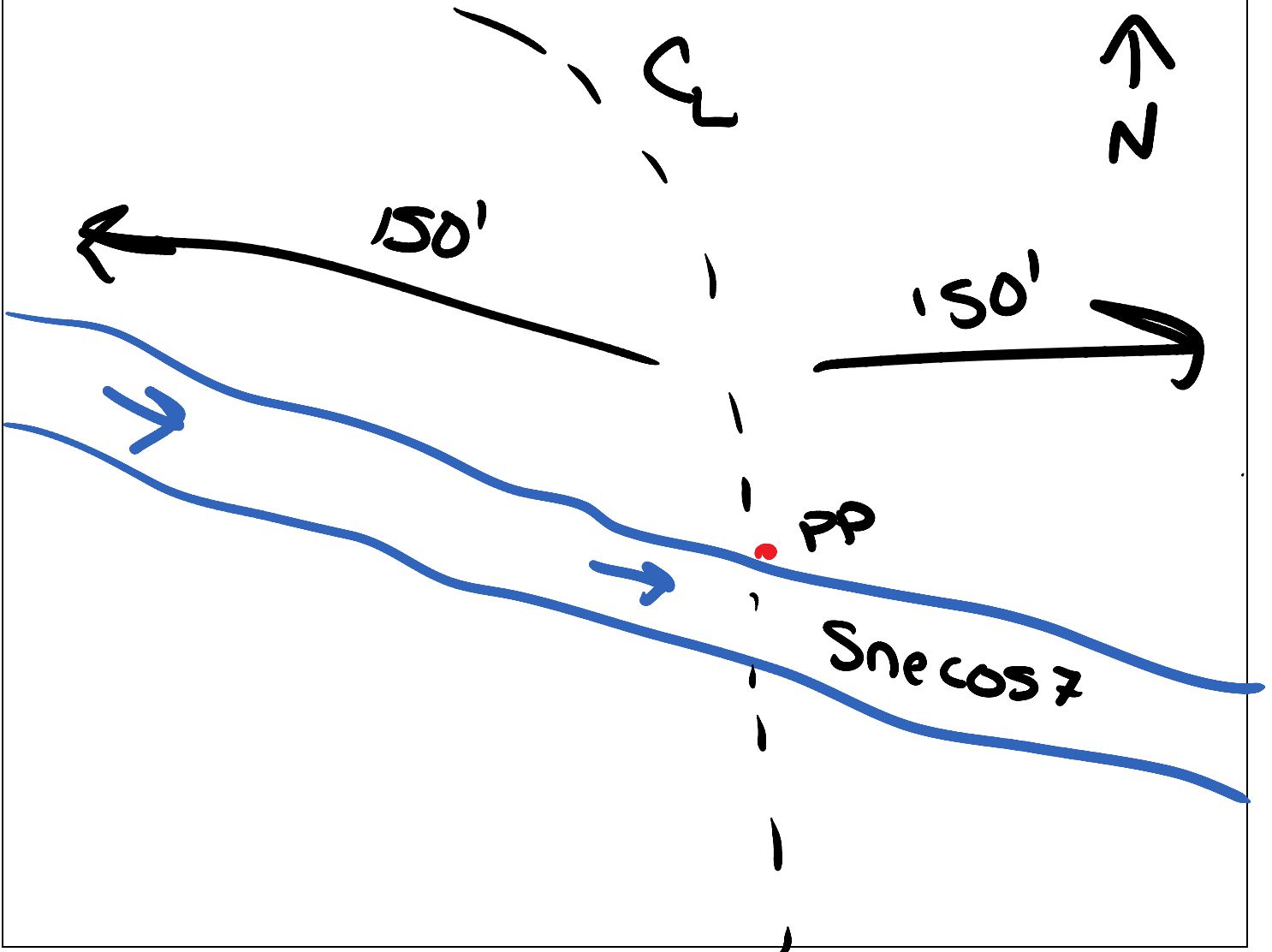
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEC057 facing northwest upstream



Waterbody SNEC057 facing southeast downstream



Waterbody SNEC057 facing southwest across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: Dutch Creek	
Waterbody ID: SNEC056		Date: 12/16/2015	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, SA
Photos: 1-3			
Tract Number(s): 08-086-A036		Nearest Milepost: 172	Associated Wetland ID(s): None
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: <u>30</u> ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: <u>2</u> ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: <u>40</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>10</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>27</u> ft.	Depth of Water: <i>(Approx.)</i> <u>1</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> <u>1.5</u> fps	Bank height Right: <u>3.5</u> ft. Left: <u>8</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Bank slope Right: <u>70</u> degrees Left: <u>85</u> degrees			
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: <u>5</u> % <u> </u> % <u>5</u> % <u>90</u> % <u> </u> % <u> </u> % <u> </u> %			
Width of Riparian Zone: <u>50</u> ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> <u>18</u> in. <u>2</u> in.	
Dominant Bank Vegetation <i>(list)</i> : Sweet-gum, sycamore, japanese honeysuckle, red maple			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Riffle, pools, leaf packs, overhanging banks			
Aquatic Organisms Observed <i>(list)</i> : Fish, water striders			
T&E Species Observed <i>(list)</i> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Flows under railroad tracks upstream			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Snec056

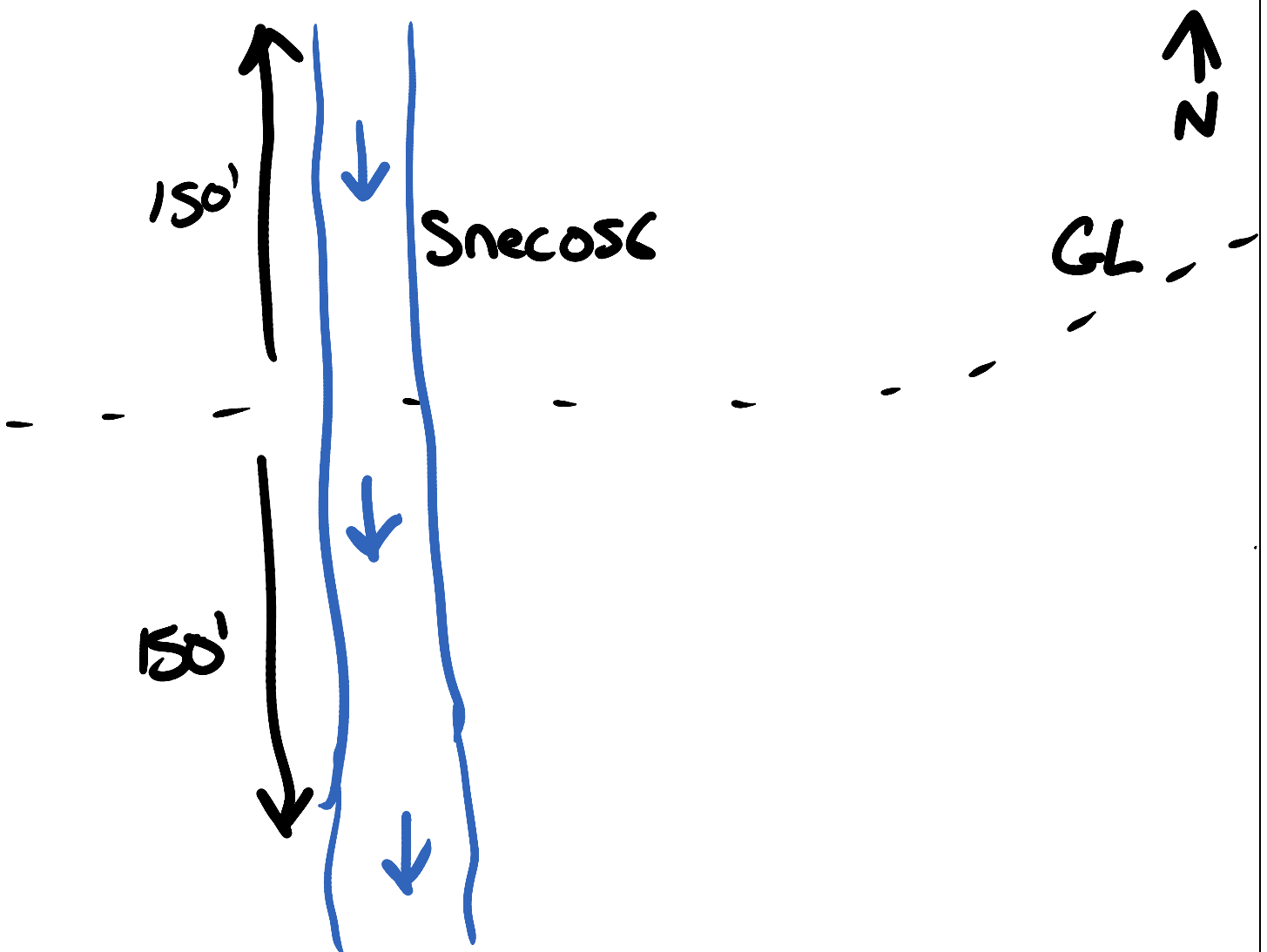
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEC056 facing northwest upstream



Waterbody SNEC056 facing southeast downstream



Waterbody SNEC056 facing northeast across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Dutch Creek	
Waterbody ID: Snee201		Date: 4/27/2016	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CG, SA
Photos: 1-3			
Tract Number(s): 08-086-A094		Nearest Milepost: 175.8	Associated Wetland ID(s): none
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: <u>10</u> ft.		OHWM Indicator: <i>(check all that apply)</i> <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: <u>2</u> ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: <u>15</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>5</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>9</u> ft.	Depth of Water: <i>(Approx.)</i> <u>1</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> <u>1</u> fps	Bank height: Right: <u>3</u> ft. Left: <u>3</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Bank slope: Right: <u>60</u> degrees Left: <u>60</u> degrees			
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% <u>15</u> % <u>30</u> % <u>20</u> % <u>30</u> % <u>5</u> % _____% _____%			
Width of Riparian Zone: <u>50</u> ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> <u>8</u> in. <u>1</u> in.	
Dominant Bank Vegetation <i>(list)</i> : Witch hazel, jewelweed, fern, tulip tree, beech, maple			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Riffles, pools, overhanging banks, large woody debris			
Aquatic Organisms Observed <i>(list)</i> : Insects, minnows			
T&E Species Observed <i>(list)</i> : none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ² : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Snee201

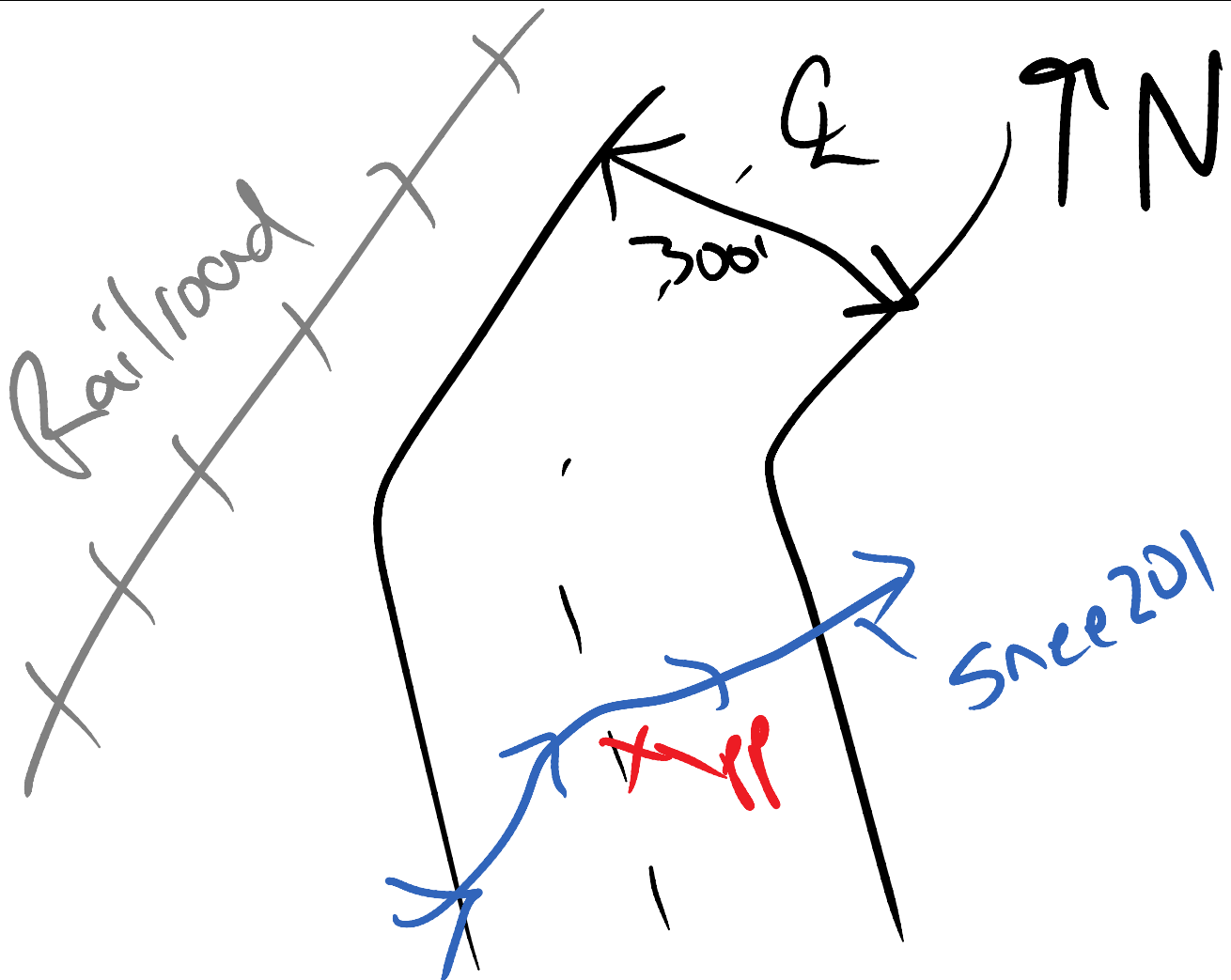
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEE201 facing west upstream



Waterbody SNEE201 facing east downstream



Waterbody SNEE201 facing north across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: Dutch Creek	
Waterbody ID: Snee200		Date: 4/18/2016	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CG, JS
Photos: 1-3			
Tract Number(s): 08-086-A112		Nearest Milepost: 176.2	Associated Wetland ID(s): none
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 10 ft.		OHWM Indicator: <i>(check all that apply)</i>	
Height: 2 ft.		<input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
N/A <input type="checkbox"/>		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: 25 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 8 ft.	Width of Waterbody - Water Edge to Water Edge: 8 ft.	Depth of Water: <i>(Approx.)</i> 0.3 ft.
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 1 fps	Bank height Right: 4 ft. Left: 7 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	Bank slope Right: 80 degrees Left: 45 degrees
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i>			
% of Substrate: <input checked="" type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
Width of Riparian Zone: 25 ft.		Vegetative Layers: <i>(check all that apply)</i>	
N/A <input type="checkbox"/>		<input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
Avg. DBH of Dominants: <i>(approx.)</i>		15 in. 1 in.	
Dominant Bank Vegetation <i>(list)</i> : Autumn olive, sedges, ferns, tuliptree			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Step pools, riffles, overhanging roots			
Aquatic Organisms Observed <i>(list)</i> : insects			
T&E Species Observed <i>(list)</i> : none			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Adjacent to road			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Snee200

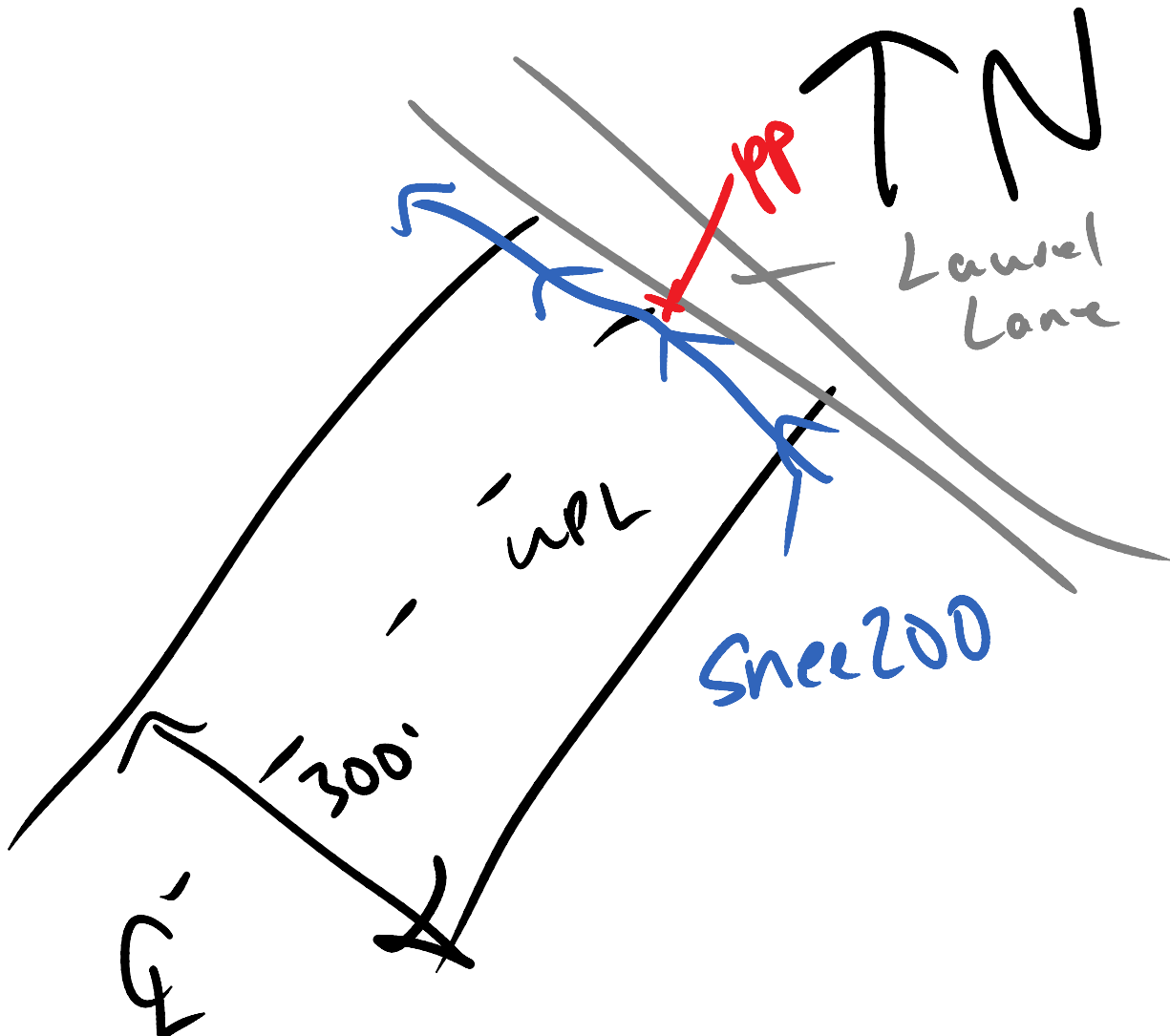
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEE200 facing southeast upstream



Waterbody SNEE200 facing northwest downstream



Waterbody SNEE200 facing southwest across

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: Buffalo Creek	
Waterbody ID: snea001		Date: 10/14/2014	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: GB, LE
Photos: 3 photos			
Tract Number(s): 08-210		Nearest Milepost: 177.7	Associated Wetland ID(s): none
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 16.0 ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
Height: 3.0 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 20.0 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 9.0 ft.	Width of Waterbody - Water Edge to Water Edge: 15.0 ft.	Depth of Water: <i>(Approx.)</i> 2.5 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> 0.25 fps	
N/A <input type="checkbox"/>		Bank height: Right: 9.0 ft. Left: 9.0 ft.	
		Bank slope: Right: 85 degrees Left: 80 degrees	
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% _____% 15% 20% 30% 35% _____% _____%			
Width of Riparian Zone: 150 ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input checked="" type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> 10.0 in. 1.0 in.	
Dominant Bank Vegetation <i>(list)</i> : Yellow poplar, black walnut, red cedar, red maple, spicebush, alder, autumn olive, wing stem, raspberry, Japanese honeysuckle, Christmas fern, burning bush, multiflora rose			
Aquatic Habitats <i>(ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools)</i> : Pools, debris piles, overhanging banks and roots, riffles below beaver dams			
Aquatic Organisms Observed <i>(list)</i> : Fish, frog, crayfish, beaver			
T&E Species Observed <i>(list)</i> : none			
Disturbances <i>(ex: livestock access, manure in waterbody, waste discharge pipes)</i> : Hayfield to northwest, selectively logged mixed hardwoods to southeast, multiple beaver dams			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

^a **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.

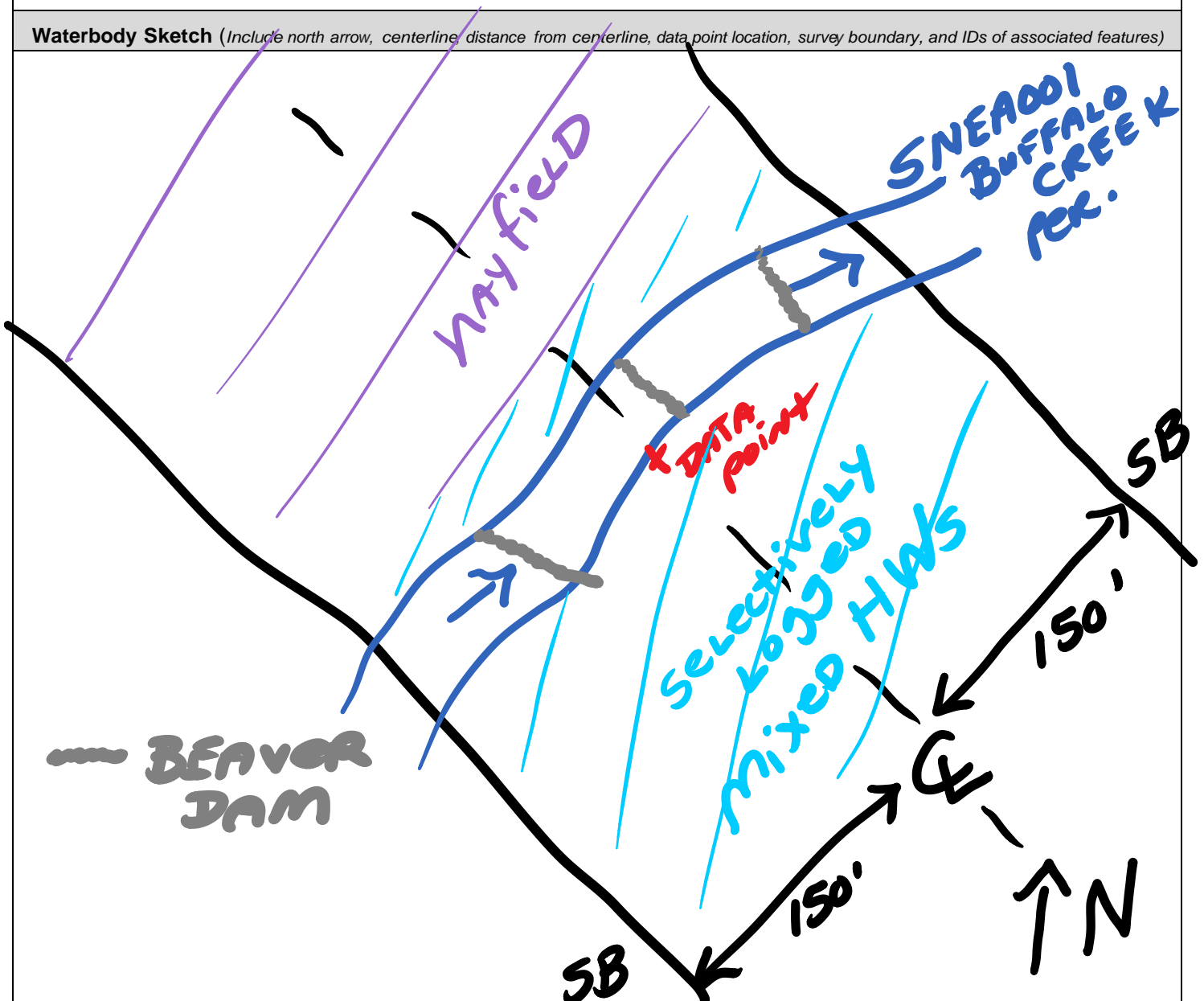
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

Buffalo Creek, continues out of corridor in both directions; beavers have a series of dams within corridor.

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



Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: Buffalo Creek	
Waterbody ID: SNEA001		Date: 11/4/2014	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, CG
Photos: 3			
Tract Number(s): 08-210		Nearest Milepost: 178	Associated Wetland ID(s): None
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: <u>12</u> ft.		OHWM Indicator: <i>(check all that apply)</i> <input type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
OHWM Height: <u>2</u> ft.		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: <u>18</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>3</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>8</u> ft.	Depth of Water: <i>(Approx.)</i> <u>0.8</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> <u>1.5</u> fps	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
		Bank height Right: <u>4</u> ft. Left: <u>7</u> ft.	
		Bank slope Right: <u>70</u> degrees Left: <u>90</u> degrees	
Bank slope			
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i>			
% of Substrate: _____% _____% <u>50</u> % <u>20</u> % <u>20</u> % <u>10</u> % _____% _____%			
Width of Riparian Zone: <u>30</u> ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> <u>10</u> in. <u>2</u> in.	
Dominant Bank Vegetation <i>(list)</i> : Green Ash, White Oak, Sugar Maple, American Elm, Christmas Fern			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Overhanging roots and rock piles, leaf packs, riffles			
Aquatic Organisms Observed <i>(list)</i> : None			
T&E Species Observed <i>(list)</i> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

SNEA001

^a **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.

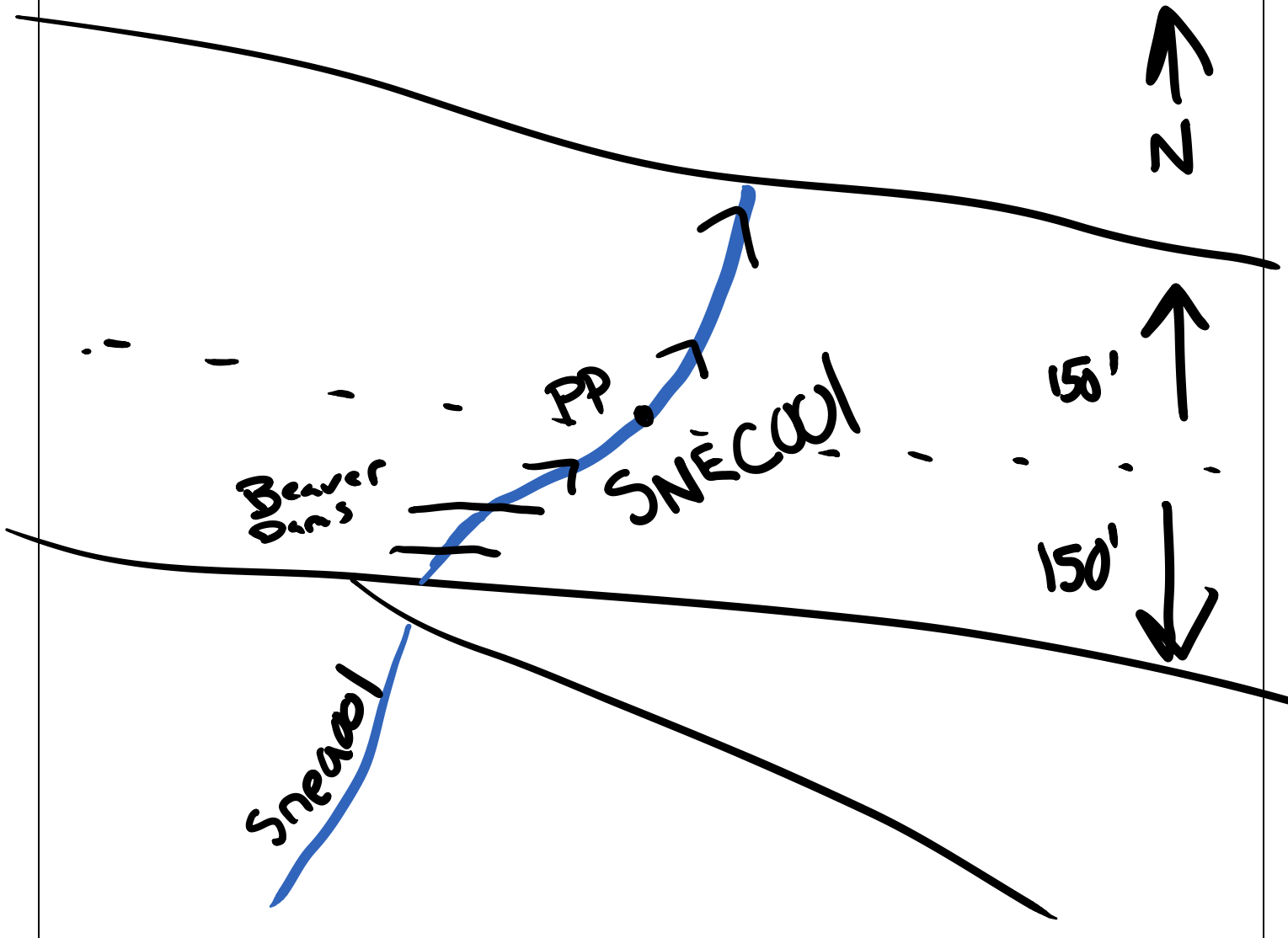
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 recent beaver activity upstream including the construction of a beaver dam which has altered the hydrology. Team C did not call this an extension because the rerouted corridor had shifted 170 feet NE of where SNEA001 was taken by Team A. This is now part of SNEA001.

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





Waterbody SNEA001 facing southwest upstream



Waterbody SNEA001 facing northeast downstream



Waterbody SNEA001 facing northwest across



Waterbody SNEA001 facing south upstream



Waterbody SNEA001 facing east downstream



Waterbody SNEA001 facing southeast across stream

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Buffalo Creek		Waterbody ID: SNEC002
Date: 11/4/2014				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, CG	Photos: 3
Tract Number(s): Unnamed tract between 08-210 & 08-214-A004		Nearest Milepost: 178.1	Associated Wetland ID(s): None	
Survey Type: (check one) <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 7 ft.		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: 1.5 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 13 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 3 ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 4 ft.	Depth of Water: (Approx.) N/A <input type="checkbox"/> 0.5 ft.	
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: (Approx.) 0.1 fps N/A <input type="checkbox"/>	Bank height Right: 2 ft. Left: 5 ft.	Bank slope Right: 70 degrees Left: 90 degrees	
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% _____% 80% 10% 10% _____%				
Width of Riparian Zone: 30 ft. N/A <input type="checkbox"/>	Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input type="checkbox"/> Herbs			
Avg. DBH of Dominants: (approx.) 8 in. 2 in.				
Dominant Bank Vegetation (list): American Beech, Sycamore, White Oak, Red Clover, Red Maple				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Overhanging roots, leaf packs, submerged woody debris (4-6 in diameter)				
Aquatic Organisms Observed (list): Minnows, Water Skimmers				
T&E Species Observed (list): None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): 4 foot diameter pipe located just upstream of the data point which has a logging road going over top of it				
Tributary is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:
SNEC002

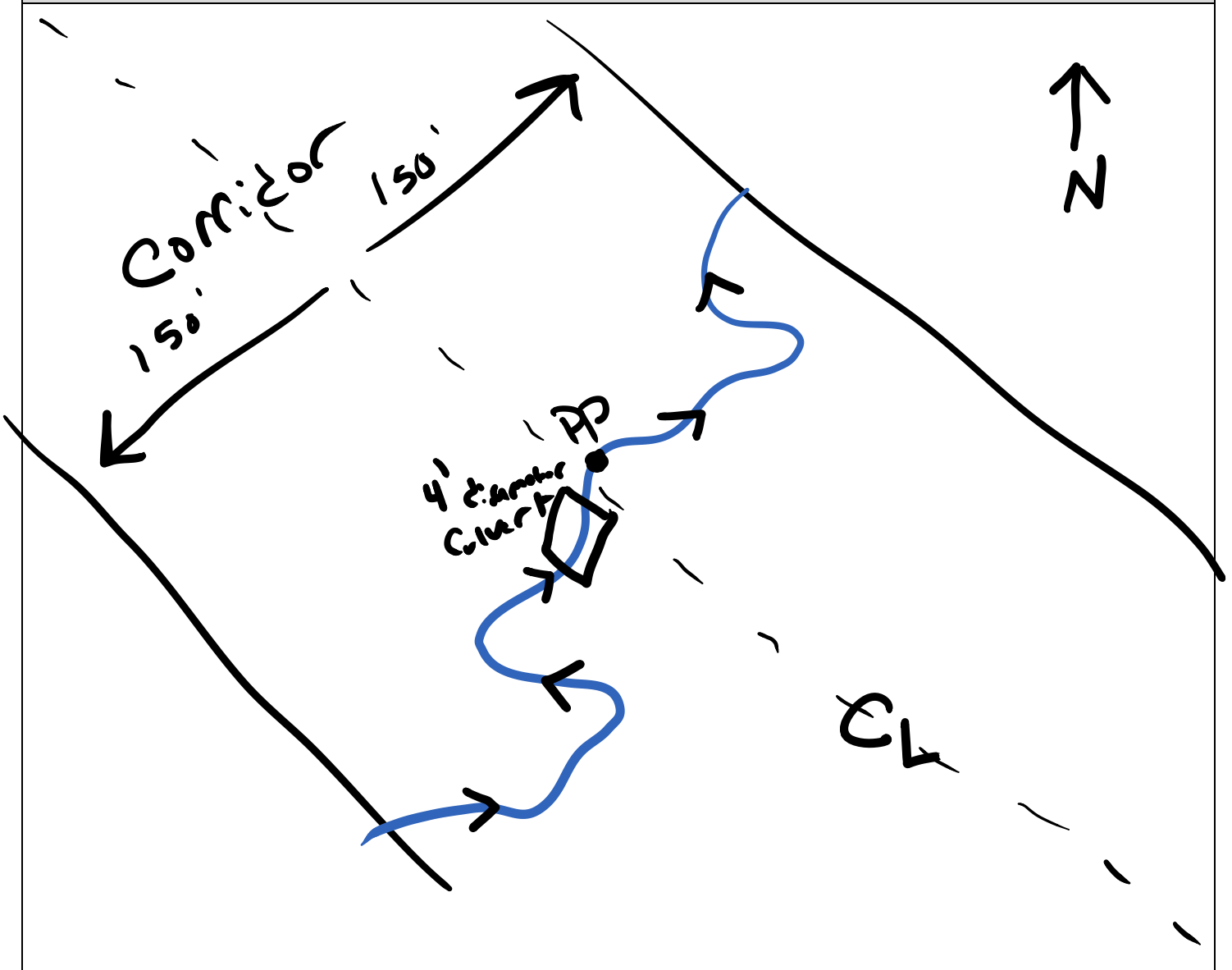
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEC002 facing south upstream



Waterbody SNEC002 facing northeast downstream



Waterbody SNEC002 facing west across stream

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Buffalo Creek		Waterbody ID: SNEC003
Date: 11/4/2014				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, CG	Photos: 3
Tract Number(s): Unnamed tract between 08-210 and 08-214-A002		Nearest Milepost: 178.5	Associated Wetland ID(s): None	
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 1.5 ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
OHWM Height: 0.3 ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: 2 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 1 ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> _____ ft.	Depth of Water: <i>(Approx.)</i> _____ ft.	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> _____ fps	Bank height Right: 1.5 ft. Left: 1.5 ft.	
N/A <input checked="" type="checkbox"/>		Bank slope Right: 70 degrees Left: 70 degrees		
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% 20% _____% 10% 70% _____% _____%				
Width of Riparian Zone: 5 ft.	Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input type="checkbox"/> Herbs			
N/A <input type="checkbox"/>	Avg. DBH of Dominants: <i>(approx.)</i> 10 in. 2 in.			
Dominant Bank Vegetation <i>(list)</i> : Black gum, tulip poplar, sycamore, Christmas fern, grape vine				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Overhanging roots				
Aquatic Organisms Observed <i>(list)</i> : None				
T&E Species Observed <i>(list)</i> : None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:
SNEC003

^a **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.

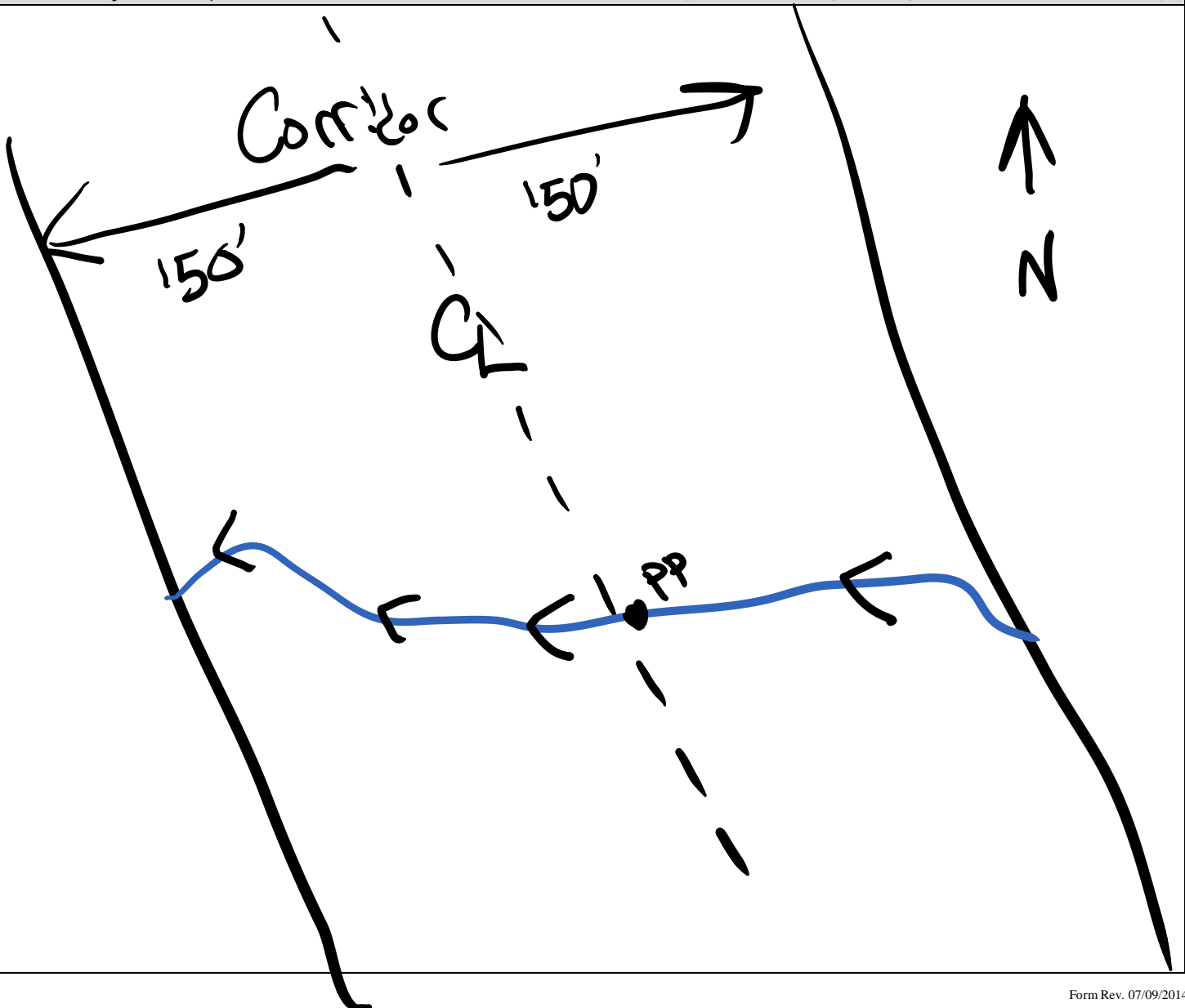
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 weakly intermittent and it receives groundwater from a seep just outside the corridor. The stream becomes more strongly intermittent downstream of the centerline due to increased inputs of groundwater.

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





Waterbody SNEC003 facing east upstream



Waterbody SNEC003 facing west downstream



Waterbody SNEC003 facing northeast across stream

Linear Waterbody Data Sheet

Survey Description				
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Mayo Creek		Waterbody ID: SNEC004
Date: 11/5/2014				
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, CG	Photos: 3
Tract Number(s): 08-214-A007		Nearest Milepost: 179	Associated Wetland ID(s): None	
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: _ 3 _ ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
Height: _ 0.5 _ ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>				
Width of Waterbody - Top of Bank to Top of Bank: _ 5 _ ft.	Width of Waterbody - Toe of Slope to Toe of Slope: _ 1 _ ft.	Width of Waterbody - Water Edge to Water Edge: _____ ft. N/A <input checked="" type="checkbox"/>	Depth of Water: <i>(Approx.)</i> _____ ft. N/A <input checked="" type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: <i>(Approx.)</i> _____ fps N/A <input checked="" type="checkbox"/>	Bank height Right: _ 1 _ ft. Left: _ 1.5 _ ft.	Bank slope Right: _ 70 _ degrees Left: _ 70 _ degrees	
Qualitative Attributes				
Water Appearance: <i>(check one)</i> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____ % _____ % _____ % <u>20</u> % <u>70</u> % <u>10</u> % _____ % _____ %				
Width of Riparian Zone: _ 20 _ ft. N/A <input type="checkbox"/>	Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs			
Avg. DBH of Dominants: <i>(approx.)</i> <u>10</u> in. <u>2</u> in.				
Dominant Bank Vegetation <i>(list)</i> : Red Maple, Red Maple, Tulip Poplar, Chestnut Oak, Common Smilax, Southern Lady Fern				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs and overhanging roots				
Aquatic Organisms Observed <i>(list)</i> : None				
T&E Species Observed <i>(list)</i> : None				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Logging operations occurring about 200 upslope of the stream which likely leads to increased input of runoff				
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:
SNEC004

^a **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.

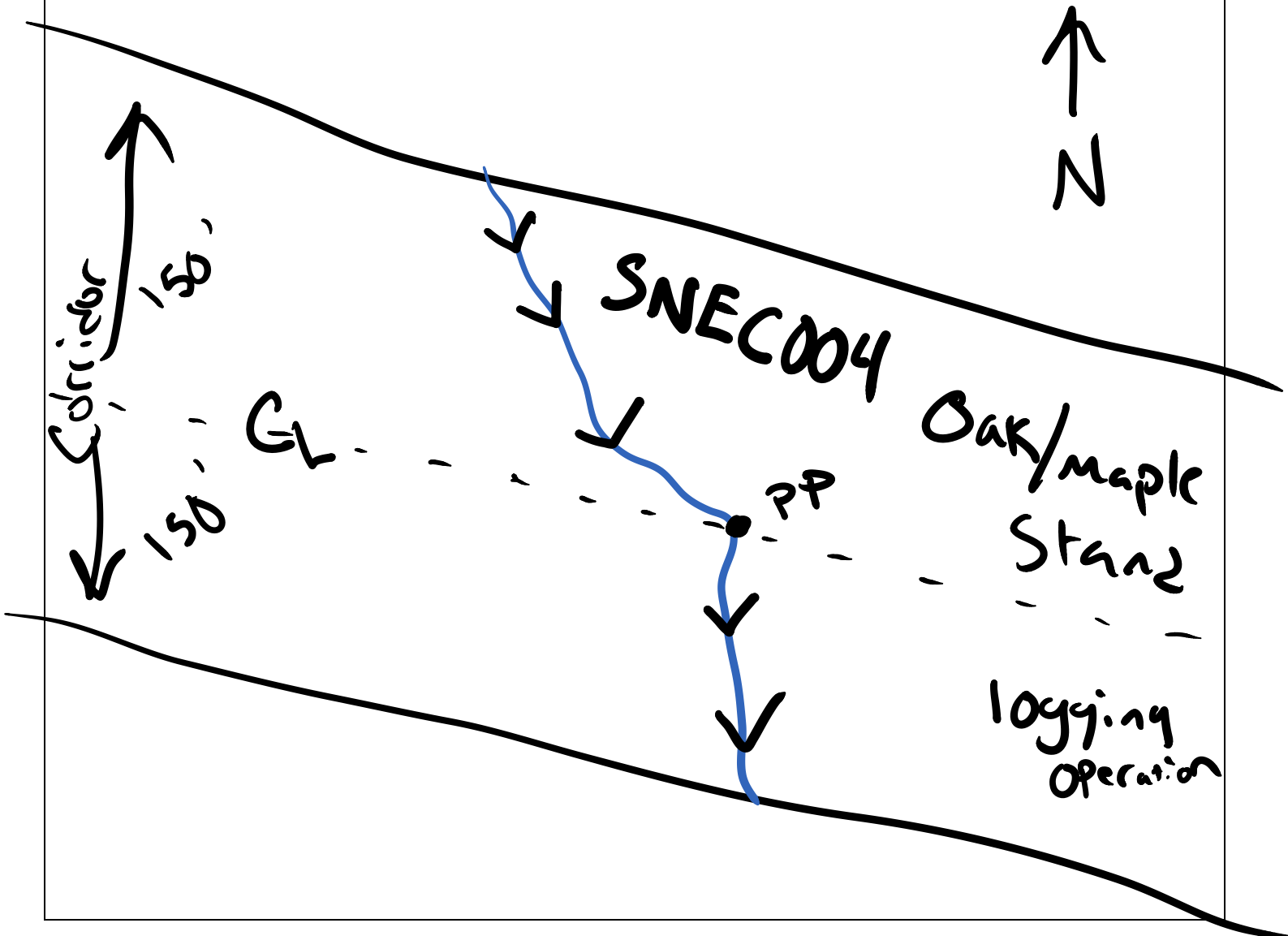
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

Is present in deep pools within the channel and some cobble is present.

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





Waterbody SNEC004 facing north upstream



Waterbody SNEC004 facing southeast downstream



Waterbody SNEC004 facing east across stream

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: Mayo Creek	
Waterbody ID: SNEC005		Date: 11/5/2014	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, CG
Photos: 3			
Tract Number(s): 08-214-A007		Nearest Milepost: 179.45	Associated Wetland ID(s): None
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: <u>10</u> ft.		OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
Height: <u>1.5</u> ft.		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: <u>13</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>3</u> ft.	Width of Waterbody - Water Edge to Water Edge: <u>5</u> ft.	Depth of Water: <i>(Approx.)</i> <u>0.8</u> ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <i>(Approx.)</i> <u>0.5</u> fps	
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>	
		Bank height Right: <u>2</u> ft. Left: <u>3</u> ft.	
		Bank slope Right: <u>50</u> degrees Left: <u>90</u> degrees	
Bank slope			
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:			
% of Substrate: _____% _____% <u>10</u> % <u>50</u> % <u>30</u> % <u>10</u> % _____% _____%			
Width of Riparian Zone: <u>50</u> ft.		Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs	
N/A <input type="checkbox"/>		Avg. DBH of Dominants: <i>(approx.)</i> <u>12</u> in. <u>2</u> in.	
Dominant Bank Vegetation <i>(list)</i> : Sycamore, Red Maple, Basswood, Red Oak, Christmas Fern, Common Smilax, Southern Lady Fern			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Overhanging roots, leaf packs, riffles			
Aquatic Organisms Observed <i>(list)</i> : Minnows, Water Strikers, tadpoles			
T&E Species Observed <i>(list)</i> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None			
Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:
SNEC005

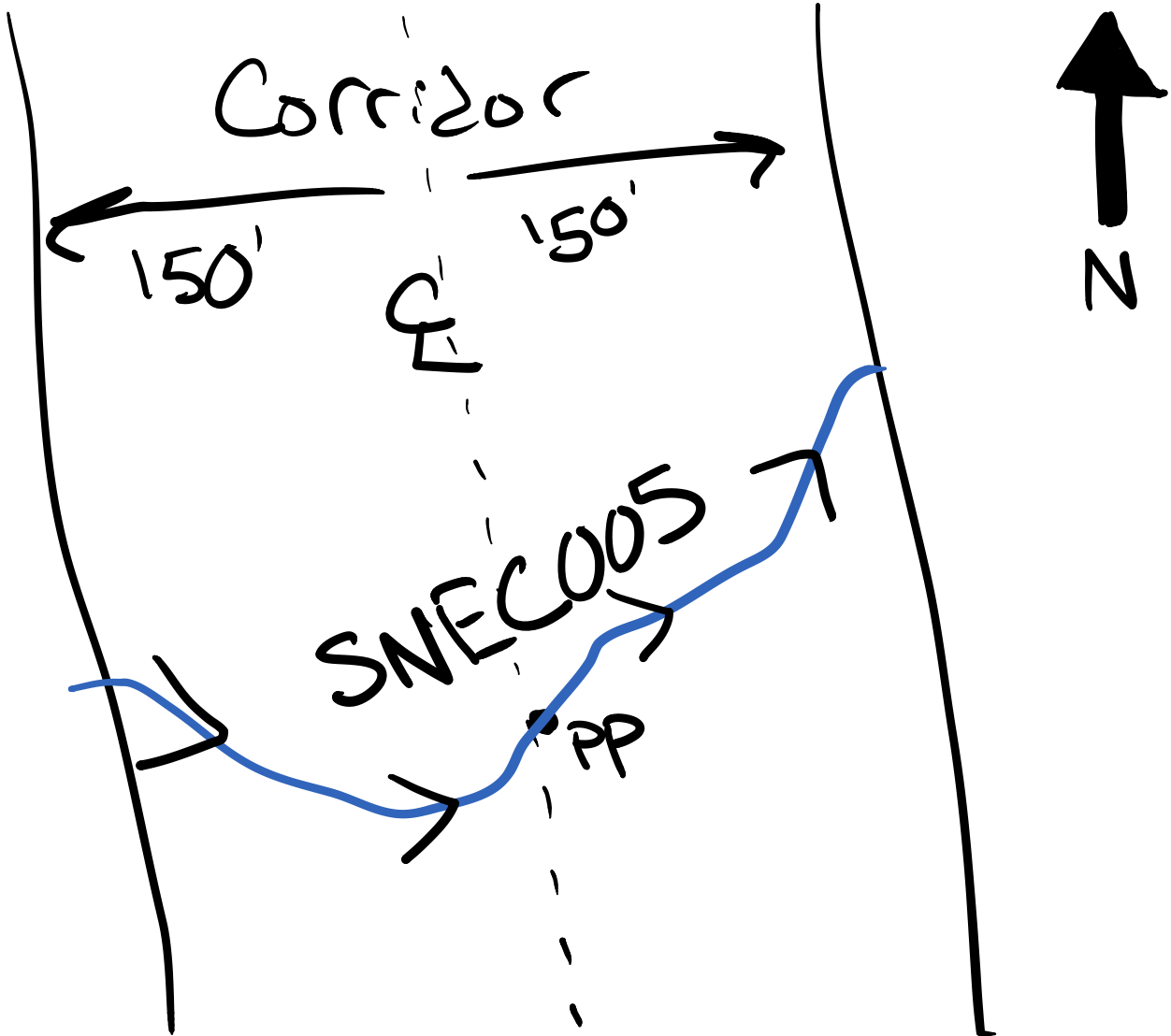
^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

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





Waterbody SNEC005 facing southwest upstream



Waterbody SNEC005 facing east downstream



Waterbody SNEC005 facing southeast across stream

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Mayo Creek	
Waterbody ID: SNEC006		Date: 11/5/2014	
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: CR, CG
Photos: 3			
Tract Number(s): 08-214-A007		Nearest Milepost: 180.08	Associated Wetland ID(s): None
Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: _ 5 _ ft.		OHWM Indicator: <i>(check all that apply)</i>	
Height: _ 0.8 _ ft.		<input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
N/A <input type="checkbox"/>		<input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: _ 7 _ ft.	Width of Waterbody - Toe of Slope to Toe of Slope: _ 2 _ ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> _ 4 _ ft.	Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> _ 0.5 _ ft.
Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: <i>(Approx.)</i> _ 0 _ fps N/A <input type="checkbox"/>	Bank height Right: _ 2 _ ft. Left: _ 3 _ ft.	Bank slope Right: _ 90 _ degrees Left: _ 90 _ degrees
Qualitative Attributes			
Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <i>(check all that apply)</i>			
% of Substrate: _____ % _____ % <u>10</u> % _____ % <u>10</u> % <u>80</u> % _____ % _____ %			
Width of Riparian Zone: _ 30 _ ft. N/A <input type="checkbox"/>	Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs		
Avg. DBH of Dominants: <i>(approx.)</i> _ 8 _ in. _ 2 _ in.			
Dominant Bank Vegetation <i>(list)</i> : Red Oak, Tulip Poplar, White Oak, Red Maple, American Elm, Christmas Fern, Southern Lady Fern			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Overhanging roots			
Aquatic Organisms Observed <i>(list)</i> : None			
T&E Species Observed <i>(list)</i> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): 3 foot wide culvert is located about 50 north of the data point. Above the culvert is a logging road.			
Tributary is: <i>(check one)</i> <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated			
Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:
SNEC006

^a **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.

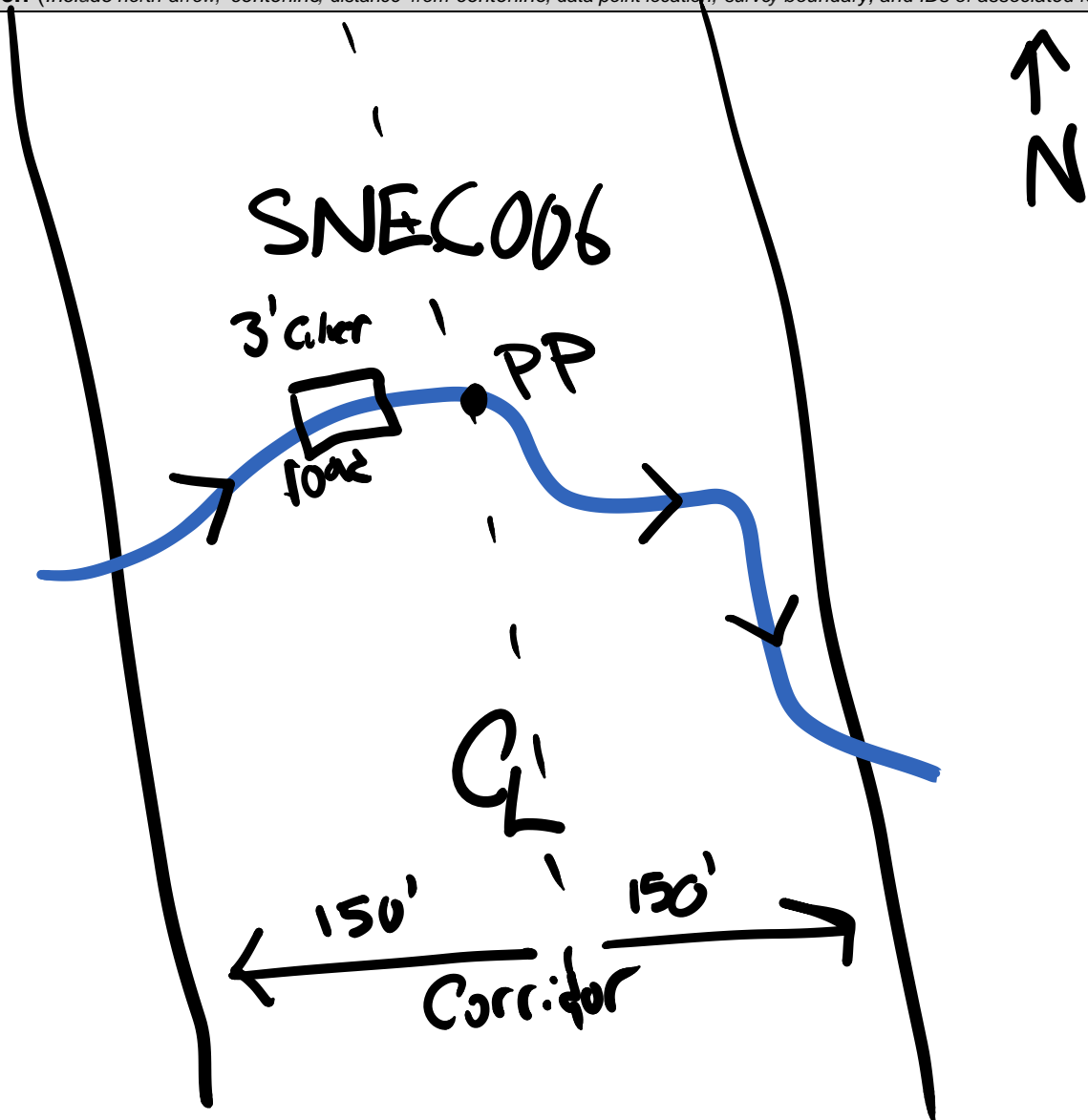
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 appears to have been rerouted as a result of the construction of the logging road and the culvert. The channel as mapped by NHD is still visible but flow is now routed through the culvert.

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





Waterbody SNEC006 facing northwest upstream



Waterbody SNEC006 facing southeast downstream



Waterbody SNEC006 facing southwest across stream

Linear Waterbody Data Sheet

Survey Description				
Project Name: ACP	Waterbody Name: UNT to Mayo Creek	Waterbody ID: snep002	Date: 7/14/15	
State: VA	County/Parish: Nelson	Company: ESI	Crew Member Initials: RT, LR	Photos: Facing N, E, W
Tract Number(s): 08-214-A007.AR		Nearest Milepost: NA	Associated Wetland ID(s): Wnep001	
Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: (check one) <input checked="" type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>4</u> ft. Height: <u>1</u> ft. N/A <input type="checkbox"/>		OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: <u>5</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>4</u> ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>4</u> ft.	Depth of Water: (Approx.) N/A <input type="checkbox"/> <u>0.5</u> ft.	
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering	Water velocity: (Approx.) <u><1</u> fps N/A <input type="checkbox"/>	Bank height Right: <u>1</u> ft. Left: <u>1</u> ft.	Bank slope Right: <u>75</u> degrees Left: <u>90</u> degrees	
Qualitative Attributes				
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) % of Substrate: _____ % _____ % _____ % _____ % <u>30</u> % <u>70</u> % _____ % _____ %				
Width of Riparian Zone: <u>30</u> ft. N/A <input type="checkbox"/>	Vegetative Layers: (check all that apply) Avg. DBH of Dominants: (approx.) <u>10</u> in. <u>2</u> in. <u>NA</u> in.			
Dominant Bank Vegetation (list): Athyrium asplenoides, Fagus grandifolia				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roofs, leaf packs, large submerged wood, riffles, deep pools): leaf packs				
Aquatic Organisms Observed (list): none observed				
T&E Species Observed (list): none observed				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none observed				
Tributary is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality *: (check one) <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

snep002

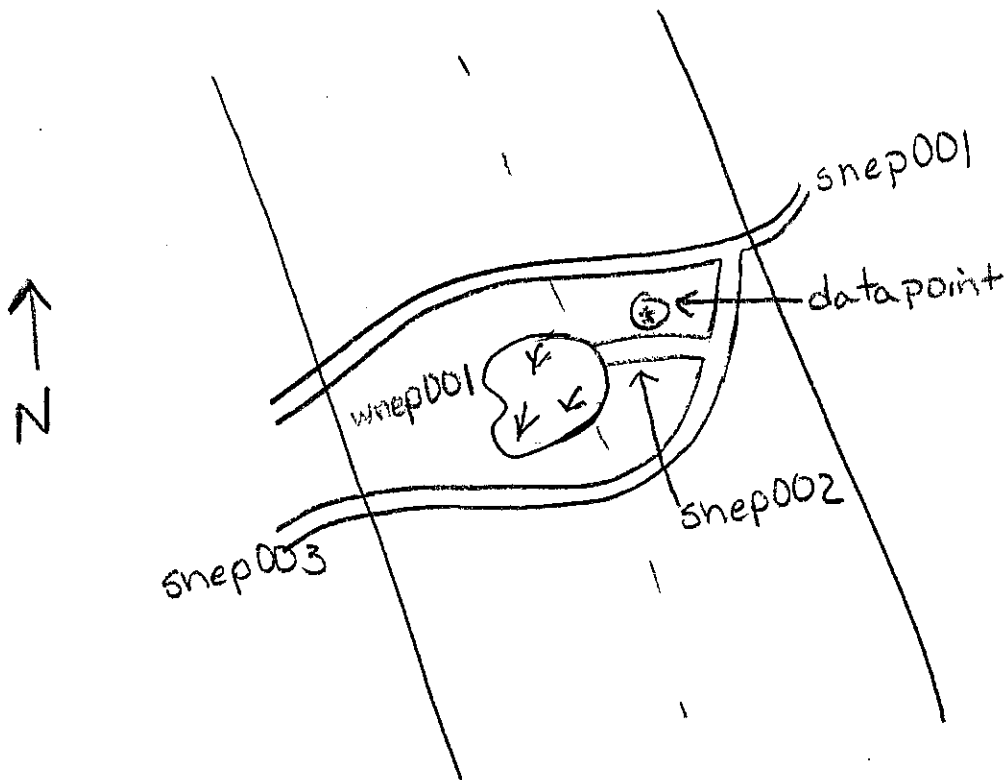
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody snep002 facing southwest upstream.



Waterbody snep002 facing northeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody snep002 facing northwest across bank.

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: 4NT to Mayo Creek	Waterbody ID: snep001	Date: 7/14/15
State: VA	County/Parish: Nelson	Company: ESI	Crew Member Initials: RT, LR
Photos: SW, NE, SE		Tract Number(s): 08-214-A007.AR	Nearest Milepost: NA
Associated Wetland ID(s): wnep001			
Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWB Width: 3 ft.	OHWB Height: 1.5 ft.	OHWM Indicator: (check all that apply) <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining	
N/A <input type="checkbox"/>		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change	
Width of Waterbody - Top of Bank to Top of Bank: 5 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 3 ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 2 ft.	Depth of Water: (Approx.) N/A <input type="checkbox"/> 1 ft.
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: (Approx.) N/A <input type="checkbox"/> < 1 fps	Bank height Right: 2 ft. Left: 2 ft.	Bank slope Right: 90 degrees Left: 90 degrees
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____ % _____ % _____ % 30 % 30 % 40 % _____ % _____ %			
Width of Riparian Zone: N/A <input type="checkbox"/> 40 ft.	Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: 10 in. <input checked="" type="checkbox"/> Saplings/Shrubs: 1 in. <input checked="" type="checkbox"/> Herbs: NA in.		
Dominant Bank Vegetation (list): Fagus grandifolia			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): leaf packs, overhanging banks			
Aquatic Organisms Observed (list): none observed			
T&E Species Observed (list): none observed			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none observed			
Tributary is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality: (check one) <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

snep001

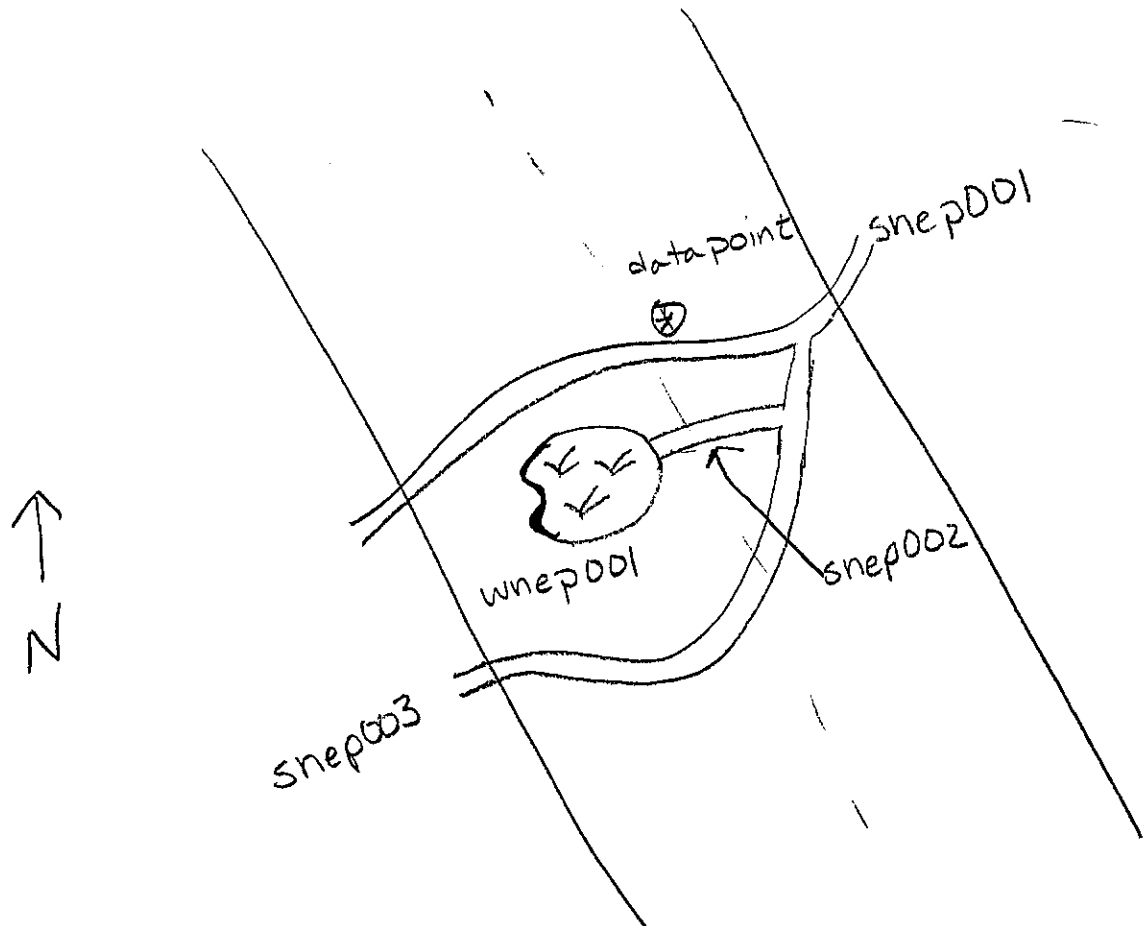
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody snep001 facing southwest upstream.



Waterbody snep001 facing northeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody snep001 facing southeast across bank.

Linear Waterbody Data Sheet

Survey Description				
Project Name: ACP		Waterbody Name: 4NT to Mayo Creek		Waterbody ID: snep003
Date: 7/14/15				
State: VA	County/Parish: Nelson	Company: ESI	Crew Member Initials: RT, LR	Photos: Facing N, E, W
Tract Number(s): 8-214-A007, AR		Nearest Milepost: NA	Associated Wetland ID(s): wnep001	
Survey Type: <small>(check one)</small>				
<input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <small>(check one)</small>				
<input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <small>(check one)</small>				
<input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 2 ft.		OHWM Indicator: <small>(check all that apply)</small>		
Height: 0.5 ft.		<input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
N/A <input type="checkbox"/>		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: 3 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 1.5 ft.		Depth of Water: <small>(Approx.)</small> 0.5 ft.
Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 1 ft.		N/A <input type="checkbox"/>		
Sinuosity: <small>(check one)</small>		Water velocity: <small>(Approx.)</small>		Bank height
<input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		<1 fps N/A <input type="checkbox"/>		Right: 1 ft. Left: 1 ft.
				Bank slope Right: 60 degrees Left: 60 degrees
Qualitative Attributes				
Water Appearance: <small>(check one)</small>				
<input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <small>(check all that apply)</small>				
<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% 30 % 20 % 50 % _____% _____%				
Width of Riparian Zone: 20 ft.		Vegetative Layers: <small>(check all that apply)</small>		
N/A <input type="checkbox"/>		<input checked="" type="checkbox"/> Trees: 8 in. <input checked="" type="checkbox"/> Saplings/Shrubs: 3 in. <input checked="" type="checkbox"/> Herbs: NA in.		
Avg. DBH of Dominants: <small>(approx.)</small>				
8 in. 3 in. NA in.				
Dominant Bank Vegetation <small>(list)</small> : Fagus grandifolia, Acer rubrum				
Aquatic Habitats <small>(ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools)</small> : leaf packs, overhanging banks				
Aquatic Organisms Observed <small>(list)</small> : none observed				
T&E Species Observed <small>(list)</small> : none observed				
Disturbances <small>(ex: livestock access, manure in waterbody, waste discharge pipes)</small> : none observed				
Tributary is: <small>(check one)</small>				
<input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality: <small>(check one)</small>				
<input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

snep003

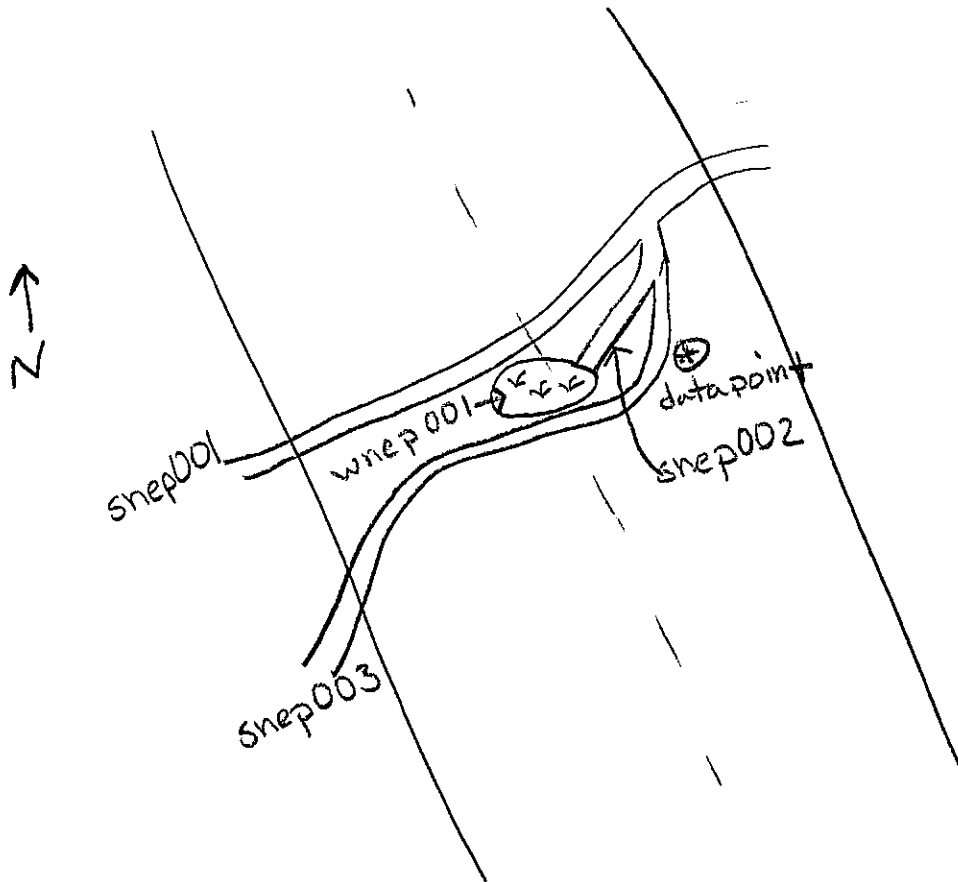
* High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody snep003 facing south upstream.



Waterbody snep003 facing north downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody snep003 facing east across bank.

Linear Waterbody Data Sheet

Survey Description				
Project Name: ACP		Waterbody Name: UNT to Mayo Creek		Waterbody ID: snep004
Date: 7/14/15				
State: VA	County/Parish: Nelson	Company: ESI	Crew Member Initials: RT, LR	Photos: N, S, W
Tract Number(s): 08-214-B003		Nearest Milepost: NA	Associated Wetland ID(s): NA	
Survey Type: <small>(check one)</small> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <small>(check one)</small> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 4 ft.		OHWM Indicator: <small>(check all that apply)</small>		
Height: 0.5 ft.		<input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
N/A <input type="checkbox"/>		<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: 6 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 3 ft.		Depth of Water: <small>(Approx.)</small> 0.5 ft.
Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 1 ft.		N/A <input type="checkbox"/>		
Sinuosity: <small>(check one)</small> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: <small>(Approx.)</small> <1 fps		Bank height Right: 3 ft. Left: 3 ft.
N/A <input type="checkbox"/>		N/A <input type="checkbox"/>		Bank slope Right: 60 degrees Left: 60 degrees
Qualitative Attributes				
Water Appearance: <small>(check one)</small> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <small>(check all that apply)</small> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% 20 % 20 % 60 % _____% _____%				
Width of Riparian Zone: 20 ft.		Vegetative Layers: <small>(check all that apply)</small>		
N/A <input type="checkbox"/>		<input checked="" type="checkbox"/> Trees: 12 in. <input checked="" type="checkbox"/> Saplings/Shrubs: 1 in. <input checked="" type="checkbox"/> Herbs: NA in.		
Avg. DBH of Dominants: <small>(approx.)</small>				
Dominant Bank Vegetation (list): Polystichum acrostichoides, Fagus grandifolia				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roofs, leaf packs, large submerged wood, riffles, deep pools): leaf packs				
Aquatic Organisms Observed (list): unknown frogs				
T&E Species Observed (list): none observed				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none observed				
Tributary is: <small>(check one)</small> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality*: <small>(check one)</small> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

shp004

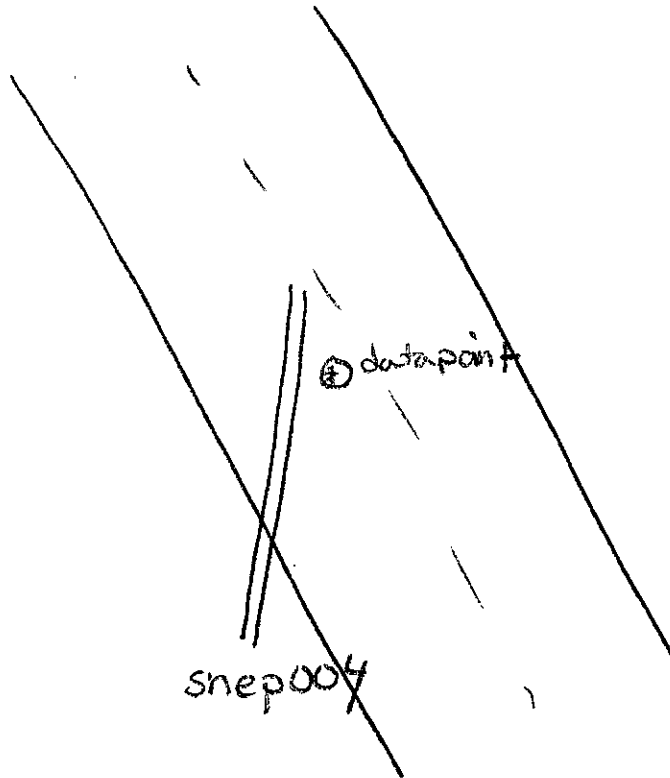
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody snep004 facing north upstream.



Waterbody snep004 facing south downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody snep004 facing west across bank.

Linear Waterbody Data Sheet

Survey Description			
Project Name: ACP	Waterbody Name: 4NT to Mayo Creek	Waterbody ID: snep005	Date: 7/15/15
State: VA	County/Parish: Nelson	Company: ESI	Crew Member Initials: RT,LR
Tract Number(s): 08-214-8004		Nearest Milepost: NA	Associated Wetland ID(s): NA
Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial			
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: 2 ft.	OHWM Indicator: (check all that apply)	<input checked="" type="checkbox"/> Clear line on bank	<input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining
Height: 0.5 ft.	<input type="checkbox"/> Bent, matted, or missing vegetation	<input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris	<input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: 3 ft.	Width of Waterbody - Toe of Slope to Toe of Slope: 2 ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 1 ft.	Depth of Water: (Approx.) N/A <input type="checkbox"/> 0.5 ft.
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: (Approx.) 41 fps	Bank height Right: 10 ft. Left: 1 ft.	Bank slope Right: 80 degrees Left: 80 degrees
N/A <input type="checkbox"/>	N/A <input type="checkbox"/>		
Qualitative Attributes			
Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: (check all that apply)			
% of Substrate: <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: _____ % _____ % _____ % 40 % 40 % 20 % _____ % _____ %			
Width of Riparian Zone: 30 ft.	Vegetative Layers: (check all that apply)	<input checked="" type="checkbox"/> Trees: 10 in.	<input checked="" type="checkbox"/> Saplings/Shrubs: 1 in. <input checked="" type="checkbox"/> Herbs: NA in.
N/A <input type="checkbox"/>	Avg. DBH of Dominants: (approx.)		
Dominant Bank Vegetation (list): Acer rubrum, Polystichum acrostichooides			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): leaf packs, overhanging banks			
Aquatic Organisms Observed (list): turtle, frogs			
T&E Species Observed (list): none observed			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none observed			
Tributary is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

shp005

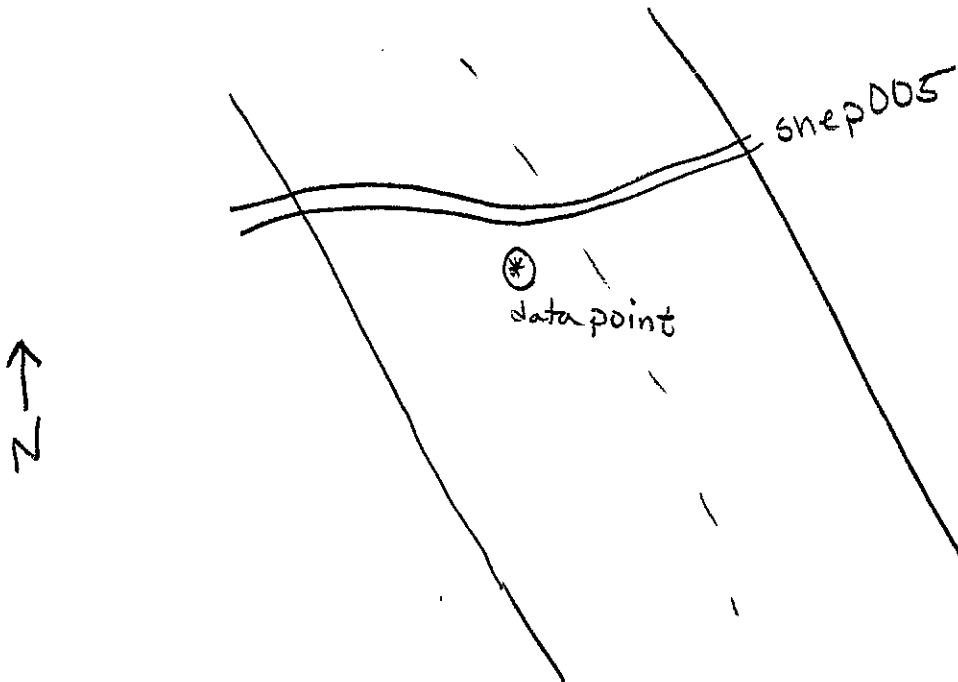
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody snep005 facing southwest upstream.



Waterbody snep005 facing northeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody snep005 facing southeast across bank.

Linear Waterbody Data Sheet

Survey Description				
Project Name: ACP		Waterbody Name: UNT to Mayo Creek		Waterbody ID: snep 006
Date: 7/15/15				
State: VA	County/Parish: Nelson	Company: ESI	Crew Member Initials: RT, LR	Photos: Facing N, E, W
Tract Number(s): 08-214-8004		Nearest Milepost: NA	Associated Wetland ID(s): NA	
Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial				
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: 2 ft.		OHWM Indicator: (check all that apply)		
Height: 0.5 ft.		<input checked="" type="checkbox"/> Clear line on bank		
N/A <input type="checkbox"/>		<input type="checkbox"/> Shelving		
		<input type="checkbox"/> Wrested vegetation		
		<input type="checkbox"/> Scouring		
		<input type="checkbox"/> Water staining		
<input type="checkbox"/> Bent, matted, or missing vegetation		<input type="checkbox"/> Wrack line		
		<input type="checkbox"/> Litter and debris		
		<input type="checkbox"/> Abrupt plant community change		
		<input type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: 3 ft.		Width of Waterbody - Toe of Slope to Toe of Slope: 1 ft.		Width of Waterbody - Water Edge to Water Edge: N/A
Depth of Water: (Approx.) N/A				
Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		Water velocity: (Approx.) N/A fps		Bank height
				Right: 1 ft.
				Left: 1 ft.
				Bank slope
				Right: 60 degrees
				Left: 60 degrees
Qualitative Attributes				
Water Appearance: (check one) <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:				
% of Substrate: _____% _____% _____% 20 % 20 % 60 % _____% _____%				
Width of Riparian Zone: 20 ft.		Vegetative Layers: (check all that apply)		
N/A <input type="checkbox"/>		<input checked="" type="checkbox"/> Trees:		
		Avg. DBH of Dominants: 9 in.		
		<input checked="" type="checkbox"/> Saplings/Shrubs: 1 in.		
		<input checked="" type="checkbox"/> Herbs: NA in.		
Dominant Bank Vegetation (list): Liriodendron tulipifera, Vaccinium corymbosum, Polystichum acrostichoides				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): none observed				
Aquatic Organisms Observed (list): none observed				
T&E Species Observed (list): none observed				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): none observed				
Tributary is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality *: (check one) <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:

snep006

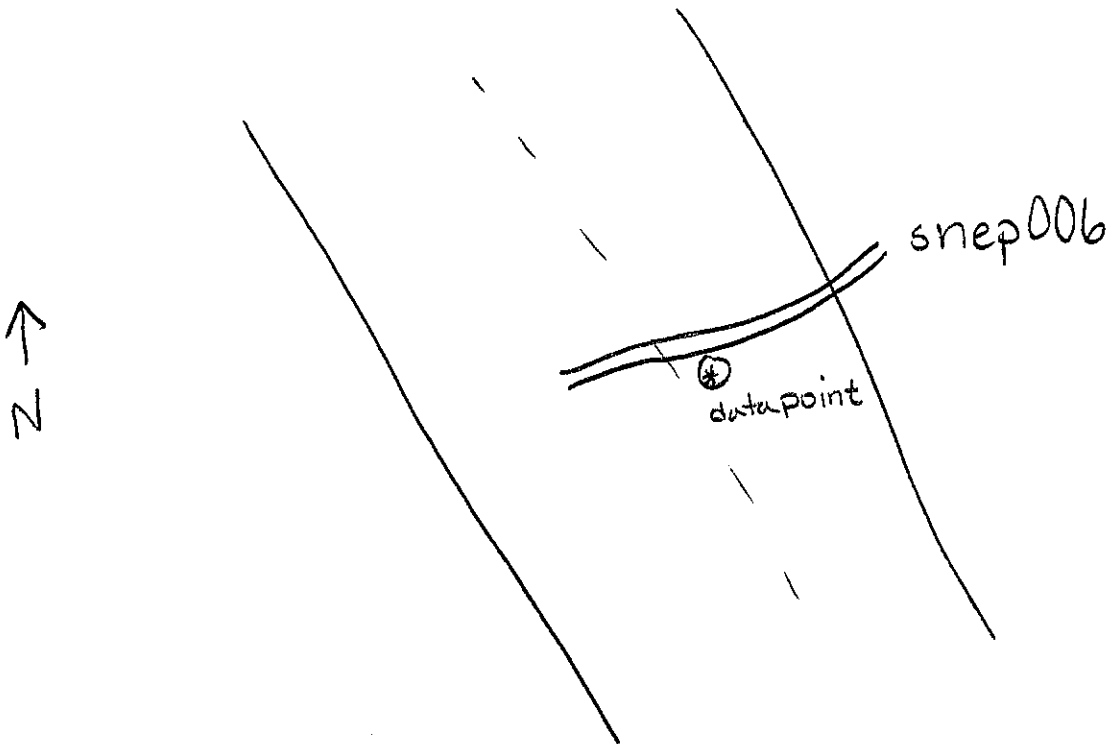
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



Environmental Field Surveys
Waterbody Photo Page



Waterbody snep006 facing southwest upstream.



Waterbody snep006 facing northeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody snep006 facing southeast across bank.

Linear Waterbody Data Sheet

Survey Description			
Project Name: Atlantic Coast Pipeline	Waterbody Name: UNT to Mayo Creek	Waterbody ID: Snec058	Date: 3/12/2016
State: Virginia	County: Nelson	Company: NRG	Crew Member Initials: SA, CR
Photos: 1-3			
Tract Number(s): 08-214-B004		Nearest Milepost: 184	Associated Wetland ID(s): None
Survey Type: <small>(check one)</small> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:			
Physical Attributes			
Stream Classification: <small>(check one)</small> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial			
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:			
OHWM Width: <u>2</u> ft.	OHWM Indicator: <small>(check all that apply)</small> <input type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining		
OHWM Height: <u>0.4</u> ft.	<input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
N/A <input type="checkbox"/>			
Width of Waterbody - Top of Bank to Top of Bank: <u>4</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>1</u> ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> _____ ft.	Depth of Water: <small>(Approx.)</small> N/A <input checked="" type="checkbox"/> _____ ft.
Sinuosity: <small>(check one)</small> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: <small>(Approx.)</small> _____ fps N/A <input checked="" type="checkbox"/>	Bank height Right: <u>2</u> ft. Left: <u>2</u> ft.	Bank slope Right: <u>60</u> degrees Left: <u>60</u> degrees
Qualitative Attributes			
Water Appearance: <small>(check one)</small> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:			
Substrate: <small>(check all that apply)</small> % of Substrate: _____% _____% _____% <u>30</u> % <u>70</u> % _____% _____% _____%			
Width of Riparian Zone: N/A <input checked="" type="checkbox"/> _____ ft.	Vegetative Layers: <small>(check all that apply)</small> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <small>(approx.)</small> <u>8</u> in. <u>2</u> in.		
Dominant Bank Vegetation <small>(list)</small> : Northern red oak, red maple, loblolly pine			
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None			
Aquatic Organisms Observed <small>(list)</small> : None			
T&E Species Observed <small>(list)</small> : None			
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None			
Tributary is: <small>(check one)</small> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated			
Stream Quality ³ : <small>(check one)</small> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low			

Waterbody ID:

Snec058

^a **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.

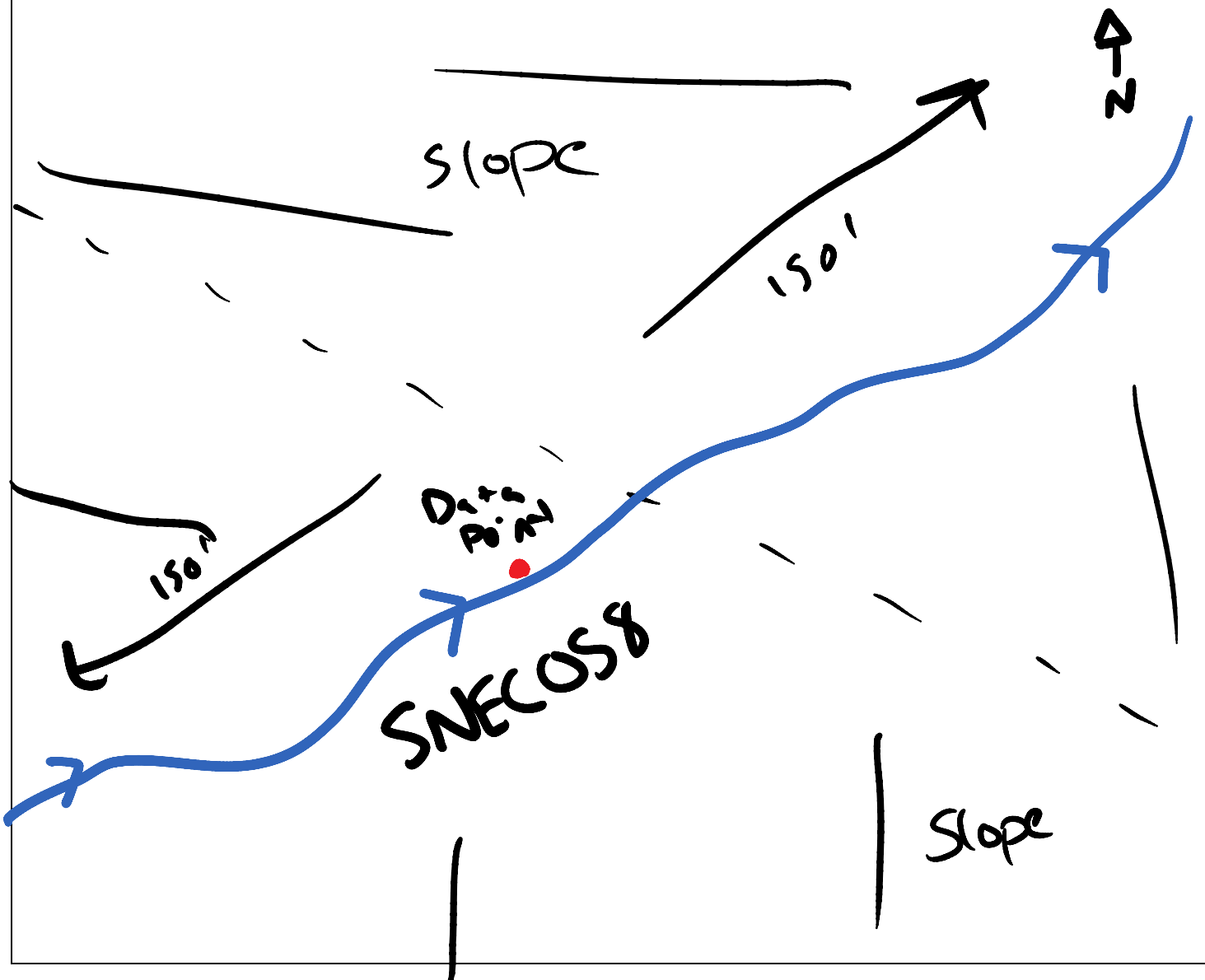
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 channel has numerous fibrous roots throughout the bed and the channel loses bed and bank characteristics in some locations. There was no flowing water at the time of survey.

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





Waterbody SNEC058 facing southwest upstream



Waterbody SNEC058 facing northeast downstream



Waterbody SNEC058 facing northwest across

Linear Waterbody Data Sheet

Survey Description				
Project Name: <u>ACP</u>		Waterbody Name: <u>UNT to James River</u>		Waterbody ID: <u>snep 008</u>
Date: <u>8/3/2015</u>				
State: <u>VA</u>	County/Parish: <u>Nelson</u>	Company: <u>ESI</u>	Crew Member Initials: <u>RT, CM</u>	Photos: <u>facmg NW, SE, NE</u>
Tract Number(s): <u>08-214-B004</u>		Nearest Milepost: <u>NA</u>	Associated Wetland ID(s): <u>none</u>	
Survey Type: <small>(check one)</small> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other:				
Physical Attributes				
Stream Classification: <small>(check one)</small> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial				
Waterbody Type: <small>(check one)</small> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:				
OHWM Width: <u>10</u> ft. Height: <u>2</u> ft. N/A <input type="checkbox"/>		OHWM Indicator: <small>(check all that apply)</small> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change		
Width of Waterbody - Top of Bank to Top of Bank: <u>20</u> ft.	Width of Waterbody - Toe of Slope to Toe of Slope: <u>6</u> ft.	Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>8</u> ft.	Depth of Water: <small>(Approx.)</small> N/A <input type="checkbox"/> <u>1</u> ft.	
Sinuosity: <small>(check one)</small> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering	Water velocity: <small>(Approx.)</small> <u><1</u> fps N/A <input type="checkbox"/>	Bank height Right: <u>20</u> ft. Left: <u>8</u> ft.	Bank slope Right: <u>45</u> degrees Left: <u>15</u> degrees	
Qualitative Attributes				
Water Appearance: <small>(check one)</small> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:				
Substrate: <small>(check all that apply)</small> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: _____ % _____ % <u>10</u> % <u>60</u> % <u>30</u> % _____ % _____ % _____ %				
Width of Riparian Zone: <u>100</u> ft. N/A <input type="checkbox"/>	Vegetative Layers: <small>(check all that apply)</small> <input checked="" type="checkbox"/> Trees: <u>10</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>1</u> in. <input checked="" type="checkbox"/> Herbs: <u>NA</u> in. Avg. DBH of Dominants: <small>(approx.)</small>			
Dominant Bank Vegetation (list): <u>Acer negundo, Carpinus caroliniana, nettle</u>				
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): <u>Deep pools, leaf packs</u>				
Aquatic Organisms Observed (list): <u>Fish, frog</u>				
T&E Species Observed (list): <u>none observed</u>				
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): <u>none observed</u>				
Tributary is: <small>(check one)</small> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated				
Stream Quality ^a : <small>(check one)</small> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				

Waterbody ID:
snep008

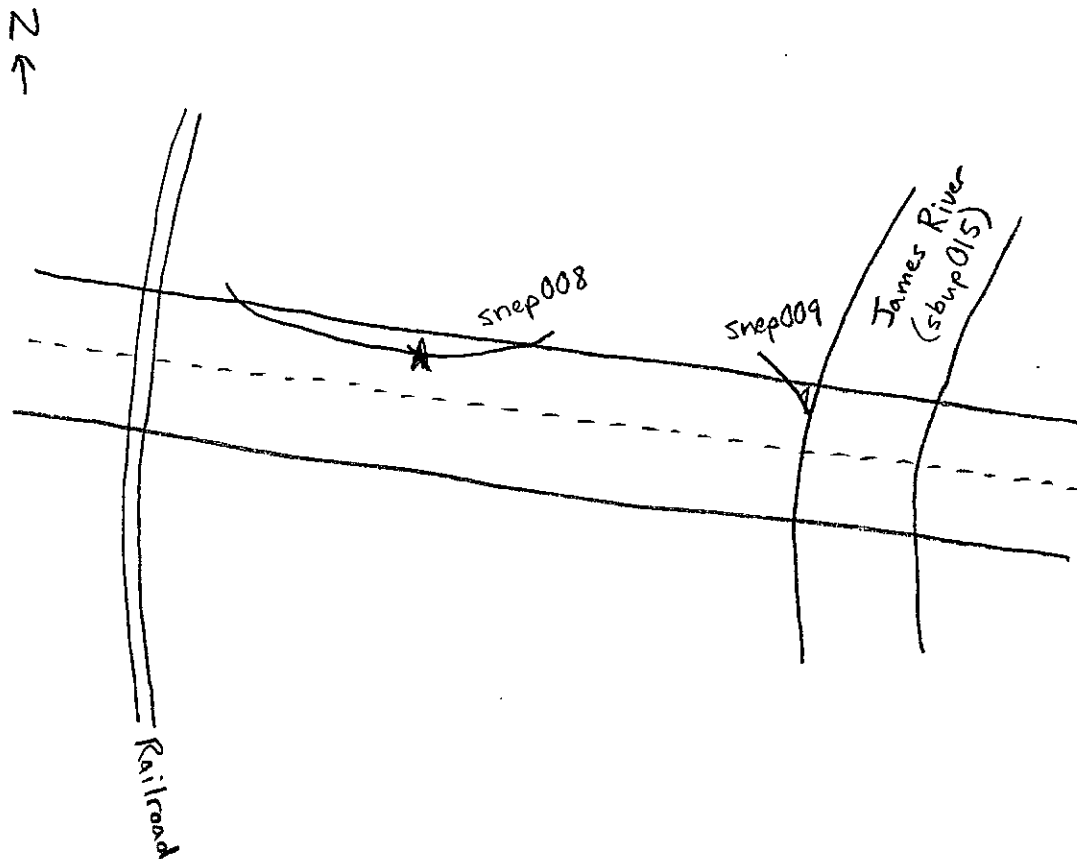
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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Notes:

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



Environmental Field Surveys
Waterbody Photo Page



Waterbody snep008 facing northwest upstream.



Waterbody snep008 facing southeast downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody snep008 facing northeast across bank.