Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa420	6/1/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	4 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.1	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 7.0 ft.

Height: 0.50 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
13.0 ft.	5.0 ft.	3.0 ft. N/A☐	0.20 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	0.33 fps N/A☐	Right: 6.0 ft. Left: 3.0 ft.	Right: 65 degrees Left: 80 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):

Banks exhibit loose soil/rock and exposed roots and is being undercut at culvert outlet

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☐ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	15 %	55 %	15 %	%	10 %	5 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 12.0 in. 1.5 in.

Dominant Bank Vegetation *(list)*:

Sugar maple, yellow birch, beech, cucumber magnolia, black cherry, wood nettle, jewel weed, may-apple, buttercup, lady fern, bluegrass, violet

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Leaf packs; woody debris; small pools

Aquatic Organisms Observed *(list)*:

Salamanders, invertebrates

T&E Species Observed *(list)*:

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Culvert crossing for existing gravel road; 30” corrugated metal culvert

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Waterbody ID:
spoa420

[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.

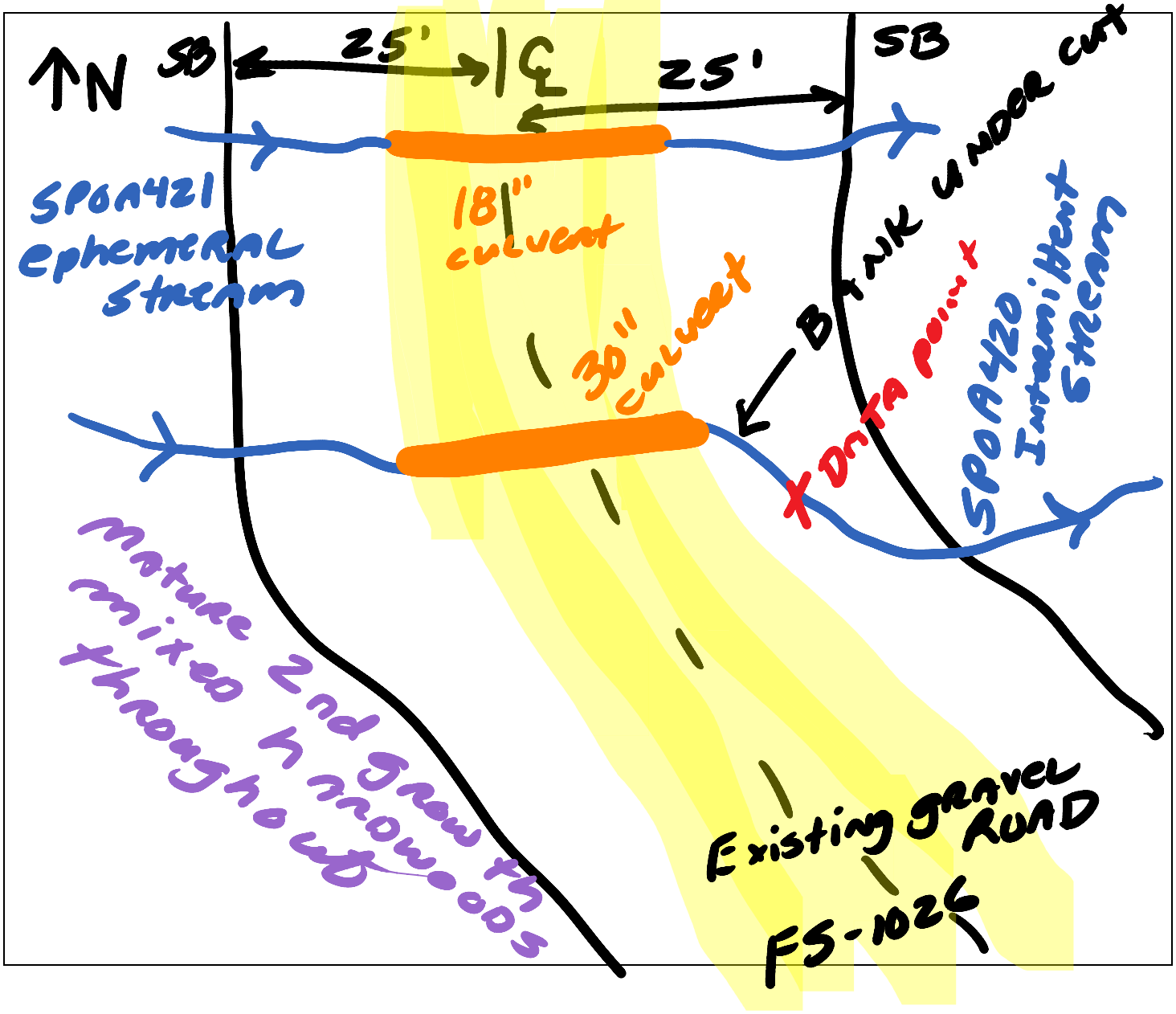
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 proposed access road corridor in both directions; crosses existing road via 30" corrugated metal culvert; bank is being undercut at culvert outlet; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)* ☒ High ☐ Moderate ☐ Low


N
SB
25'
℄
25'
SB
SP04421
ephemeral
stream
18"
culvert
30"
culvert
BANK UNDER CUT
DATA point
SP04420
Intermittent
stream
mature 2nd growth
mixed hardwoods
throughout
Existing gravel
ROAD
FS-1026

Waterbody spoa420 facing east upstream

Waterbody spoa420 facing west downstream

Waterbody spoa420 facing north across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa439	6/9/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	5 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 6.0 ft.

Height: 0.75 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
15.0 ft.	3.0 ft.	2.0 ft. N/A☐	0.20 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	0.50 fps N/A☐	Right: 5.0 ft. Left: 5.0 ft.	Right: 90 degrees Left: 70 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):

Bank instability present as evidenced by exposed roots and loose rock and soil

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	%	20 %	20 %	15 %	40 %	5 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 14.0 in. 2.0 in.

Dominant Bank Vegetation *(list)*:

Sugar maple, red elm, shagbark hickory, basswood, Frasier's magnolia, stonecrop, jewel weed, wood nettle, bee balm, violet, Dutchman's pipe vine, wild rye, red elderberry

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 *(list)*:

Caddisfly, salamander

T&E Species Observed *(list)*:

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Culvert crossing for existing gravel road

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Waterbody ID:
spoa439

[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.

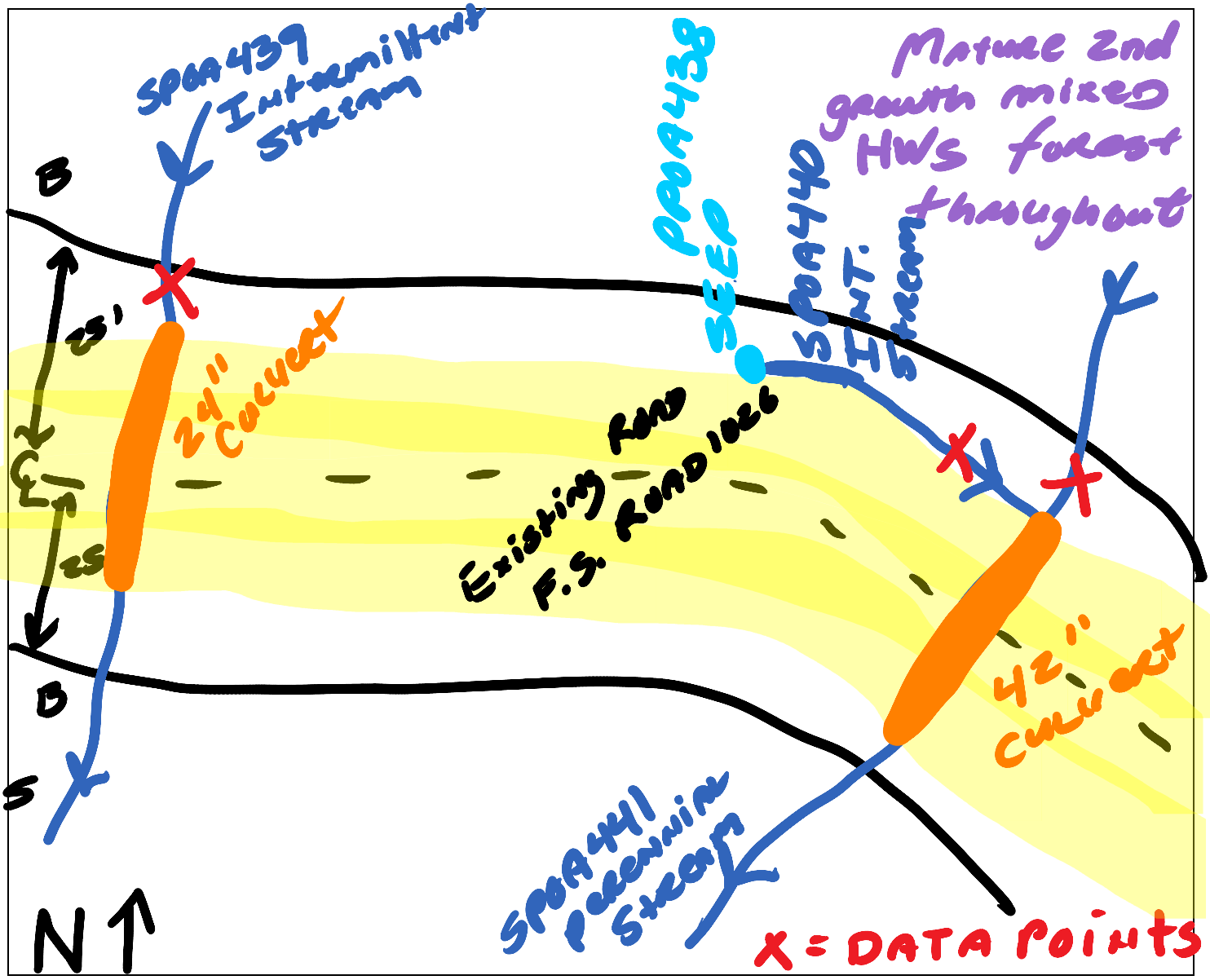
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 continues out of access road survey corridor in both directions; passes under existing gravel road via 24" corrugated metal culvert; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:**
(check one) ☐ High ☒ Moderate ☐ Low


SPOA439 Intermittent Stream
SPOA439 SEEP
SPOA440 INT. STREAM
Mature 2nd growth mixed HWs forest throughout
B
D
S
25'
24" CULVERT
Existing Road F.S. Roadbed
42" CULVERT
SPOA441 PERENNIAL STREAM
N
X = DATA POINTS

S

Waterbody SPOA439 facing north upstream

Waterbody SPOA439 facing south downstream

Waterbody SPOA439 facing west across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa440	6/9/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2.0 ft.

Height: 0.33 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
12.0 ft.	1.5 ft.	1.5 ft. N/A☐	0.20 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	0.33 fps N/A☐	Right: 2.0 ft. Left: 10.0 ft.	Right: 35 degrees Left: 75 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Banks are road base and road cut; confined to ditch

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	%	30 %	25 %	20 %	15 %	10 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs
Avg. DBH of Dominants: *(approx.)* 14.0 in. 2.0 in.

Dominant Bank Vegetation *(list)*:
Sugar maple, red elm, shagbark hickory, basswood, Frasier's magnolia, stonecrop, jewel weed, wood nettle, bee balm, violet, Dutchman's pipe vine, wild rye, red elderberry

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 *(list)*:
sowbug, scud

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Confined to ditch along existing gravel road

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Waterbody ID:
spoa440

[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.

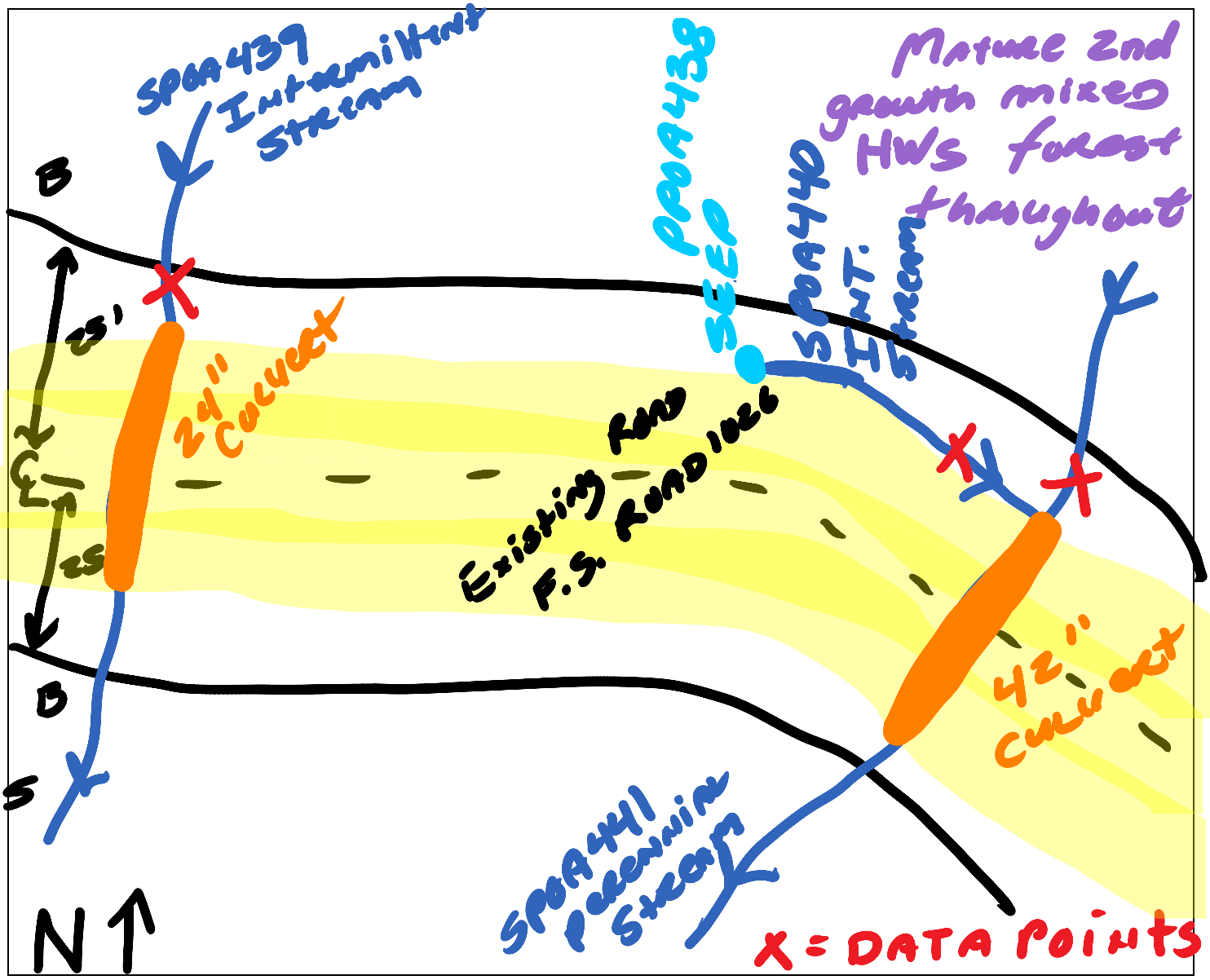
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 begins in roadside ditch at road cut seep ppoa438; tributary to perennial stream spoa441; confined to ditch and within access road survey corridor for entire length; does not cross existing road.

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

Stream Quality [a] **:** *(check one)*	☐ High	☒ Moderate	☐ Low


SPOA439
Intermittent
Stream
SEEP
POA438
SPOA440
INT.
Stream
Mature 2nd
growth mixed
HWS forest
throughout
B
D
S
24" Culvert
Existing Road
F.S. Roadbed
42"
Culvert
SPOA441
Perennial
Stream
N
X = DATA Points

S

Waterbody SPOA440 facing west upstream

Waterbody SPOA440 facing east downstream

Waterbody SPOA440 facing north across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa441	6/9/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 9.0 ft.
Height: 1.0 ft.
N/A☐

OHWM Indicator: *(check all that apply)*
☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☒Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
20.0 ft.	6.0 ft.	6.0 ft. N/A☐	0.33 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	2.0 fps N/A☐	Right: 6.0 ft. Left: 6.0 ft.	Right: 60 degrees Left: 60 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Banks appear stable; mostly boulders, cobble, and bedrock

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☒ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	35 %	20 %	30 %	10 %	5 %	%	%	%

Width of Riparian Zone: 45 ft.
N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs
Avg. DBH of Dominants: *(approx.)* 14.0 in. 1.5 in.

Dominant Bank Vegetation *(list)*:
Sugar maple, yellow birch, black locust, basswood, pignut hickory, beech, striped maple, red elm, wing stem, anemone, jewel weed, wood nettle, bee balm, violet, Dutchman's pipe vine, stonecrop

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs, step pools, coarse woody debris, overhanging boulders

Aquatic Organisms Observed *(list)*:
Caddisfly, mayfly, salamander, scud

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Crossing for existing road via 42" corrugated metal culvert

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Waterbody ID:
spoa441

[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.

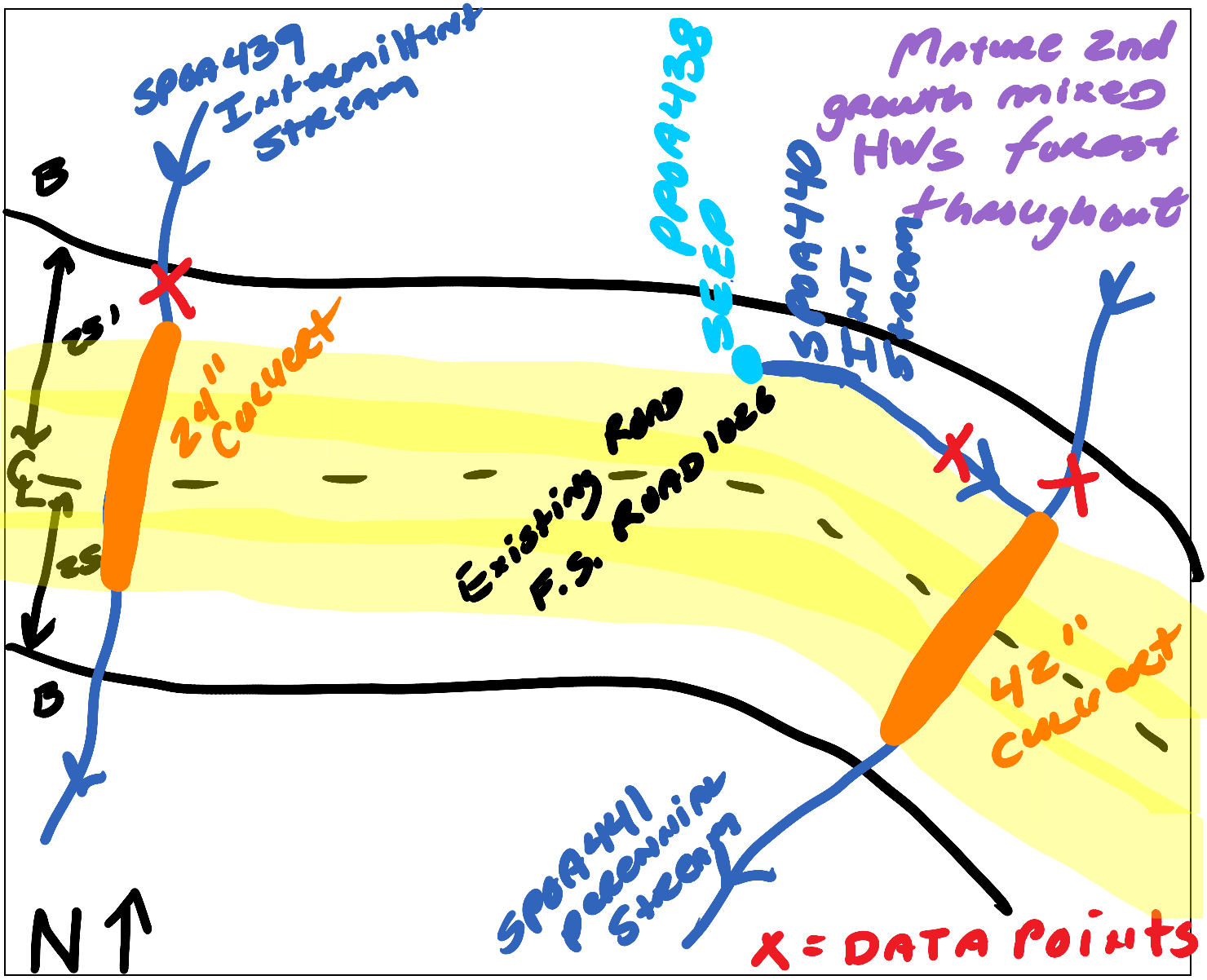
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 continues out of access road corridor in both directions; high gradient stream; passes under existing road via 42" corrugated metal culvert; intermittent stream is a tributary; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)*	☒ High	☐ Moderate	☐ Low


SPOA439 Intermittent Stream
SEEP
SPOA440
SPOA440 INT. STREAM
Mature 2nd growth mixed HWs forest throughout
B
B'
24" CULVERT
Existing Road F.S. Roadbed
42" CULVERT
SPOA441 PERENNIAL STREAM
N
X = DATA POINTS

Waterbody SPOA441 facing northeast upstream

Waterbody SPOA441 facing southwest downstream

Waterbody SPOA441 facing northwest across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa434	6/7/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	wpoa418

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2.0 ft.

Height: 0.33 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
10.0 ft.	1.5 ft.	1.5 ft. N/A☐	0.20 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	1.0 fps N/A☐	Right: 2.0 ft. Left: 10.0 ft.	Right: 45 degrees Left: 70 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Banks are road base and road cut; confined to ditch along existing gravel road

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	%	35 %	35 %	15 %	10 %	5 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 14.0 in. 1.0 in.

Dominant Bank Vegetation *(list)*:
Sugar maple, yellow birch, black locust, basswood, pignut hickory, beech, striped maple, northern red oak, wing stem, Christmas fern, jewel weed, wood nettle, wood fern, violet, Dutchman's pipe vine

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs

Aquatic Organisms Observed *(list)*:
Caddisfly

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Crossing for existing road via 18" corrugated metal culvert; confined to ditch upstream of culvert

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Waterbody ID:
spoa434

[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.

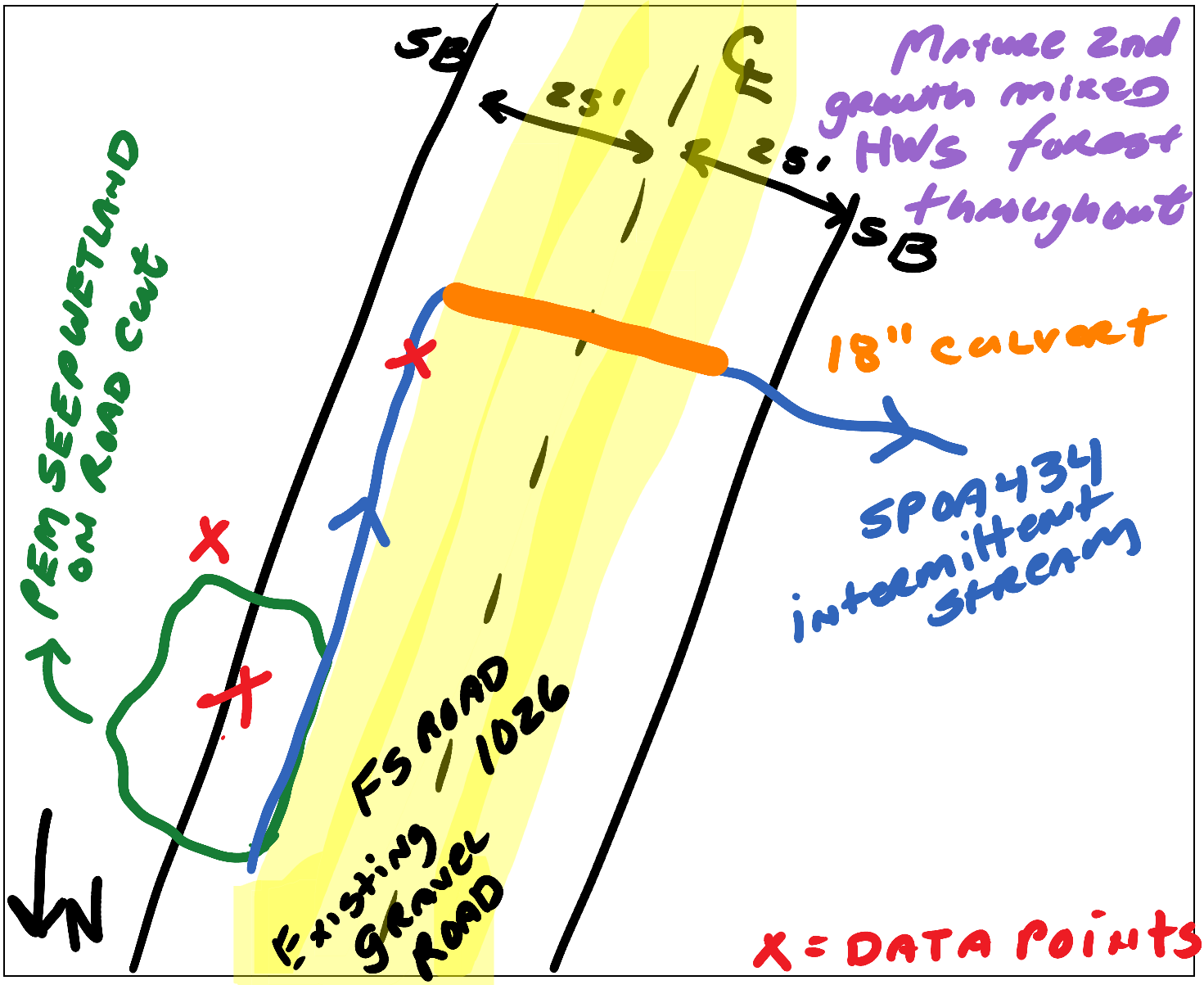
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 begins at road cut seep wetland wpoa418 within ditch along existing gravel road; follows ditch to culvert; passes under existing road via 18" corrugated metal culvert; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)* ☐ High ☒ Moderate ☐ Low


SB
CL
25'
25'
SB
Mature 2nd growth mixed HWs forest throughout
18" culvert
SP0A434 intermittent stream
PEM SEEP WETLAND ON ROAD CUT
FS ROAD 1026
Existing GRAVEL ROAD
X = DATA POINTS

Waterbody SPOA434 facing north upstream

Waterbody SPOA434 facing south downstream

Waterbody SPOA434 facing west across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa435	6/7/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2.0 ft.

Height: 0.33 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
12.0 ft.	1.5 ft.	1.5 ft. N/A☐	0.20 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	0.50 fps N/A☐	Right: 12.0 ft. Left: 2.0 ft.	Right: 75 degrees Left: 40 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Banks are road base and road cut; confined to ditch along existing gravel road

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	%	35 %	35 %	15 %	10 %	5 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs
Avg. DBH of Dominants: *(approx.)* 14.0 in. 1.0 in.

Dominant Bank Vegetation *(list)*:
Sugar maple, yellow birch, black locust, basswood, pignut hickory, beech, striped maple, northern red oak, wing stem, colts foot, jewel weed, wood nettle, bee balm, violet, Dutchman's pipe vine

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs

Aquatic Organisms Observed *(list)*:
Caddisfly

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Crossing for existing road via 18" corrugated metal culvert; confined to ditch upstream of culvert

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Waterbody ID:
spoa435

[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.

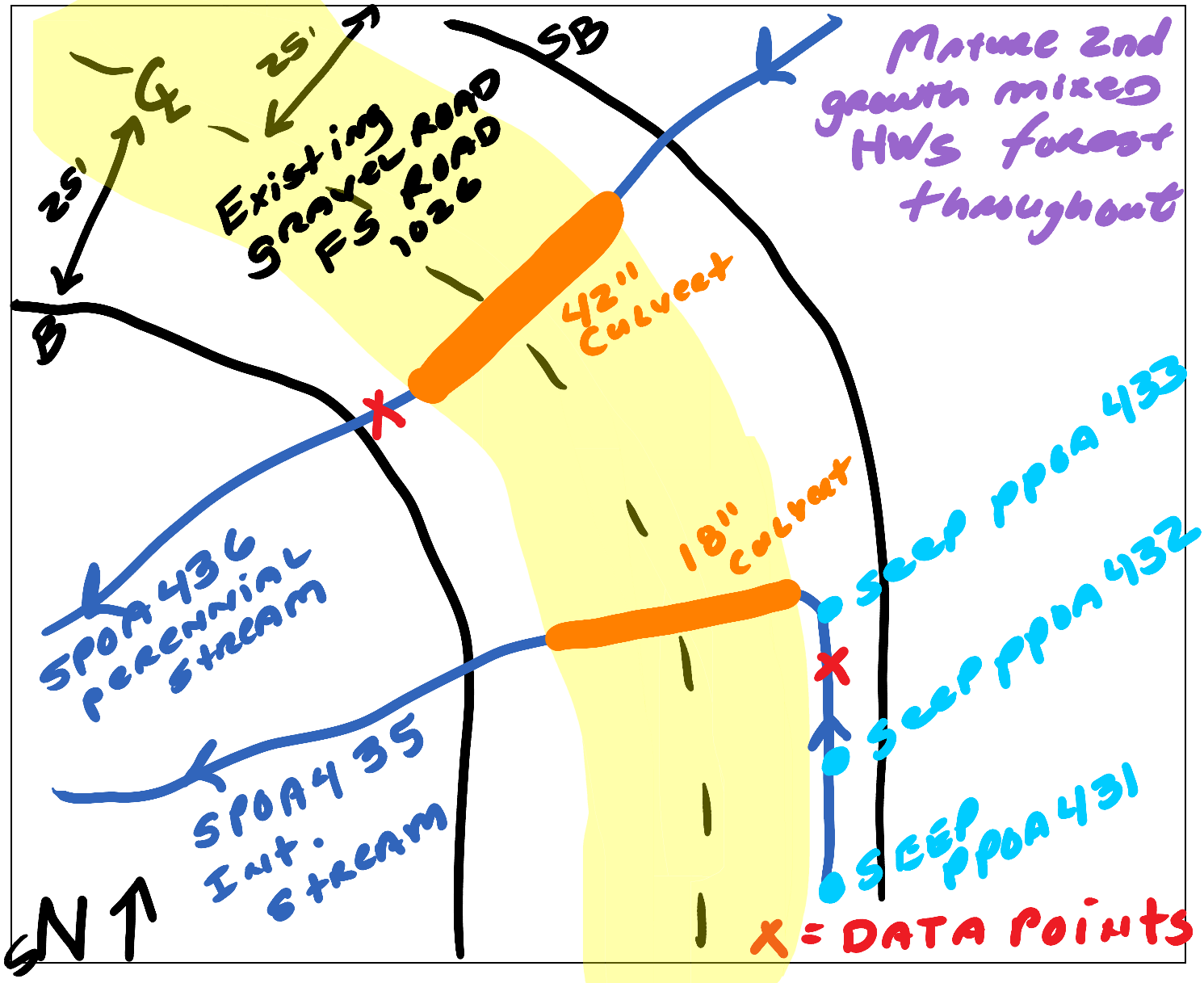
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 begins at road cut seep ppoa431 within ditch along existing gravel road; also receives outflow from road cut seeps ppoa432 & ppoa433; follows ditch to culvert; passes under existing road via 18" corrugated metal culvert; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)* ☐ High ☒ Moderate ☐ Low


25'
℄
25'
Existing Gravel Road FS Road 1026
SB
B
Mature 2nd growth mixed HWs forest throughout
42" Culvert
18" Culvert
SPOA 436 Perennial Stream
SPOA 435 Int. Stream
SCEP PPOA 433
SCEP PPOA 432
SCEP PPOA 431
N
X = DATA Points

Waterbody SPOA435 facing south upstream

Waterbody SPOA435 facing north downstream

Waterbody SPOA435 facing east across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa436	6/7/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 9.0 ft.

Height: 1.0 ft. N/A☐

OHWM Indicator: *(check all that apply)* ☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining ☐Bent, matted, or missing vegetation ☒Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
20.0 ft.	6.0 ft.	6.5 ft. N/A☐	0.40 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	2.0 fps N/A☐	Right: 4.0 ft. Left: 6.0 ft.	Right: 45 degrees Left: 60 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):

Banks appear stable; mostly boulders, cobble, and bedrock

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☒ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	30 %	25 %	30 %	10 %	5 %	%	%	%

Width of Riparian Zone: 40 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 14.0 in. 1.0 in.

Dominant Bank Vegetation *(list)*:

Sugar maple, yellow birch, black locust, basswood, pignut hickory, beech, striped maple, northern red oak, wing stem, anemone, jewel weed, wood nettle, bee balm, violet, Dutchman's pipe vine, stonecrop

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Leaf packs, step pools, coarse woody debris, overhanging boulders

Aquatic Organisms Observed *(list)*:

Caddisfly, mayfly, salamander

T&E Species Observed *(list)*:

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Crossing for existing road via 42" corrugated metal culvert

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Waterbody ID:
spoa436

[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.

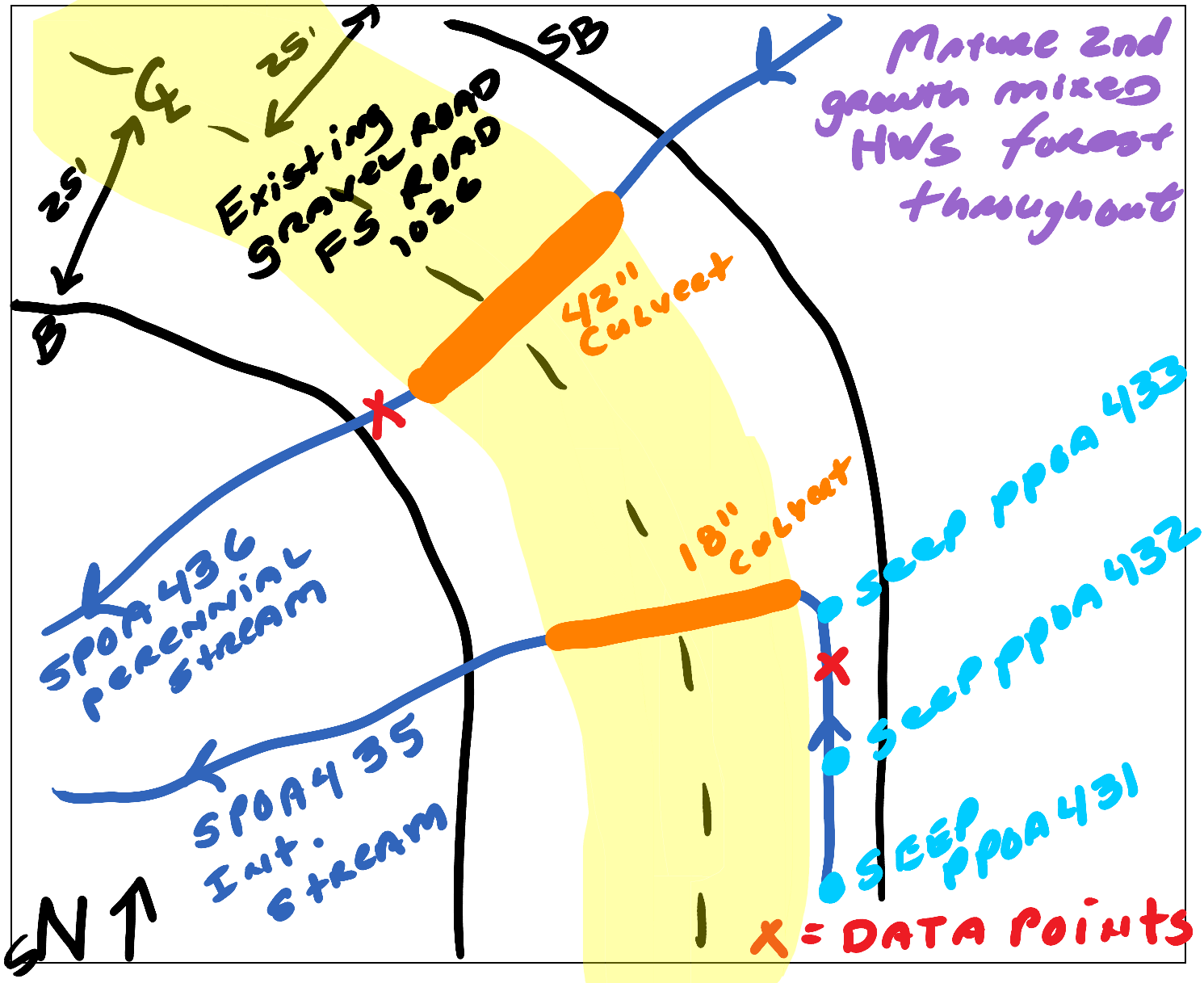
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 continues out of access road corridor in both directions; high gradient stream; passes under existing road via 42" corrugated metal culvert; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)*	☒ High	☐ Moderate	☐ Low


Mature 2nd growth mixed HWs forest throughout
SB
B
25'
25'
℄
Existing Gravel Road FS Road 1026
42" Culvert
18" Culvert
SPOA436 Perennial Stream
SPOA435 Int. Stream
SCEP PPOA433
SCEP PPOA432
SCEP PPOA431
N
X = DATA Points

Waterbody SPOA436 facing east upstream

Waterbody SPOA436 facing west downstream

Waterbody SPOA436 facing north across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa437	6/7/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2.0 ft.

Height: 0.33 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
10.0 ft.	1.5 ft.	1.5 ft. N/A☐	0.20 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	0.50 fps N/A☐	Right: 10.0 ft. Left: 2.0 ft.	Right: 70 degrees Left: 40 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Banks are road base and road cut; confined to ditch along existing gravel road

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	%	30 %	40 %	10 %	10 %	10 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs
Avg. DBH of Dominants: *(approx.)* 14.0 in. 1.0 in.

Dominant Bank Vegetation *(list)*:
Sugar maple, yellow birch, black locust, basswood, pignut hickory, beech, striped maple, northern red oak, wing stem, colts foot, jewel weed, wood nettle, bee balm, violet, Dutchman's pipe vine, bears foot, slippery elm, red elderberry

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs

Aquatic Organisms Observed *(list)*:
Caddisfly

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Crossing for existing road via 18" corrugated metal culvert; confined to ditch upstream of culvert

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Waterbody ID:
spoa437

[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.

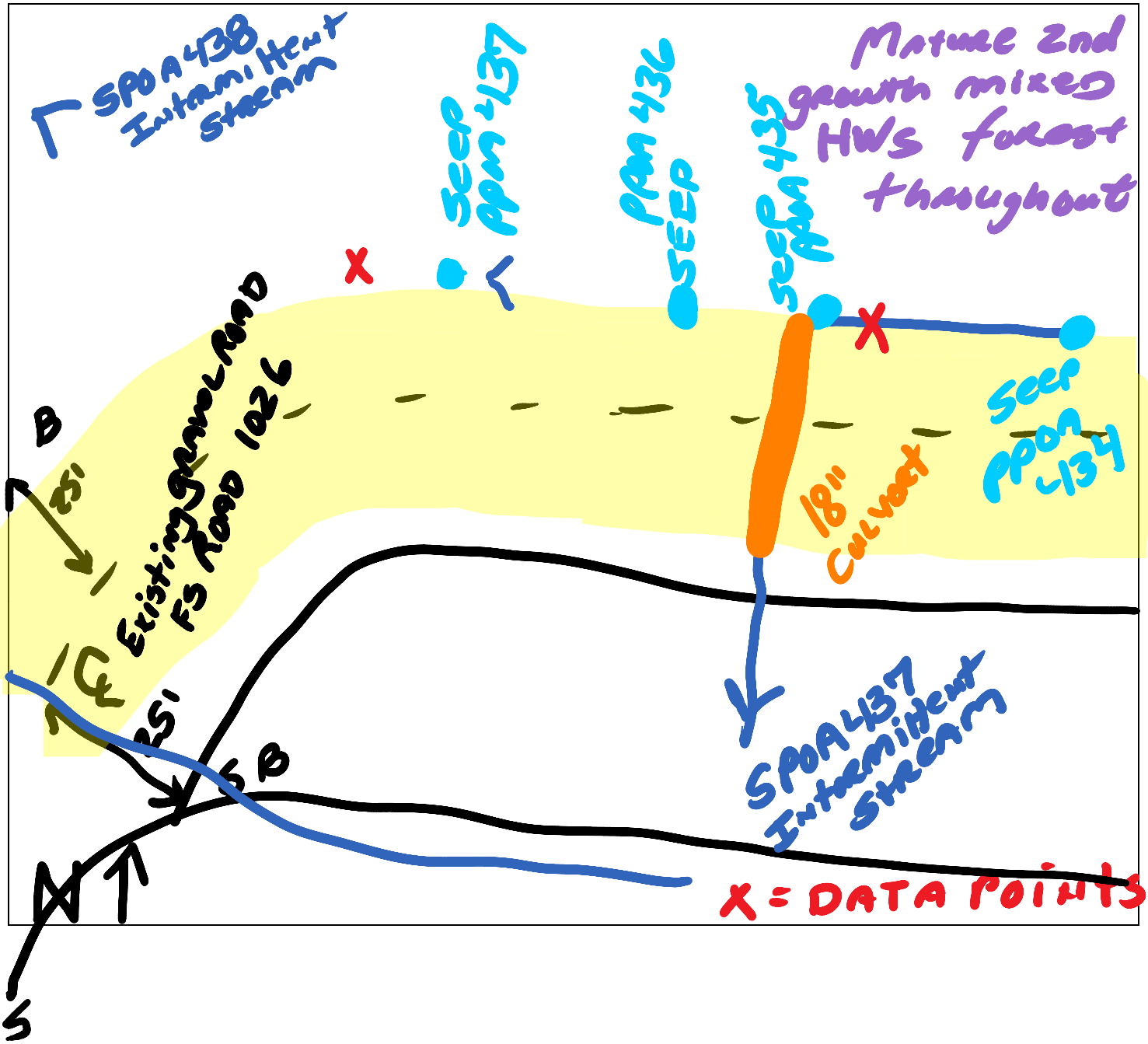
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 begins at road cut seep ppoa434 within ditch along existing gravel road; also receives outflow from road cut seep ppoa435; follows ditch to culvert; passes under existing road via 18" corrugated metal culvert; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)* ☐ High ☒ Moderate ☐ Low


SP0A438 Intermittent Stream
Seep APOA437
APOA436 SEEP
Seep APOA435
Mature 2nd growth mixed HWs forest throughout
X
X
B
RSI
Existing Gravel Road FS Road 1026
RSI
B
18" Culvert
SP0A437 Intermittent Stream
Seep APOA434
S
X = DATA POINTS

Waterbody SPOA437 facing east upstream

Waterbody SPOA437 facing west downstream

Waterbody SPOA437 facing north across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa438	6/7/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2.0 ft.

Height: 0.33 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
12.0 ft.	2.0 ft.	2.0 ft. N/A☐	0.20 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	0.50 fps N/A☐	Right: 15.0 ft. Left: 2.0 ft.	Right: 60 degrees Left: 40 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Banks are road base and road cut; confined to ditch along existing gravel road

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	%	30 %	40 %	15 %	10 %	5 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs
Avg. DBH of Dominants: *(approx.)* 14.0 in. 1.0 in.

Dominant Bank Vegetation *(list)*:
Sugar maple, yellow birch, black locust, basswood, pignut hickory, beech, striped maple, northern red oak, wing stem, colts foot, jewel weed, wood nettle, bee balm, violet, Dutchman's pipe vine, bears foot, slippery elm, red elderberry

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs

Aquatic Organisms Observed *(list)*:
Caddisfly, mayfly, salamander

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Confined to ditch

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Waterbody ID:
spoa438

[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.

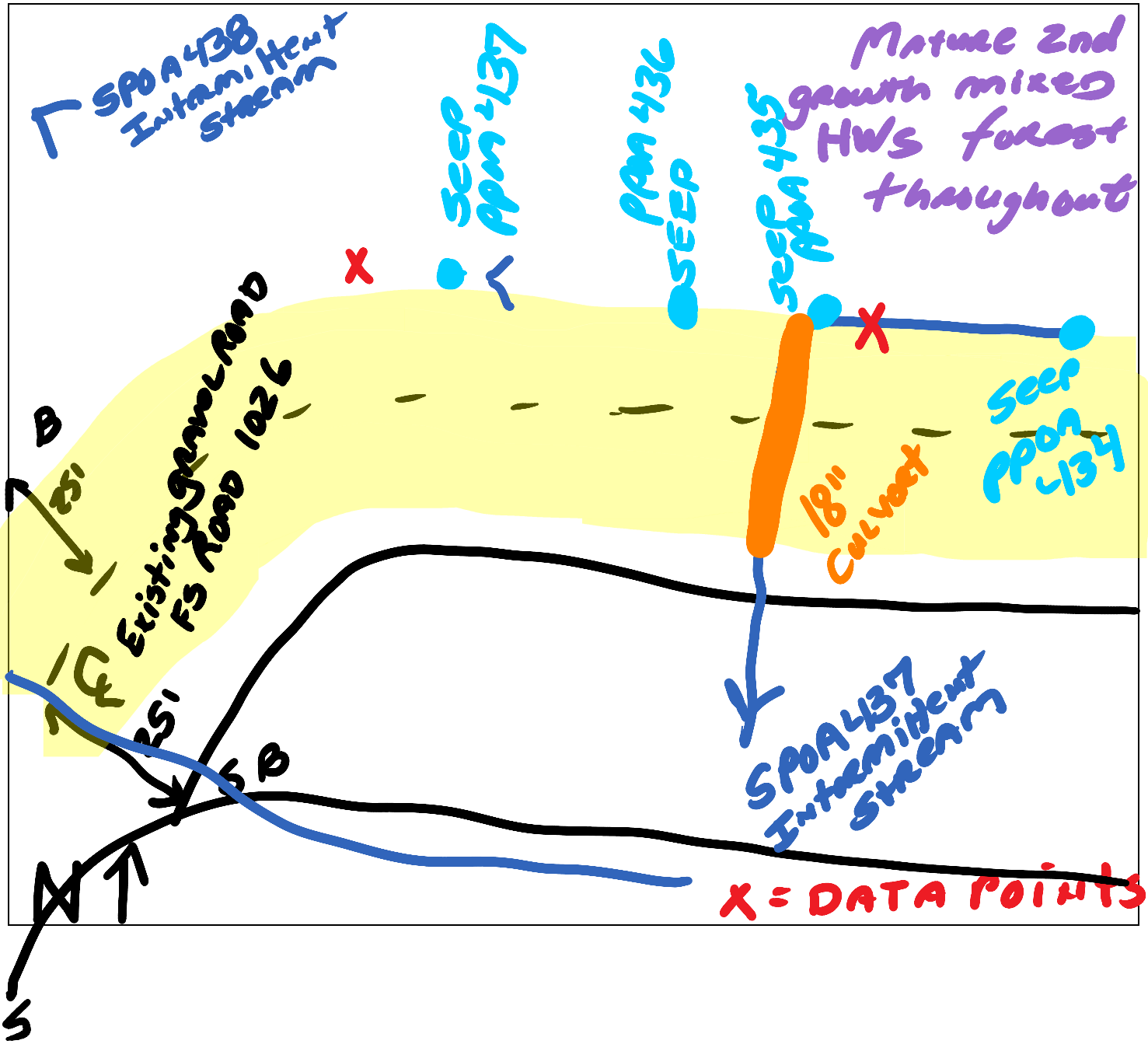
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 begins at road cut seep ppoa436 within ditch along existing gravel road; also receives outflow from road cut seep ppoa437; follows ditch out of corridor – does not cross road, exits at switchback; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)* ☐ High ☒ Moderate ☐ Low


SP0A438 Intermittent Stream
Seep AP0A437
PAM 436 SEEP
Seep AP0A435
Mature 2nd growth mixed HWs forest throughout
X
X
B
RSI
Existing Gravel Road FS Road 1026
18" Culvert
Seep AP0A434
RSI
B
SP0A437 Intermittent Stream
S
X = DATA POINTS

Waterbody SPOA438 facing east upstream

Waterbody SPOA438 facing west downstream

Waterbody SPOA438 facing north across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa430	6/6/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2.0 ft.

Height: 0.33 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
8.0 ft.	1.5 ft.	1.5 ft. N/A☐	0.20 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	1.0 fps N/A☐	Right: 3.0 ft. Left: 6.0 ft.	Right: 60 degrees Left: 70 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Banks are road base and road cut; confined to ditch along existing gravel road

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	%	30 %	25 %	20 %	20 %	5 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs
Avg. DBH of Dominants: *(approx.)* 14.0 in. 2.0 in.

Dominant Bank Vegetation *(list)*:
Sugar maple, yellow birch, black locust, basswood, pignut hickory, wood nettle, jewel weed, bitter dock, woodland bluegrass, bee balm, goldenrod, colts foot

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs, emergent vegetation

Aquatic Organisms Observed *(list)*:
Caddisfly, mayfly, salamander

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Crossing for existing road via 18” corrugated metal culvert; confined to ditch upstream of culvert

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Waterbody ID:
spoa430

[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.

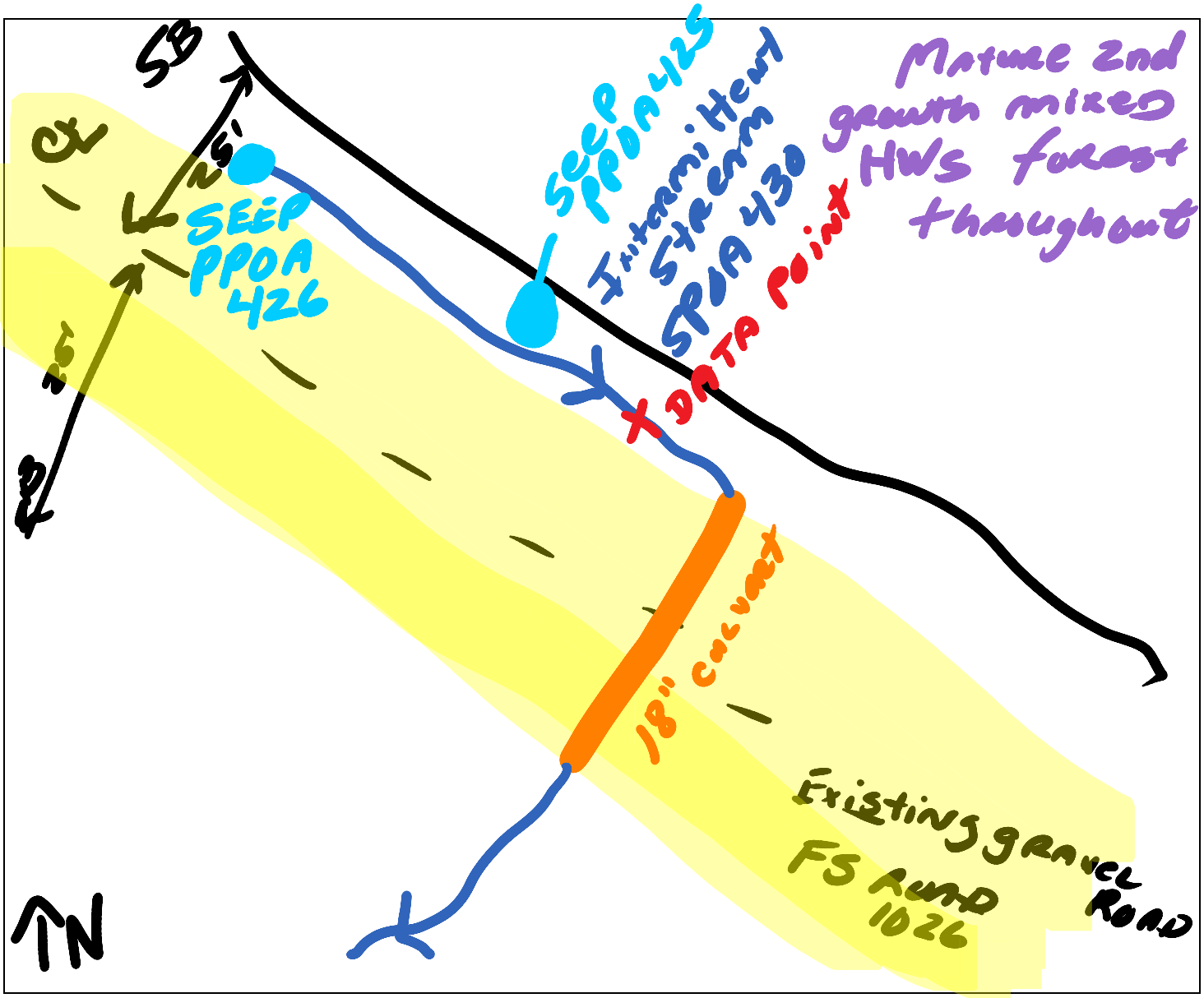
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 begins at nick point seep ppoa426 within ditch along existing gravel road; follows ditch to culvert; also receives output from road cut seep ppoa425; passes under existing road via 18" corrugated metal culvert; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:**
(check one) ☐ High ☒ Moderate ☐ Low


SB
CL
25'
SEEP PPOA 426
SEEP PPOA 425
Intermittent Stream SPOA 430
DATA Point
Mature 2nd growth mixed HWs forest throughout
18" culvert
Existing gravel Road
FS Rd 1026
N

Waterbody SPOA430 facing northwest upstream

Waterbody SPOA430 facing southeast downstream

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa431	6/6/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☐ Stream ☒ Ditch ☐ Canal ☐ Other:

OHWM Width: 2.0 ft.

Height: 0.33 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
8.0 ft.	1.5 ft.	1.5 ft. N/A☐	0.20 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	1.0 fps N/A☐	Right: 3.0 ft. Left: 6.0 ft.	Right: 60 degrees Left: 70 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Banks are road base and road cut; confined to ditch along existing gravel road

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	%	30 %	25 %	20 %	20 %	5 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 14.0 in. 2.0 in.

Dominant Bank Vegetation *(list)*:
Sugar maple, yellow birch, black locust, basswood, pignut hickory, wood nettle, jewel weed, bitter dock, woodland bluegrass, bee balm, goldenrod, colts foot

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs, emergent vegetation

Aquatic Organisms Observed *(list)*:
Caddisfly

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Confined to ditch

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Waterbody ID:
spoa431

[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.

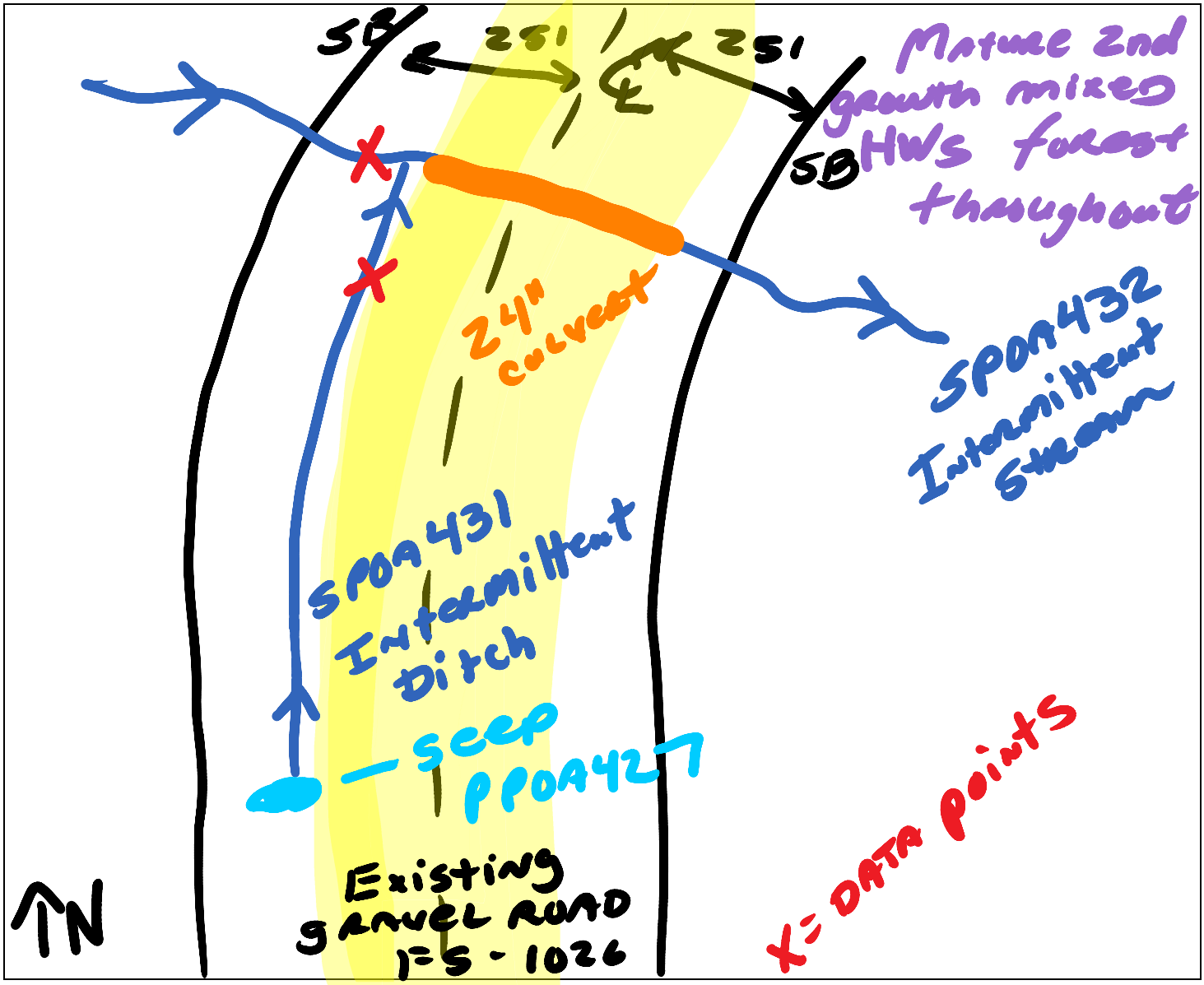
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 begins within ditch along existing gravel road at road cut seep ppoa427; within survey corridor for entire length; tributary to intermittent stream spoa432; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)*	☐ High	☒ Moderate	☐ Low


SB
25'
25'
SB
Mature 2nd growth mixed HWs forest throughout
24" CULVERT
SPOA432 Intermittent Stream
SPOA431 Intermittent Ditch
seep SPOA427
Existing GRAVEL ROAD
1"=5'-10'26
X= DATA points
N

Waterbody SPOA431 facing east across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa432	6/6/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 5.0 ft.

Height: 0.50 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
10.0 ft.	3.0 ft.	4.0 ft. N/A☐	0.25 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	2.0 fps N/A☐	Right: 4.0 ft. Left: 4.0 ft.	Right: 60 degrees Left: 50 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):

No evidence of bank instability observed

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	45 %	45 %	5 %	5 %	%	%	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 14.0 in. 2.0 in.

Dominant Bank Vegetation *(list)*:

Sugar maple, yellow birch, black locust, basswood, pignut hickory, wood nettle, jewel weed, bitter dock, woodland bluegrass, bee balm, goldenrod, colts foot

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Woody debris, emergent vegetation

Aquatic Organisms Observed *(list)*:

Caddisfly, mayfly

T&E Species Observed *(list)*:

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Crossing for existing gravel road via 24” corrugated metal culvert

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Waterbody ID:
spoa432

[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.

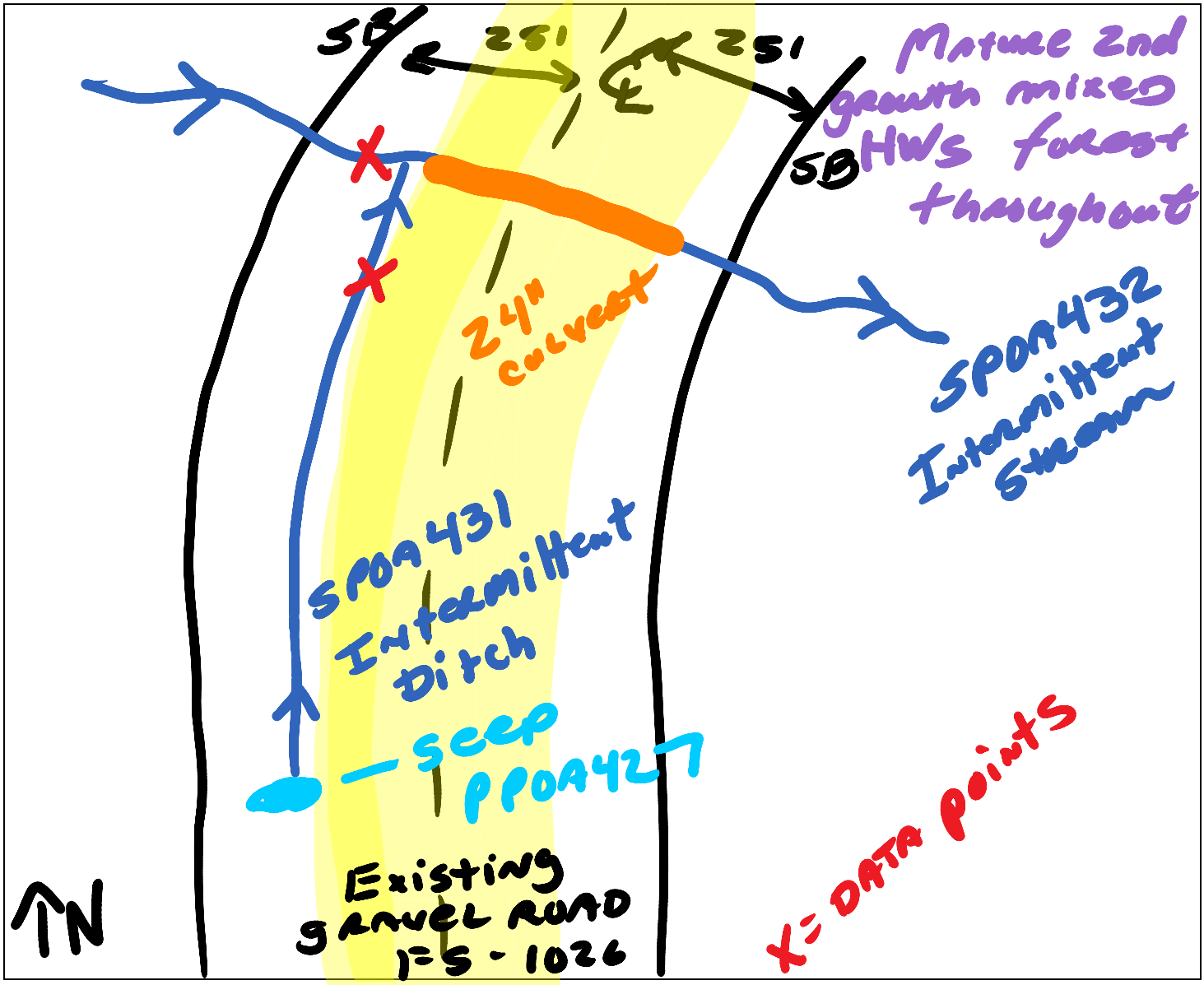
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 continues out of access road corridor both ways; intermittent stream spoa431 is a tributary within the corridor; passes under existing road via 24" corrugated metal culvert; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)*	☒ High	☐ Moderate	☐ Low


SB
25'
25'
SB
Mature 2nd growth mixed HWs forest throughout
24" CULVERT
SPOA432 Intermittent Stream
SPOA431 Intermittent Ditch
seep SPOA427
Existing GRAVEL ROAD
1"=5'-10'6"
N
X= DATA points

Waterbody SPOA432 facing east upstream

Waterbody SPOA432 facing west downstream

Waterbody SPOA432 facing north across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Slaty Fork	spoa433	6/6/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG/ERM	GB, KO	3 photos

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
access road 05-001-C008.AR1	72.0	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2.0 ft.

Height: 0.33 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
8.0 ft.	1.5 ft.	1.5 ft. N/A☐	0.15 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	0.50 fps N/A☐	Right: 3.0 ft. Left: 10.0 ft.	Right: 50 degrees Left: 75 degrees

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Banks are road base and road cut; confined to ditch along existing gravel road

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☒ Organic	☐ Other:
% of Substrate:	%	%	30 %	25 %	20 %	20 %	5 %	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 14.0 in. 2.0 in.

Dominant Bank Vegetation *(list)*:
Sugar maple, yellow birch, black locust, basswood, pignut hickory, wood nettle, jewel weed, bitter dock, woodland bluegrass, bee balm, goldenrod, colts foot

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs, emergent vegetation

Aquatic Organisms Observed *(list)*:
Caddisfly

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Crossing for existing road via 18" corrugated metal culvert; confined to ditch upstream of culvert

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Waterbody ID:
spoa433

[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.

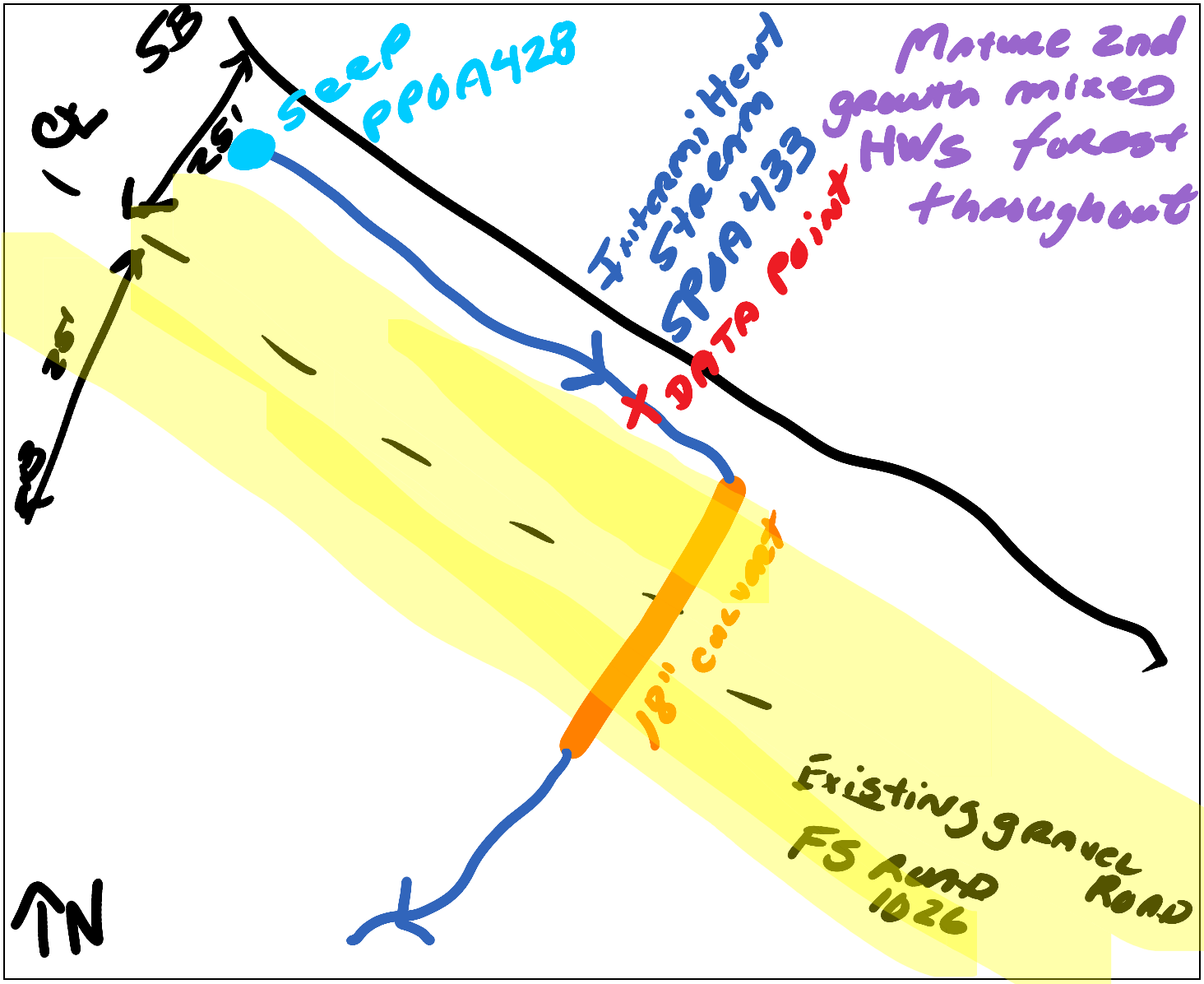
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious 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 begins at road cut seep ppoa428 within ditch along existing gravel road; follows ditch to culvert; passes under existing road via 18" corrugated metal culvert; mature second growth mixed hardwood forest.

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

Stream Quality [a] **:** *(check one)* ☐ High ☒ Moderate ☐ Low


SB
CL
25'
25'
25'
Seep
PP0A428
Intermittent
Stream
SP0A433
DATA Point
Mature 2nd
growth mixed
HWs forest
throughout
18" culvert
Existing gravel
FS Rd
1026
N

Waterbody SPOA433 facing north upstream

Waterbody SPOA433 facing south downstream

Waterbody SPOA433 facing east across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoc105	3/17/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	1-3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E030	72	Wpoc105

Survey Type: *(check one)* ☐Centerline ☒Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 3 ft.

Height: 0.5 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☐Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
8 ft.	1 ft.	2.5 ft. N/A☐	0.3 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1 fps N/A☐	Right: 2 ft. Left: 2 ft.	Right: 40 degrees Left: 40 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☐ Cobble	☐ Gravel	☒ Sand	☒ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	%	%	%	20 %	80 %	%	%

Width of Riparian Zone: 50 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 12 in. 2 in.

Dominant Bank Vegetation *(list)*:
American beech, red maple, red oak, common violet,

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs

Aquatic Organisms Observed *(list)*:
None

T&E Species Observed *(list)*:
None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
None, histiric logging in the area

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Waterbody ID:
Spoc105

[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.

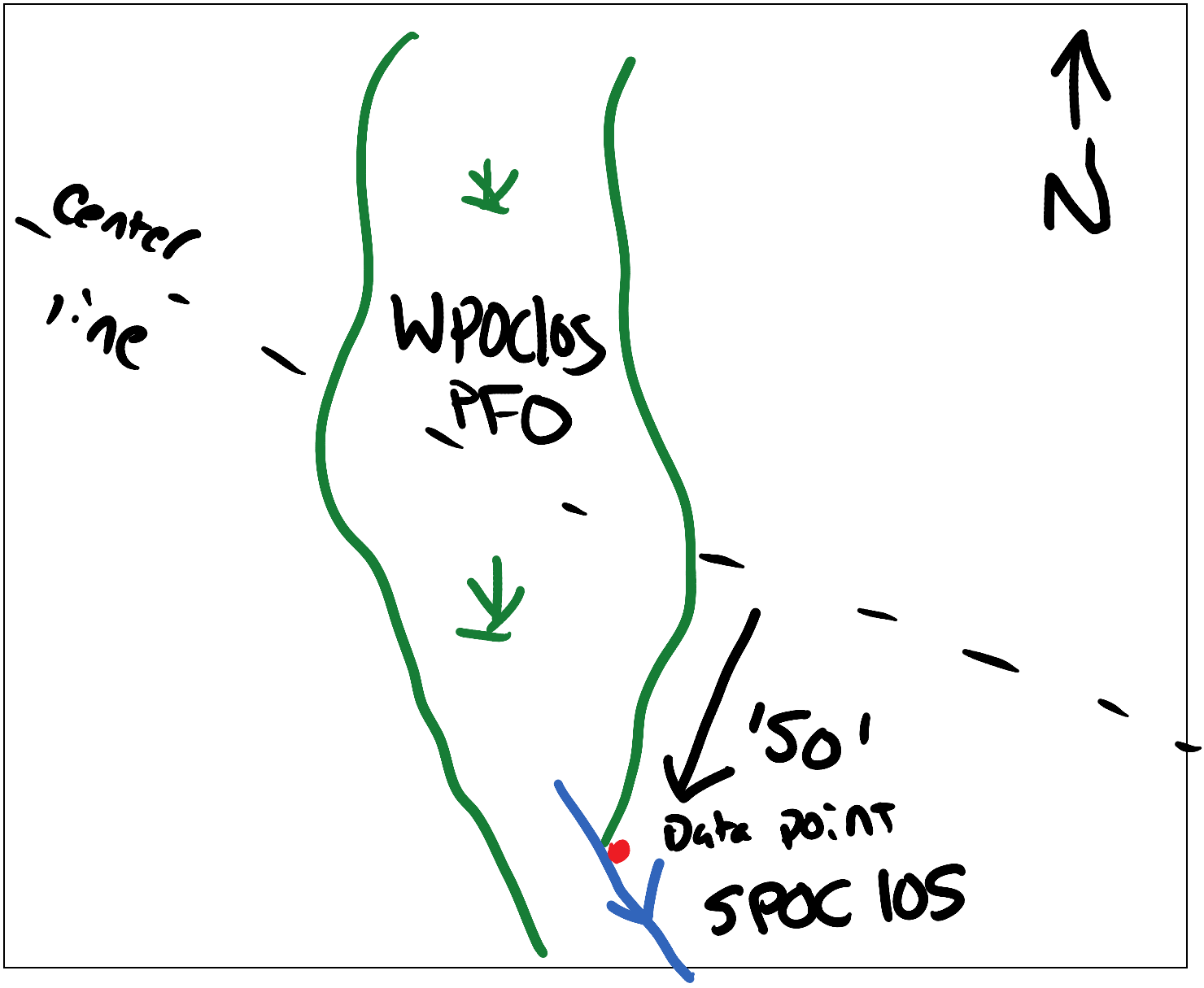
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

Stream Quality [a] **:** *(check one)* ☒ High ☐ Moderate ☐ Low


Center
line
WPOCLOS
PFO
N
'50'
Data point
SPOC 10S

Waterbody SPOC105 facing north upstream

Waterbody SPOC105 facing south downstream

Waterbody SPOC105 facing west across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoc111	3/21/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E028-AR	73	None

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 8 ft.

Height: 0.5 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☐Scouring ☐Water staining
☒Bent, matted, or missing vegetation ☒Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
15 ft.	3 ft.	6 ft. N/A☐	0.3 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1 fps N/A☐	Right: 4 ft. Left: 4 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	25 %	35 %	20 %	20 %	%	%	%

Width of Riparian Zone: 40 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 12 in. 2 in.

Dominant Bank Vegetation *(list)*:
Red maple, beech, red oak, yellow birch,sugar maple, Christmas fern, common violet

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs, over hanging roots, rock piles, riffles, pools

Aquatic Organisms Observed *(list)*:
Caddisfly larvae

T&E Species Observed *(list)*:
None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Stream flows through a 3' wide culvert under access road

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoc111

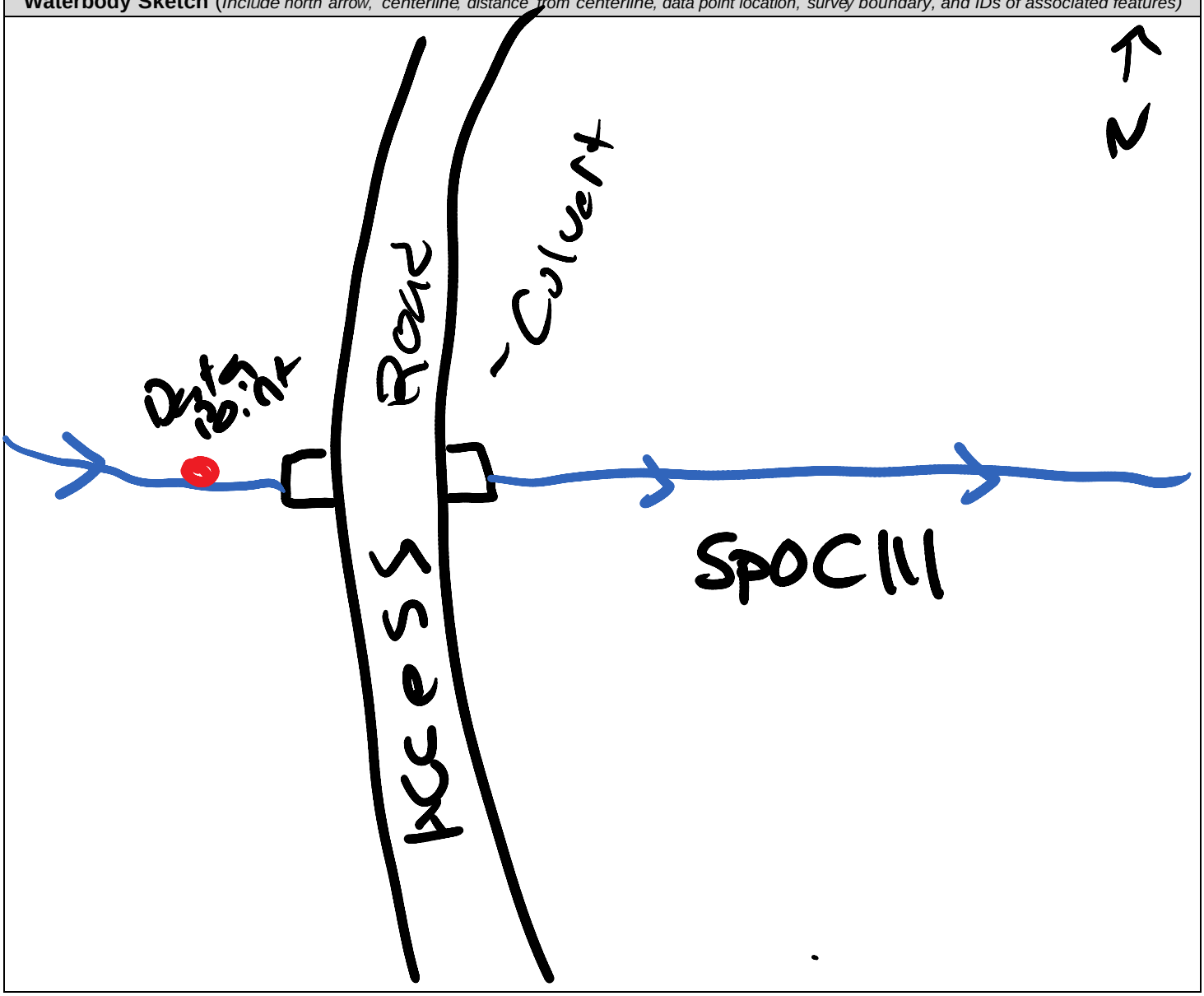
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SPOC111 facing northwest upstream

Waterbody SPOC111 facing southeast downstream

Waterbody SPOC111 facing southwest across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoc110	3/21/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E028-AR	73	None

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☒Ephemeral ☐Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2 ft.

Height: 0.5 ft. N/A☐

OHWM Indicator: *(check all that apply)* ☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☐Scouring ☐Water staining ☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
8 ft.	1 ft.	2 ft. N/A☐	0.1 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1 fps N/A☐	Right: 3 ft. Left: 3 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	10 %	20 %	60 %	10 %	%	%	%

Width of Riparian Zone: 10 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 12 in. 2 in.

Dominant Bank Vegetation *(list)*:

Red maple, beech, red oak, Christmas fern

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

None

Aquatic Organisms Observed *(list)*:

None

T&E Species Observed *(list)*:

None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Stream flows under access road through 2’ culvert

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoc110

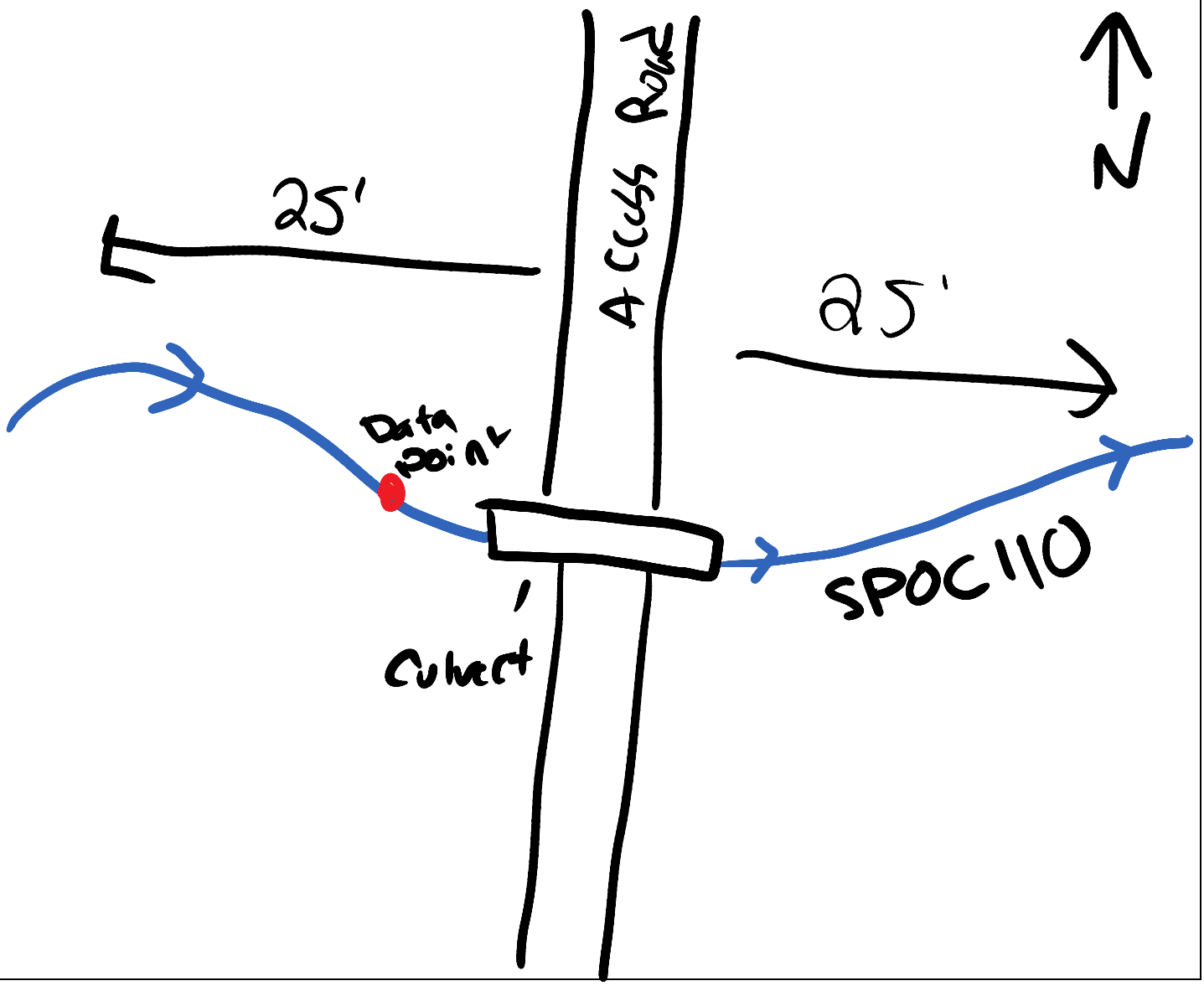
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SPOC110 facing northwest upstream

Waterbody SPOC110 facing southeast downstream

Waterbody SPOC110 facing southwest across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoc109	3/18/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E028-AR	73	None

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☒Ephemeral ☐Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2 ft.

Height: 0.5 ft. N/A☐

OHWM Indicator: *(check all that apply)* ☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☐Scouring ☐Water staining ☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
8 ft.	1 ft.	2 ft. N/A☐	0.1 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1 fps N/A☐	Right: 3 ft. Left: 3 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	10 %	20 %	60 %	10 %	%	%	%

Width of Riparian Zone: 10 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 12 in. 2 in.

Dominant Bank Vegetation *(list)*:

Red maple, beech, red oak, Christmas fern

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

None

Aquatic Organisms Observed *(list)*:

None

T&E Species Observed *(list)*:

None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Stream flows under access road through 2' culvert

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoc109

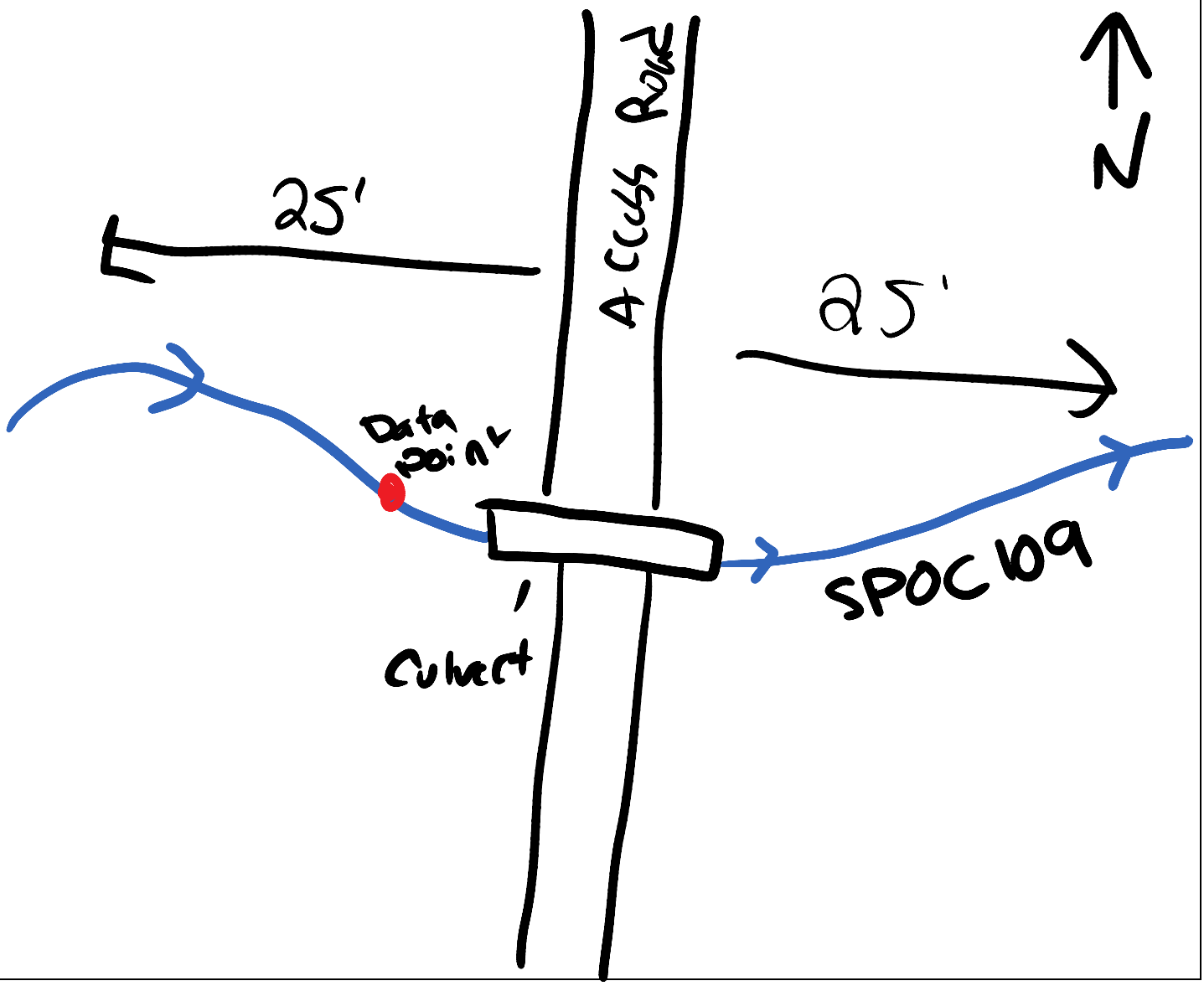
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SPOC109 facing west upstream

Waterbody SPOC109 facing east downstream

Waterbody SPOC109 facing north across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoc107	3/18/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E028	73	None

Survey Type: *(check one)* ☐Centerline ☒Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☒Ephemeral ☐Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 3 ft.

Height: 0.5 ft.

N/A☐

OHWM Indicator: *(check all that apply)*

☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☐Scouring ☐Water staining

☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
15 ft.	1 ft.	___ft. N/A☒	___ft. N/A☒

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	___fps N/A☒	Right: 5 ft. Left: 5 ft.	Right: 80 degrees Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	60 %	20 %	10 %	10 %	%	%	%

Width of Riparian Zone: 10 ft.

N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 12 in. 2 in.

Dominant Bank Vegetation *(list)*:

Red maple, beech, red oak, Christmas fern

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Leaf packs

Aquatic Organisms Observed *(list)*:

None

T&E Species Observed *(list)*:

None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Stream flows under access road through culvert

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoc107

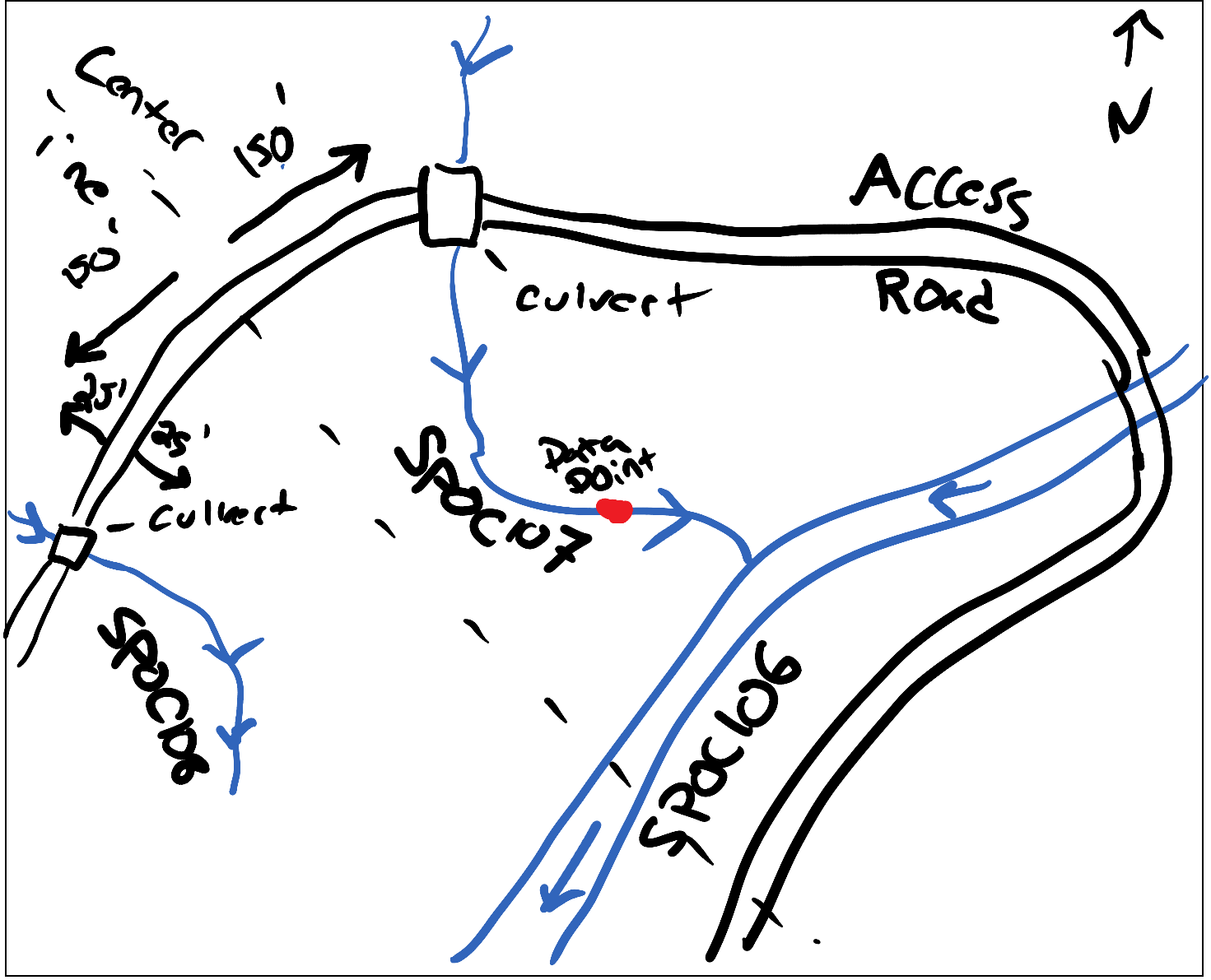
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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



SPOC107 facing northwest upstream

SPOC107 facing southeast downstream

SPOC107 facing southwest across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoc106	3/18/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E028	73	None

Survey Type: *(check one)* ☐Centerline ☒Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 18 ft.
Height: 3 ft.
N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☐Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☒Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
30 ft.	5 ft.	14 ft. N/A☐	1.5 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1 fps N/A☐	Right: 5 ft. Left: 5 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☒ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☐ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	10 %	15 %	65 %	10 %	%	%	%	%

Width of Riparian Zone: 80 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs
Avg. DBH of Dominants: *(approx.)* 12 in. 2 in.

Dominant Bank Vegetation *(list)*:
Red maple, beech, red oak, Christmas fern

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Leaf packs, over hanging roots, rock piles, riffles, pools

Aquatic Organisms Observed *(list)*:
Caddisfly larvae

T&E Species Observed *(list)*:
None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Stream flows over access road

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☒ High ☐ Moderate ☐ Low

Waterbody ID:
Spoc106

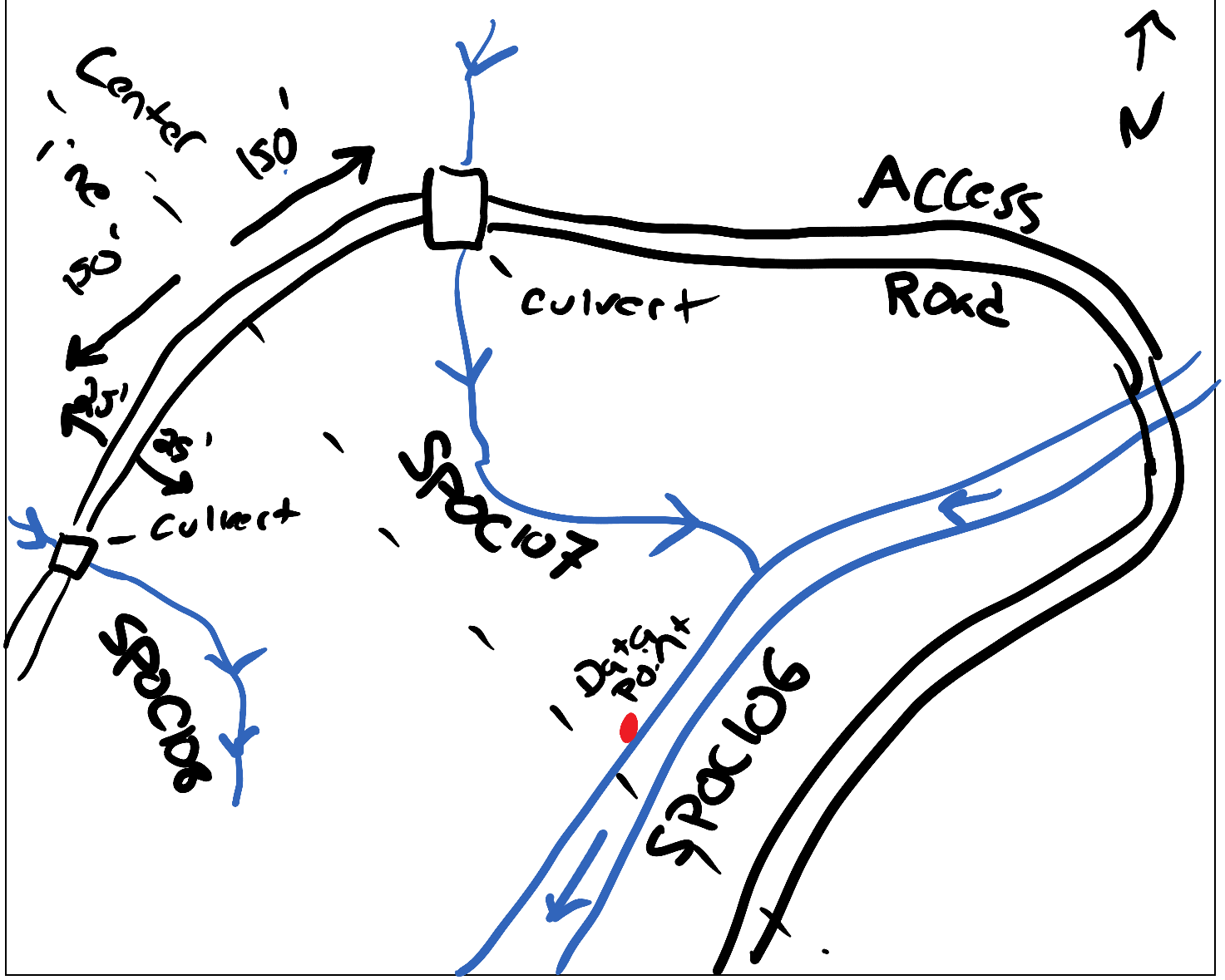
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

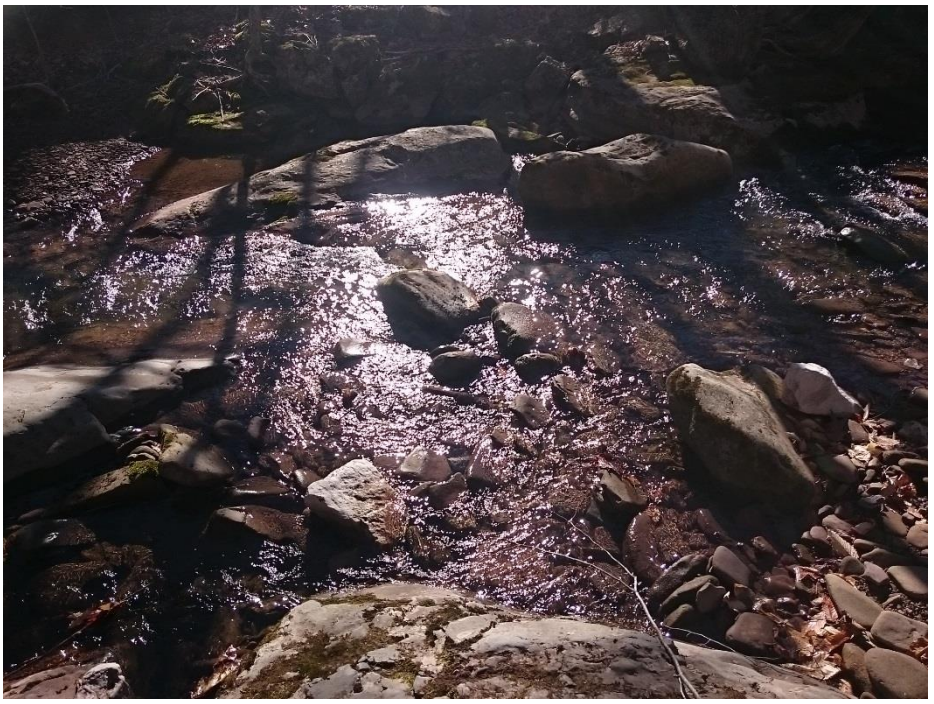
Notes:

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



Waterbody SPOC106 facing northeast upstream

Waterbody SPOC106 facing southwest downstream



Waterbody SPOC106 facing southeast across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	Clover Creek	Spoe048	7/21/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CG, AS	1-3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E032	NA	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 30 ft.

Height: 5 ft.

N/A☐

OHWM Indicator: *(check all that apply)*

☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☒Water staining

☒Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☒Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
60 ft.	20 ft.	20 ft. N/A☐	3 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	1 fps N/A☐	Right: 4 ft. Left: 4 ft.	Right: 10 degrees Left: 10 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☐ Organic	☒ Other:
% of Substrate:	%	10 %	15 %	5 %	5 %	5 %	%	60 %

Width of Riparian Zone: 70 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☐ Trees: ☐ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* in. in.

Dominant Bank Vegetation *(list)*:

Grasses, sedges

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Pools

Aquatic Organisms Observed *(list)*:

Fish, minnows

T&E Species Observed *(list)*:

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Bridged and culverted

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoe048

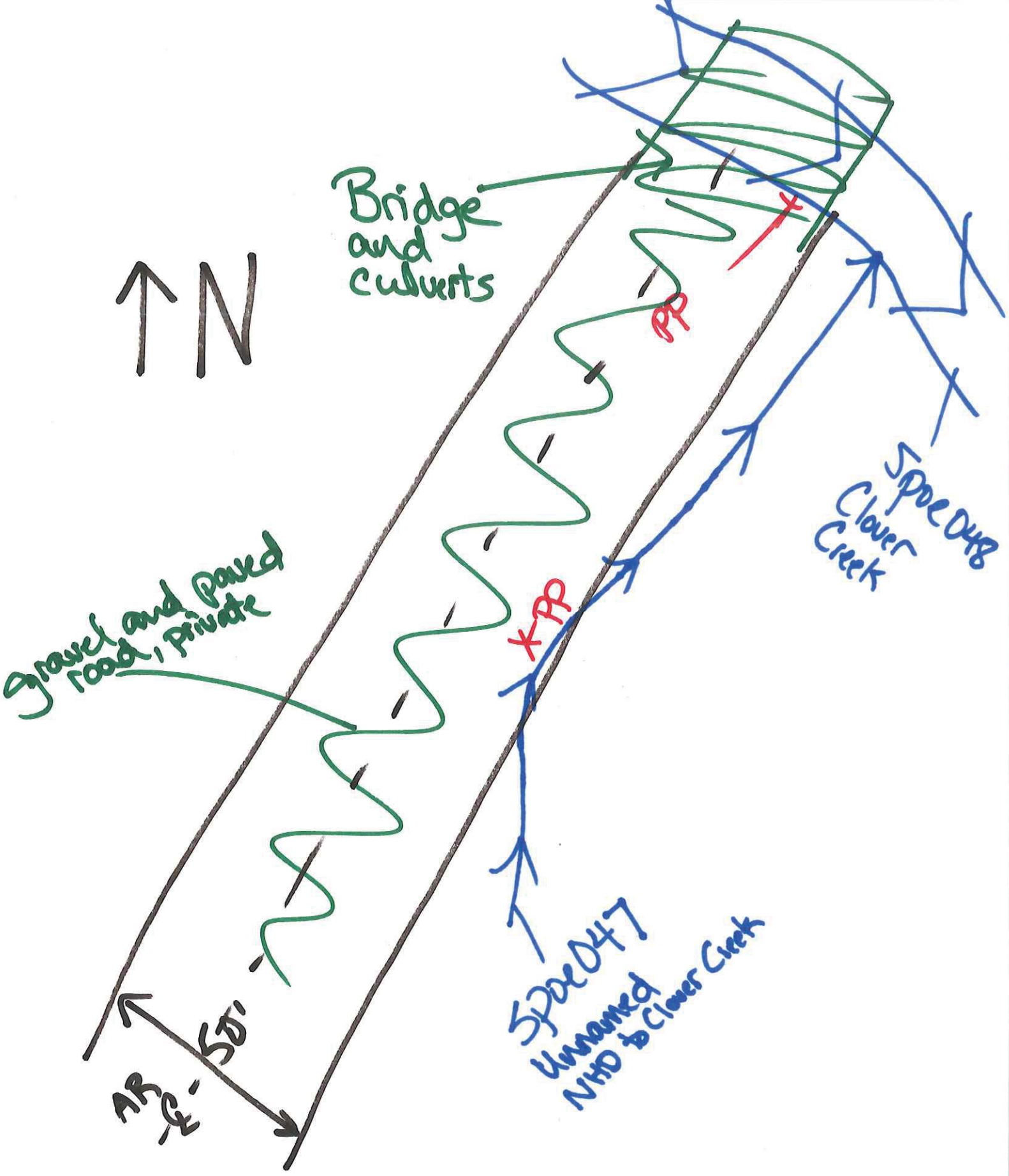
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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


N
Bridge and culverts
PP
PP
Gravel and Paved road, Private
5PDE048 Clover Creek
5PDE047 Unnamed NHD to Clover Creek
AR
E-
50'

Waterbody spoe048 facing west upstream

Waterbody spoe048 facing east downstream

Waterbody spoe048 facing north across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoc120	4/14/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, AS	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E031		Wpoc109

Survey Type: *(check one)* ☒Centerline ☐Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 10 ft.

Height: 1.5 ft.

N/A☐

OHWM Indicator: *(check all that apply)*

☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☐Scouring ☐Water staining

☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
15 ft.	1 ft.	9 ft. N/A☐	1 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1 fps N/A☐	Right: 3 ft. Left: 2 ft.	Right: 80 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☐Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☐ Cobble	☐ Gravel	☐ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	%	%	%	%	%	%	%

Width of Riparian Zone: ft. N/A☐

Vegetative Layers: *(check all that apply)* ☐ Trees: ☐ Saplings/Shrubs: ☐ Herbs

Avg. DBH of Dominants: *(approx.)* in. in.

Dominant Bank Vegetation *(list)*:

Sugar maple, beech, gray sedge, timothy grass, red clover, yarrow

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Overhanging banks, leaf packs, roc piles, riffles

Aquatic Organisms Observed *(list)*:

Dragonfly nymph, stonefly larvae, caddisfly larvae

T&E Species Observed *(list)*:

None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Located within pasture land and flows under a bridge

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoc120

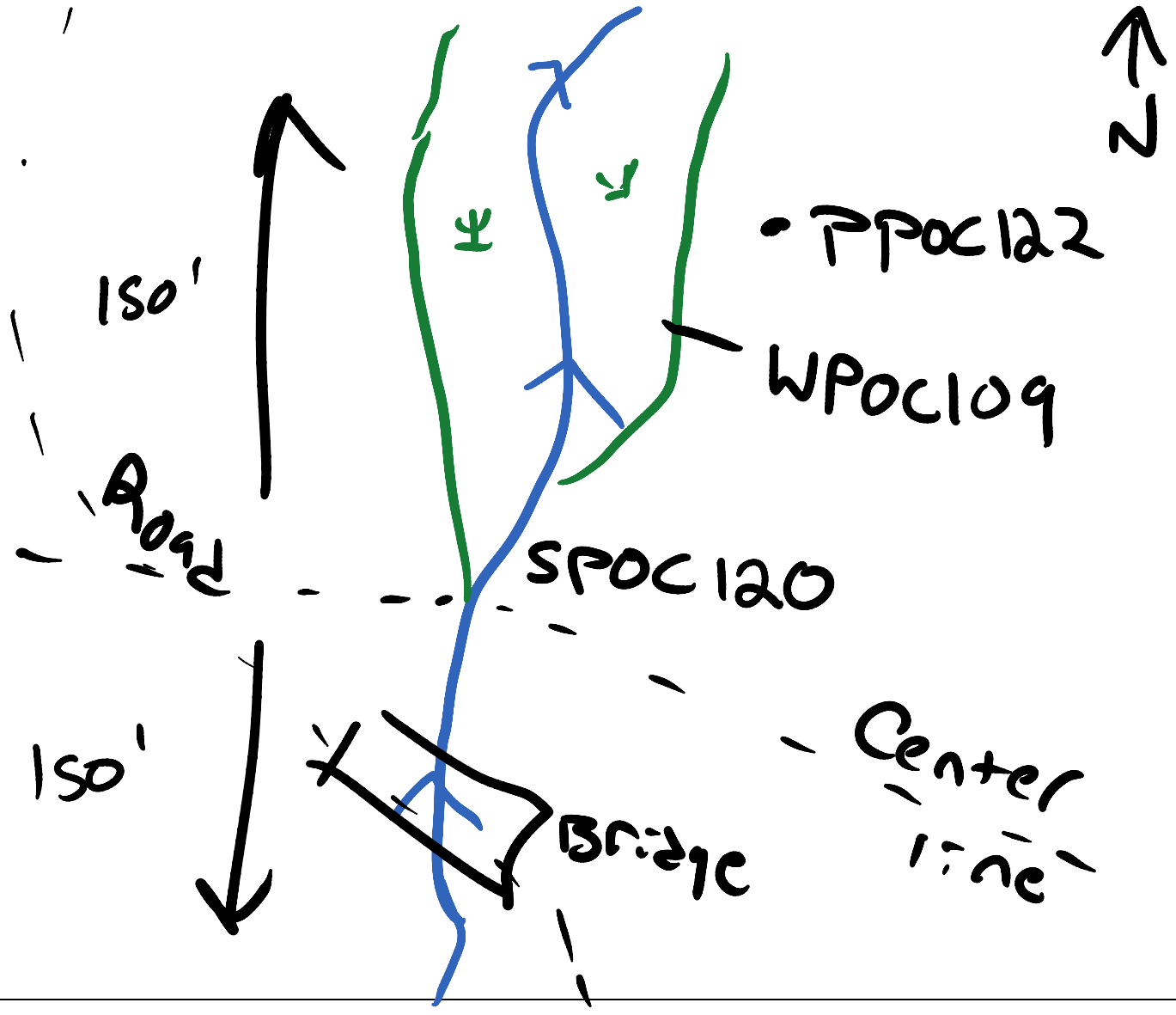
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SPOC120 facing southwest upstream

Waterbody SPOC120 facing northeast downstream

Waterbody SPOC120 facing southeast across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoe032	7/15/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CG, JM	1-3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
Unknown; 05-001-E033	NA	Wpoe216; wpoe217

Survey Type: *(check one)* ☒Centerline ☐Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 8 ft.
Height: 1 ft.
N/A☐

OHWM Indicator: *(check all that apply)*
☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☒Water staining
☒Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☒Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
15 ft.	3 ft.	3 ft. N/A☐	0.2 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	0.75 fps N/A☐	Right: 2 ft. Left: 2 ft.	Right: 20 degrees Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	%	40 %	30 %	15 %	15 %	%	%

Width of Riparian Zone: 40 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs
Avg. DBH of Dominants: *(approx.)* 12 in. 0.5 in.

Dominant Bank Vegetation *(list)*:
Birch, ironwood, violet

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
riffles

Aquatic Organisms Observed *(list)*:
None but likely present

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Adjacent to gravel road

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoe032

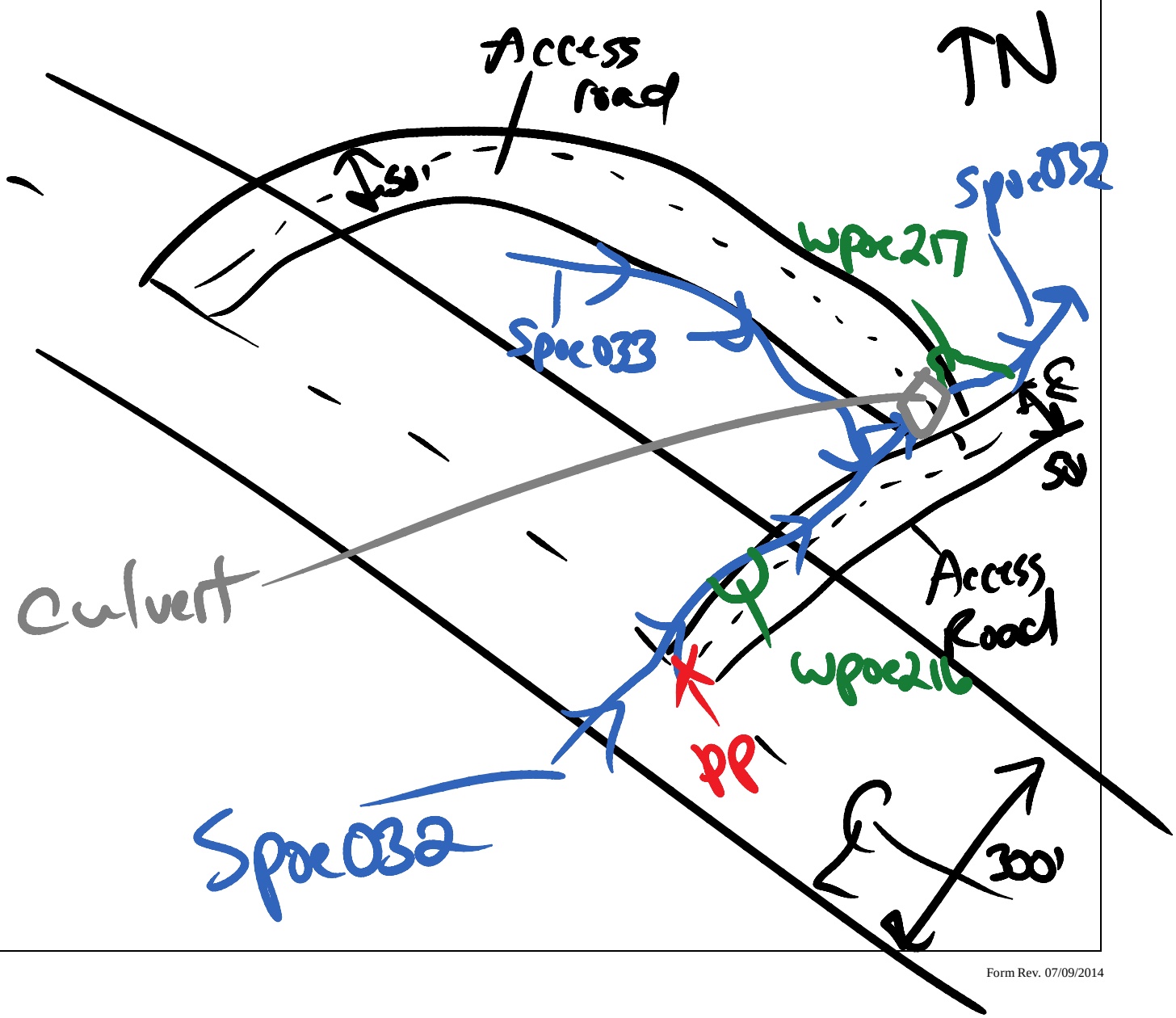
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SPOE032 facing south upstream

Waterbody SPOE032 facing east downstream

Waterbody SPOE032 facing west across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoe033	7/15/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CG, JM	1-3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E033	NA	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☒Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☒Ephemeral ☐Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2 ft.

Height: 0.4 ft. N/A☐

OHWM Indicator: *(check all that apply)* ☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining ☒Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
5 ft.	1 ft.	0.5 ft. N/A☐	0.1 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☒Straight ☐Meandering	0.4 fps N/A☐	Right: 1 ft. Left: 2 ft.	Right: 30 degrees Left: 45 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☐ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	%	%	50 %	50 %	%	%	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☐ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 6 in. in.

Dominant Bank Vegetation *(list)*:

Ferns, oak

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

none

Aquatic Organisms Observed *(list)*:

none

T&E Species Observed *(list)*:

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Adjacent to road

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☐ Moderate ☒ Low

Waterbody ID:
Spoe033

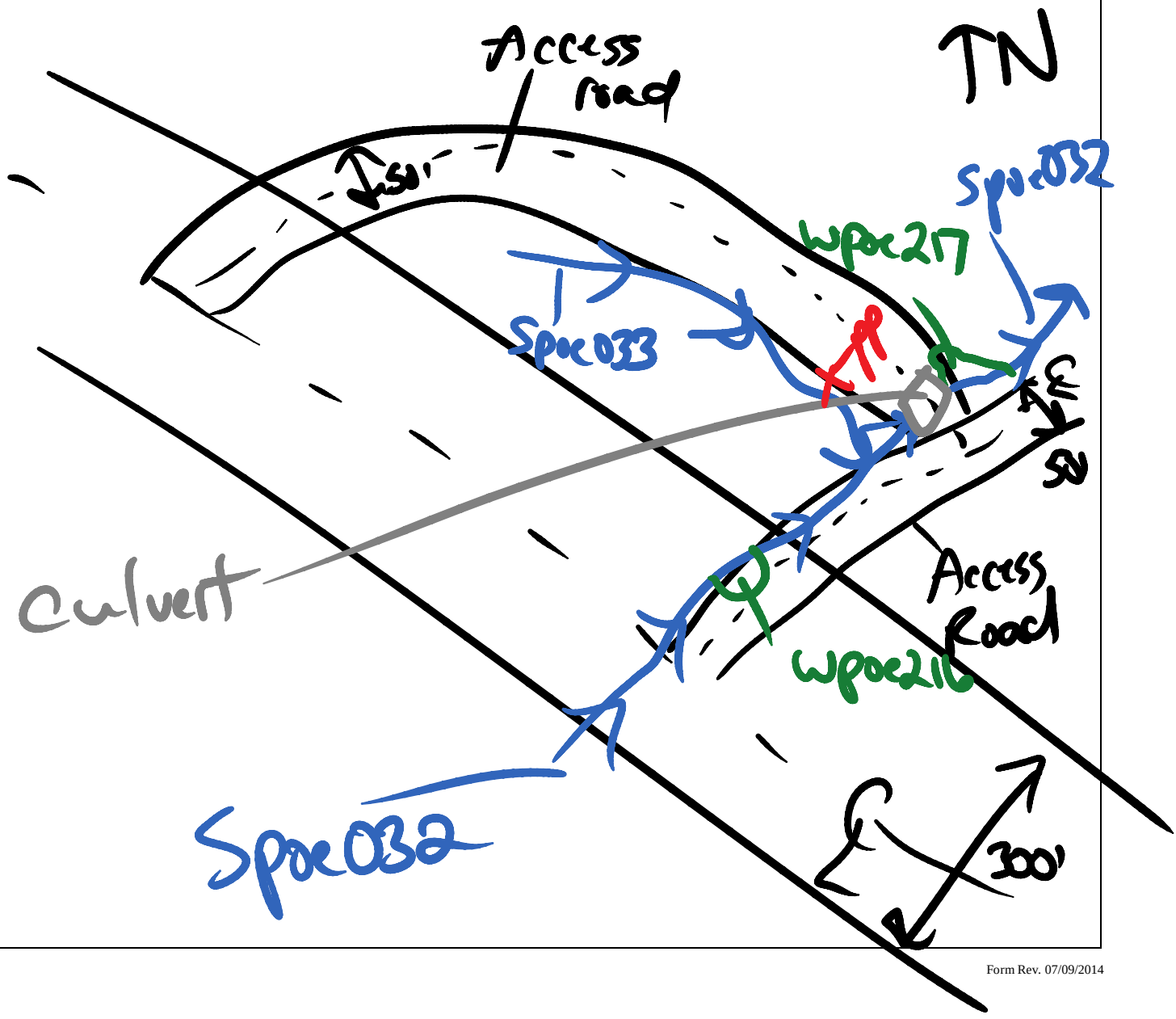
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SPOE033 facing northwest upstream

Waterbody SPOE033 facing southeast downstream

Waterbody SPOE033 facing west across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	Clover Creek	Spoc101	3/15/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	1-3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E035	75	Wpoc100

Survey Type: *(check one)* ☐Centerline ☒Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 30 ft.

Height: 3.5 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☒Bent, matted, or missing vegetation ☒Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
40 ft.	10 ft.	30 ft. N/A☐	3.5 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	2 fps N/A☐	Right: 8 ft. Left: 8 ft.	Right: 60 degrees Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☐Clear ☒Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	%	25 %	55 %	20 %	%	%	%

Width of Riparian Zone: 20 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 10 in. 2 in.

Dominant Bank Vegetation *(list)*:
Setaria, red clover, rush, sycamore, blackberry

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
riffles

Aquatic Organisms Observed *(list)*:
None

T&E Species Observed *(list)*:
None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Stream flows under road through seven culverts. Streak has livestock access and the banks are highly susceptible to erosion

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoc101

[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.

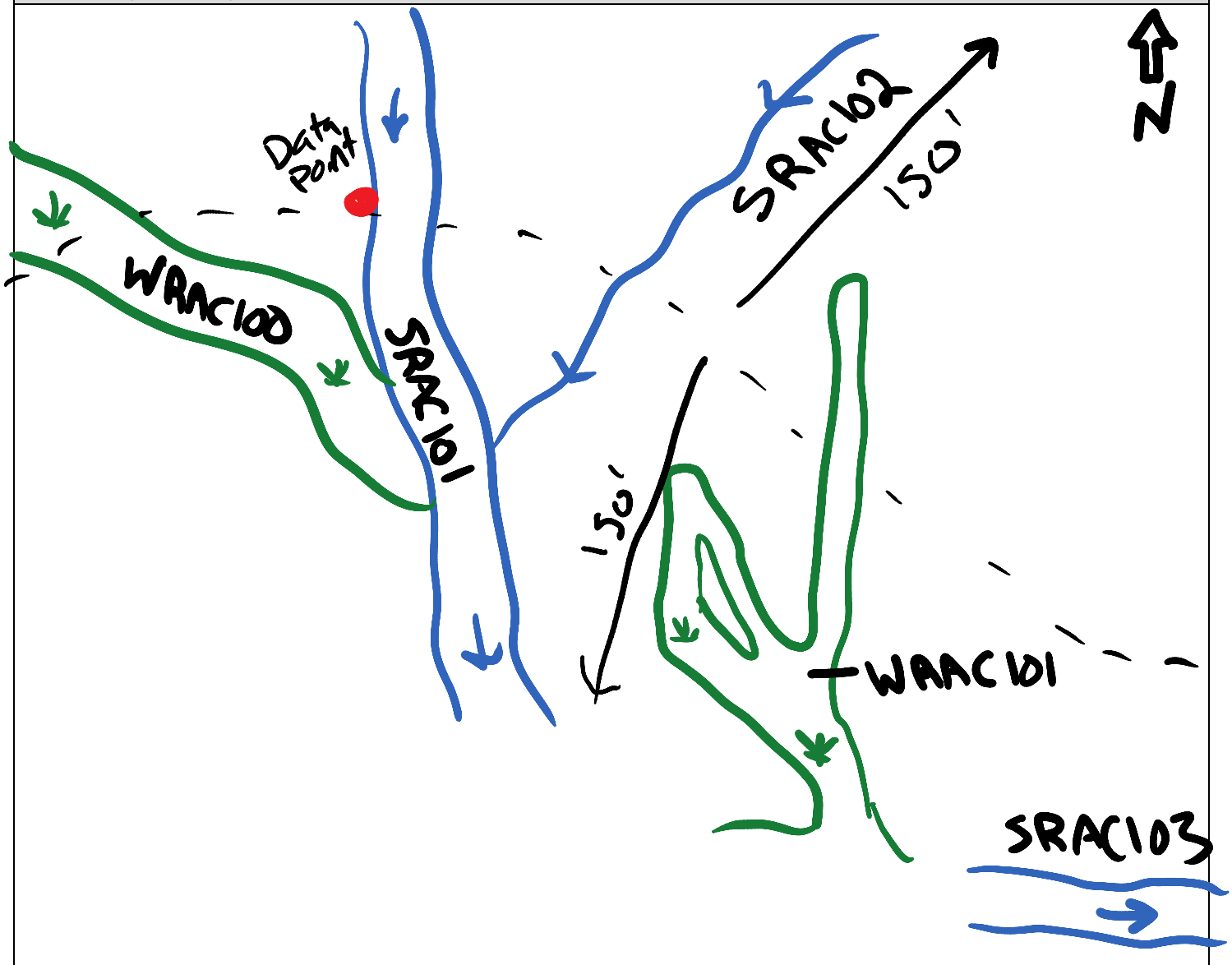
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 at the ordinary high water mark due to recent heavy rain. Wetland and waterbodies below are in Pocahontas County. WRAC100=WPOC100, SRAC101=SPOC101, SRAC102=SPOC102, WRAC101=WPOC101, SRAC103=SPOC103

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



Waterbody SPOC101 facing north upstream

Waterbody SPOC101 facing south downstream

Waterbody SPOC101 facing east across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Clover Creek	Spoc102	3/15/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	1-3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E035	75	None

Survey Type: *(check one)* ☐Centerline ☒Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 6 ft.

Height: 1 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining
☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
8 ft.	2 ft.	6 ft. N/A☐	1 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1 fps N/A☐	Right: 3 ft. Left: 2 ft.	Right: 60 degrees Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	%	25 %	55 %	20 %	%	%	%

Width of Riparian Zone: ft. N/A☒

Vegetative Layers: *(check all that apply)* ☐ Trees: ☐ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* in. in.

Dominant Bank Vegetation *(list)*:
Setaria, red clover, rush, wingstem

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
riffles

Aquatic Organisms Observed *(list)*:
None

T&E Species Observed *(list)*:
None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
Stream flows under road through a culvert. Stream has livestock access and the banks are highly susceptible to erosion

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoc102

[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.

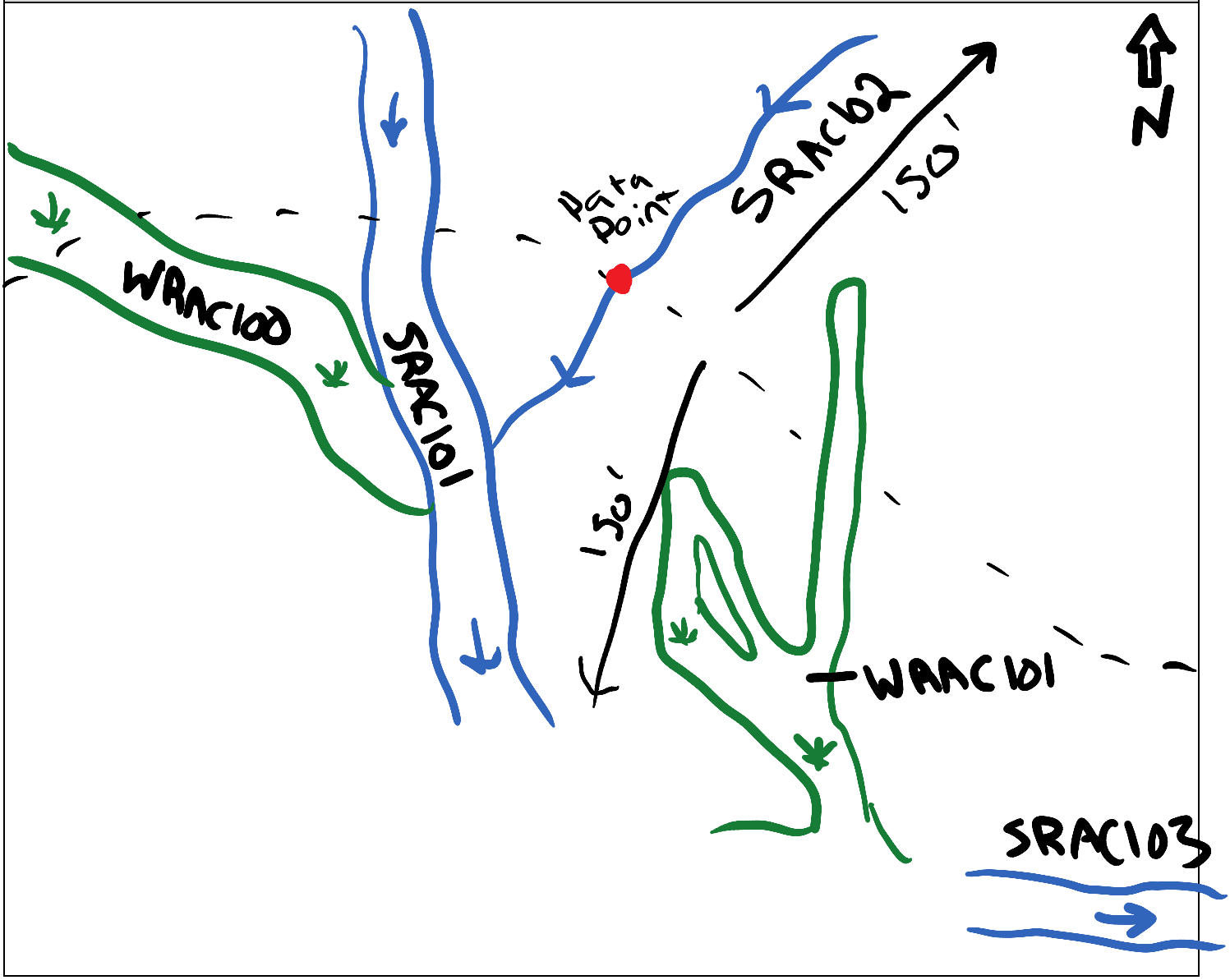
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 at the ordinary high water mark due to recent heavy rain. Revised information below. This is in Pocahontas County. WRAC100 is WPOC100, SRAC101 is SPOC101, SRAC102 is SPOC102, WRAC101 is WPOC101, and SRAC103 is SPOC103.

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



Waterbody SPOC102 facing east upstream

Waterbody SPOC102 facing west downstream

Waterbody SPOC102 facing south across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	Clover Creek	Spoc103	3/15/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	, CR, SA	1-3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E035	75	None

Survey Type: *(check one)* ☐Centerline ☒Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 30 ft.

Height: 3.5 ft.

N/A☐

OHWM Indicator: *(check all that apply)*

☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining

☒Bent, matted, or missing vegetation ☒Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
40 ft.	10 ft.	30 ft. N/A☐	3.5 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	2 fps N/A☐	Right: 5 ft. Left: 8 ft.	Right: 40 degrees Left: 90 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☐Clear ☒Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	%	25 %	55 %	20 %	%	%	%

Width of Riparian Zone: 20 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 10 in. 2 in.

Dominant Bank Vegetation *(list)*:

Setaria, red clover, rush, sycamore, blackberry

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

riffles

Aquatic Organisms Observed *(list)*:

None

T&E Species Observed *(list)*:

None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Stream flows under road through seven culverts. Streak has livestock access and the banks are highly susceptible to erosion

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoc103

[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.

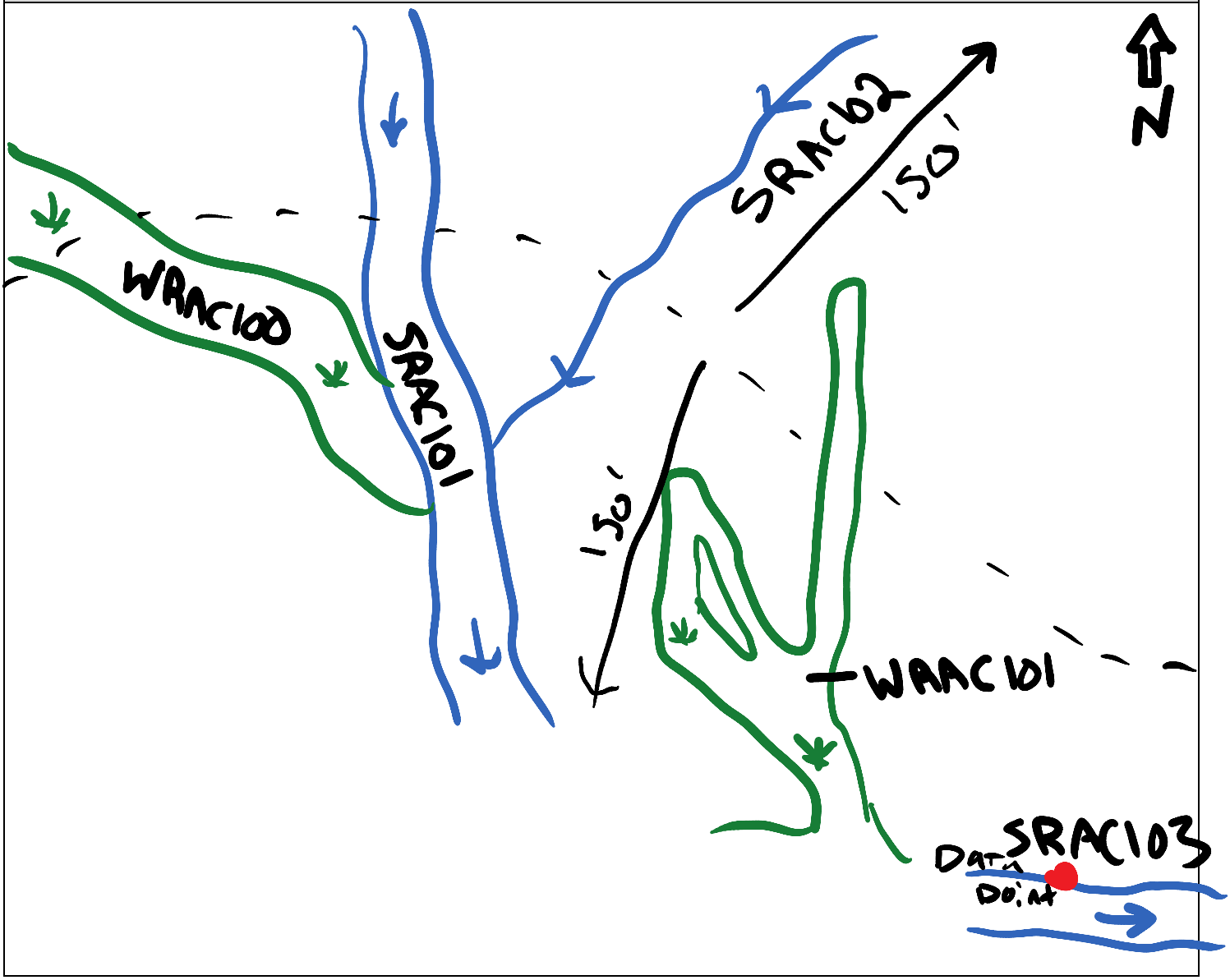
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 at the ordinary high water mark due to recent heavy rain. This is in Pocahontas County. WRAC100=WPOC100, SRAC101=SPOC101, SRAC102=SPOC102, WRAC101=WPOC101, SRAC103=SPOC103

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



Waterbody SPOC103 facing west upstream

Waterbody SPOC103 facing southeast downstream

Waterbody SPOC103 facing south-southwest across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	Glade Run	Spoc104	3/16/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	1-3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E036	76	None

Survey Type: *(check one)* ☐Centerline ☒Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 14 ft.

Height: 0.8 ft.

N/A☐

OHWM Indicator: *(check all that apply)*

☒ Clear line on bank ☐Shelving ☐Wrested vegetation ☒Scouring ☐Water staining

☒Bent, matted, or missing vegetation ☒Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
20 ft.	4 ft.	14 ft. N/A☐	0.8 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1.5 fps N/A☐	Right: 3.5 ft. Left: 5 ft.	Right: 90 degrees Left: 80 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☒ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☐ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	5 %	15 %	70 %	10 %	%	%	%

Width of Riparian Zone: 10 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 6 in. 2 in.

Dominant Bank Vegetation *(list)*:

Yarrow, setaria, red clover, locust, sycamore, blackberry

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Overhanging roots/banks, leaf packs, rock piles

Aquatic Organisms Observed *(list)*:

None

T&E Species Observed *(list)*:

None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Stream runs through two agricultural fields a tractor crossing point is located near centerline

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
Spoc104

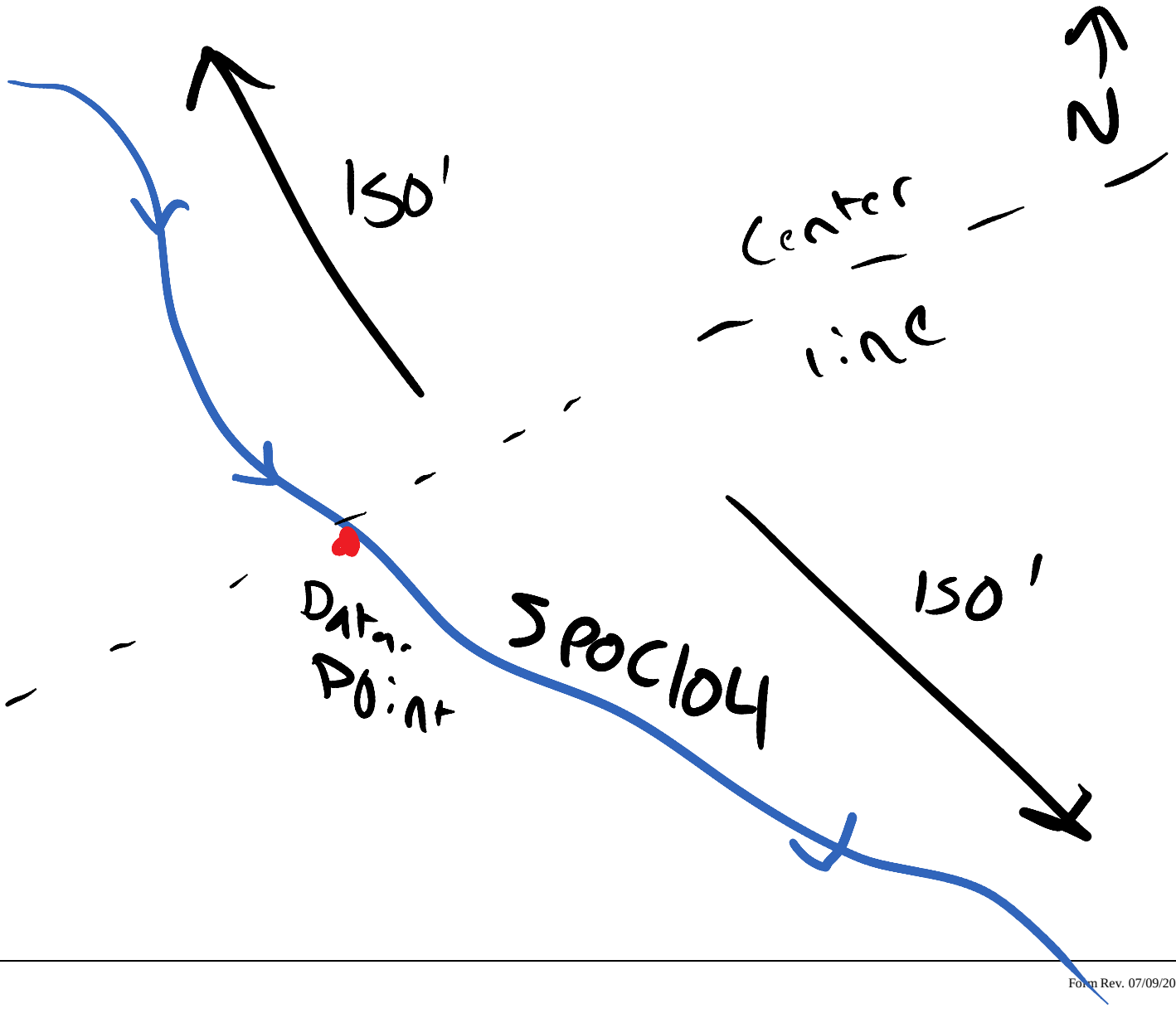
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SPOC104 facing northeast upstream

Waterbody SPOC104 facing southwest downstream

Waterbody SPOC104 facing southeast across

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Atlantic Coast Pipeline	UNT to Greenbrier River	Spoc119	3/24/2016

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Pocahontas	NRG	CR, SA	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
05-001-E038	73	None

Survey Type: *(check one)* ☐Centerline ☒Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☒Ephemeral ☐Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 2 ft.

Height: 0.5 ft.

N/A☐

OHWM Indicator: *(check all that apply)*

☐ Clear line on bank ☐Shelving ☐Wrested vegetation ☐Scouring ☐Water staining

☐Bent, matted, or missing vegetation ☐Wrack line ☒Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
5 ft.	1 ft.	_____ft. N/A☒	_____ft. N/A☒

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	_____fps N/A☒	Right: 2 ft. Left: 2 ft.	Right: 60 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☒No water ☐Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☒ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	_____%	_____%	10 %	20 %	40 %	30 %	_____%	_____%

Width of Riparian Zone: _____ft. N/A☒

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 12 in. 2 in.

Dominant Bank Vegetation *(list)*:

Red oak, red maple, white pine, American beech

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

None

Aquatic Organisms Observed *(list)*:

None

T&E Species Observed *(list)*:

None

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

None

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SPOC119

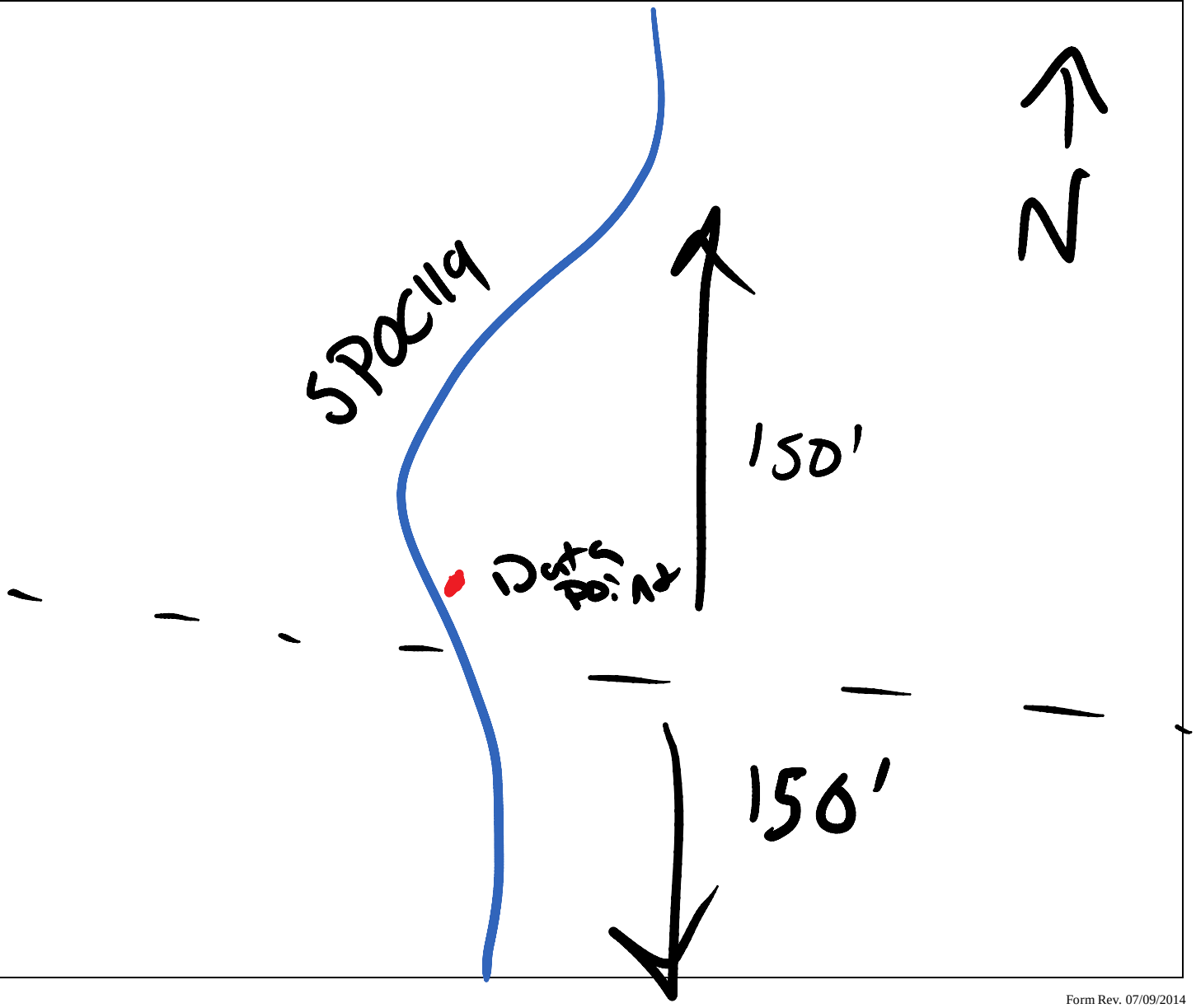
[a] **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SPOC119 facing northeast upstream

Waterbody SPOC119 facing southwest downstream

Waterbody SPOC119 facing southeast across