

Waterbody SAUC128 facing northwest upstream



Waterbody SAUC128 facing southwest downstream



Waterbody SAUC128 facing west across

| Survey Description | n | | | | | | | | |
|--|-------------------------------------|------------------------|-------------------|---------------------------|-----------------|-------------------------------|-------------|--------------|-------------------|
| Project Name: | | Waterbody Na | | | w | aterbody ID: | | Da | |
| Atlantic Coast Pipel | | UNT to Calf | | er | | auc127 | | | 1/2016 |
| State: | County: | | Company: | | | Member Initials: | | hotos: | |
| Virginia | Augusta | | NRG | | CR, S | SA | | 1-3 | |
| Tract Number(s): | | | Nearest Mile | epost: | | Associated W | etland I | ID(s): | |
| 07-001-F039 | | | 110 | | | None | | | |
| Survey Type: (check one) | | e ⊠Re- | Route | □ Access Road | | □Other: | | | |
| Physical Attributes | s | | | | | | | | |
| Stream Classification: (check one) | | al 🗆 Inte | ermittent | Perennial | | | | | |
| Waterbody Type: | | | | | | | | | |
| (check one) | River St | ream 🗌 Dit | ch 🗆 Ca | anal 🗌 Other | : | | | | |
| OHWM Width: | OHWM Indica (check all that appl | | ⊠ Clear lir | ne 🗆 Shelvin | g | ⊠Wrested | \boxtimes | Scouring | □Water |
| <u>12_</u> ft. | | | on bank | | | vegetation | | | staining |
| Height: <u>1.5_</u> ft. N/A□ | ⊠Bent, i vegetatio | matted, or missi on | ng □Wrack li | ne ⊠Litter ar debris | nd | □Abrupt plant community ch | | □Soil char | acteristic change |
| Width of Waterbody - T | op of Width | of Waterbody - | Toe of Slope | Width of Waterb | ody - W | | | of Water: | |
| Bank to Top of Bank: | to Toe | of Slope: | | Water Edge: | | (| (Approx.) | | |
| <u>_25_</u> ft. | - | <u>3</u> ft. | | | <u>10</u> ft. | | N/A□ | 0 | <u>.5_</u> ft. |
| Sinuosity: | Water | velocity: | | N/A□ Bank height | | | Bank sl | lope | |
| (check one) | (Approx.) | | | Right: | | | burnit of | Right: | |
| | | <u>_1_</u> fps | ; | Left: | <u>4_</u> ft. | | | Left: | <u>80</u> degrees |
| ⊠Meanderir | ng N/A□ | | | Lon. | _ <u>4_</u> ft. | | | | 70 degrees |
| Qualitative Attribu | tes | | | | | | | | |
| Water Appearance: (check one) | No water ⊠ | Clear □Tur | | neen DSu n surface scu | | □Algal [mats |]Other: | : | |
| | Bedrock 🗆 Bo | oulder 🛛 Cob | ble 🛛 Grav | el 🛛 Sand 🛛 | ⊠ Silt/ c | clay 🗆 Organic | □ 0 | ther: | |
| (check all that apply) % of Substrate: | % | _% <u>5</u> % | _40_% | 45_% | <u>10_</u> % | % | _ | % | |
| Width of Riparian Zone | e: Vegetativ | e Lavers: | | | | | | | |
| | (check all tha | t apply) | ⊠ Trees | : D | ⊠ Saplir | ngs/Shrubs: | \boxtimes | Herbs | |
| _ <u>20 ft</u> - N/A□ | Avg. DBH (approx.) | of Dominants: | <u>_12_</u> in. | - | <u>2</u> in. | | | | |
| Dominant Bank Vegeta | tion (list): | | | | | | | | |
| Red maple, sweet-g | gum, eastern re | ed-cedar, mu | ltiflora rose | , dropseed | | | | | |
| Aquatic Habitats (ex: su | ubmerged or emerge | d aquatic vegetati | on, overhanging | banks/roots, leaf pac | ks, large | submerged wood, | riffles, d | leep pools): | |
| Emergent vegetatio | n and overhar | nging banks | | | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| Caddisfly larvae | | | | | | | | | |
| T&E Species Observed | (list): | | | | | | | | |
| None | | | | | | | | | |
| Disturbances (ex: livesto | ock access, manure | in waterbody, was | te discharge pipe | es): | | | | | |
| Cattle access | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ A | rtificial, man-m | ade 🗆 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | 🗆 High | | oderate | ⊠ Low | | | | | |

Sauc127

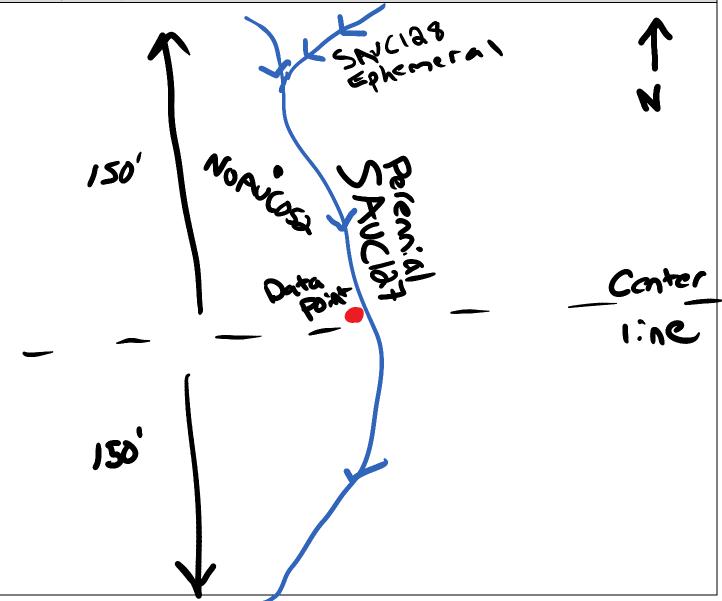
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

ivestock have historically had access to the stream and have altered hydrology





Waterbody SAUC127 facing northeast upstream



Waterbody SAUC127 facing southwest downstream



Waterbody SAUC127 facing southeast across

| Survey Description | n | | | | | | | 1 |
|--|---|--|----------------------------|---------------------------------|------------------------------|---------------------------------|-------------------------|----------------------|
| Project Name: | _ | Waterbody Na | | | | Vaterbody ID: | | Date: |
| Atlantic Coast Pipel | ine | UNT to Calfp | asture Riv | er | S | Sauc129 | | 3/11/2016 |
| State: | County: | | Company: | | Crew | Member Initials: | Photos: | |
| Virginia | Augusta | | NRG | | CR, S | SA | 1-3 | |
| Tract Number(s): | | | Nearest Mile | epost: | I | Associated Wetl | and ID(s): | |
| 07-001-F040 | | | 110 | | | Fringe wetlan | d | |
| Survey Type: (check one) | | e ⊠Re-F | Route | □ Access Road | | □Other: | | |
| Physical Attributes | S | | | | | | | |
| Stream Classification: (check one) | Ephemera | al ⊠Inter | mittent | Perennial | | | | |
| Waterbody Type: (check one) | River 🛛 Str | eam 🗆 Dito | :h □ Ca | anal 🗌 Other: | : | | | |
| OHWM Width: <u>8</u> ft. | OHWM Indica (check all that apply | | ⊠ Clear lir on bank | ne 🗆 Shelvin | g | ⊠Wrested vegetation | ⊠Scourin | g ⊟Water staining |
| Height: ft. N/A□ | ⊠Bent, r vegetatio | natted, or missin n | g | ne □Litter ar debris | nd | □Abrupt plant community chan | | haracteristic change |
| Width of Waterbody - T Bank to Top of Bank: | | of Waterbody - [·] of Slope: | Foe of Slope | Width of Waterbo Water Edge: | ody - V | | pth of Wate | r: |
| <u>_25_</u> ft. | - | <u>1_</u> ft. | | N/A□ | <u>5</u> ft. | N// | A □ | <u>0.5</u> ft. |
| Sinuosity: (check one) □Straight ⊠Meanderir | (Approx.) | velocity: 0.5_fps | | Bank height Right: Left: | <u>4</u> ft. <u>2</u> ft. | Ва | nk slope Righ Lef | 80 degrees |
| Qualitative Attribu | tes | | | | | | | |
| Water Appearance: | | | | | | | | |
| (check one) | No water □C | Clear □Turb | | leen □Sul I surface scu | | ⊠Algal □C mats | Other: | |
| Substrate: (check all that apply) % of Substrate: | Bedrock □ Bo | oulder ⊠ Cobb % <u>5</u> % | le ⊠ Grave <u>10_</u> % | | ⊠ Silt/ o <u>60_</u> % | clay □ Organic % | □ Other: % | |
| Width of Riparian Zone <u>ft</u> . N/A⊠ | (check all that Avg. DBH (approx.) | | □ Trees in. | | ∃ Sapli in. | ngs/Shrubs: | ⊠ Herbs | |
| Dominant Bank Vegeta Common juncus an | | | | | | | | |
| Aquatic Habitats (ex: su Pools and emergen | | d aquatic vegetatio | n, overhanging | banks/roots, leaf pac | ks, large | e submerged wood, rif | fles, deep poo | ls): |
| Aquatic Organisms Ob Salamander larvae, | . , | beetles | | | | | | |
| T&E Species Observed | (list) | | | | | | | |
| None | | | | | | | | |
| Disturbances (ex: livesto | ock access, manure i | n waterbody, waste | e discharge pipe | es): | | | | |
| Cattle access, man | ure in water bo | dy, algal mat | s indicate e | eutrophication | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Art | ificial, man-m | ade 🛛 Manip | ulated | | | |
| Stream Quality ^a : (check one) | □ High | | oderate | ⊠ Low | | | | |

Sauc129

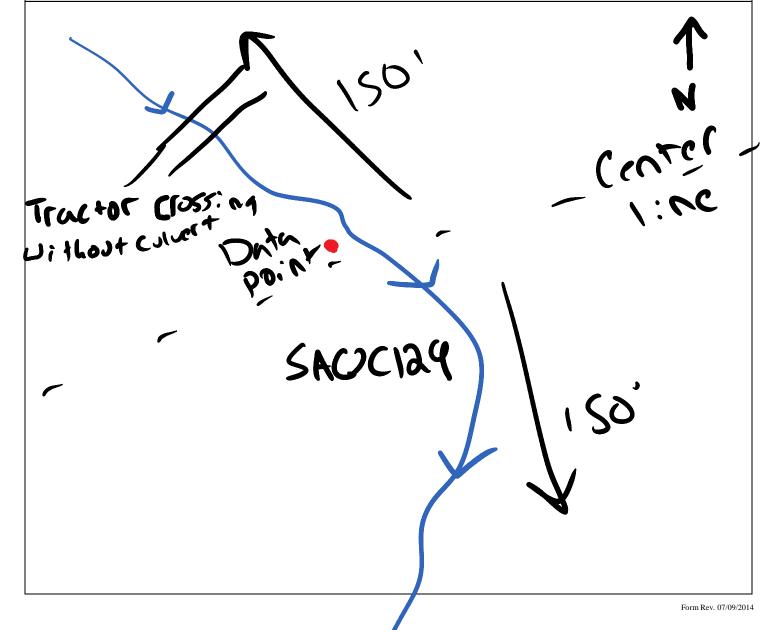
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Highly degraded stream that contains hammocks from cattle access,, manure, and algae. The banks are highly susceptible to erosion.





Waterbody SAUC129 facing north upstream



Waterbody SAUC129 facing south downstream



Waterbody SAUC129 facing east across

| Survey Descriptio | n | | | | | | | | | | |
|---|-----------------------------------|----------------------------------|----------|------------------------|----------------|----------------------|---------------|--|------------|------------|----------------------|
| Project Name: | | Waterbody | | e: | | | v | /aterbody ID: | | | Date: |
| Atlantic Coast Pipel | _ | Tizzle Bra | anch | | | | | auc130 | | | 3/11/2016 |
| State: | County: | | C | company: | | | Crew I | Member Initials | : | Photos: | |
| Virginia | Augusta | | Ν | IRG | | | CR, S | SA | | 1-3 | |
| Tract Number(s): | | | | learest Mile | epost: | | | Associated W | etland | ID(s): | |
| 07-001-F040 | | | 1 | 10 | | | | None | | | |
| Survey Type: (check one) | | ne 🖂 | Re-Ro | oute | □Ac | cess Road | | □Other: | | | |
| Physical Attribute | s | | | | | | | | | | |
| Stream Classification: (check one) | □Epheme | ral 🗆 | nterm | ittent | ⊠Pe | erennial | | | | | |
| Waterbody Type: | | | | | | | | | | | |
| (check one) | River S | tream 🗆 | Ditch | 🗆 Ca | anal | □ Other | : | | | | |
| OHWM Width: 12 ft. | OHWM Indic (check all that app | | | ☑ Clear lin on bank | ie | □Shelvin | g | ⊠Wrested vegetation | | Scouring | g ⊟Water staining |
| Height:ft. | ⊠Bent, vegetati | matted, or mi | ssing | □Wrack lii | ne | ⊠Litter aı debris | nd | Abrupt plar | | □Soil cł | naracteristic change |
| N/A 🗆 | | | | (0) | 14/1-1/1- | - () (- () | | , (| | - () | |
| Width of Waterbody - 1 Bank to Top of Bank: | | of Waterboo | ly - I c | be of Slope | Water | | oay - w | ater Edge to | (Approx. | of Water | : |
| <u>_20</u> ft. | | <u>6_</u> ft. | | | N/A□ | - | <u>10</u> ft. | | N/A□ | - | _0.8_ft. |
| Sinuosity: | Water | velocity: | | | Bank I | height | | | Bank | slope | |
| (check one) | (Approx | | | | | Right: | | | | Right: | 1 |
| | | _1_ | fps | | | Left: | <u>4_</u> ft. | | | Left | <u>90</u> degrees |
| ⊠Meanderi | ng N/A□ | | | | | 2011 | <u>2</u> ft. | | | 2011 | _ <u>60_</u> degrees |
| Qualitative Attribu | tes | | | | | | | | | | |
| Water Appearance: (check one) | []] No water ⊠ | lClear □ | Turbid | - | een surface | ⊡Su e sci | rface um | ⊠Algal mats | □Othe | r: | |
| | Bedrock 🗆 B | oulder 🛛 🖓 | obble | Grave | el 🛛 | Sand [| ⊠ Silt/ c | ay 🗆 Organio | ; 🗆 (| Other: | |
| (check all that apply) % of Substrate: | % | % _20 | _% | <u>40</u> % | _3 | <u>0 % </u> | <u>10 </u> % | % | | % | |
| Width of Riparian Zone | | ve Layers: | | | | | | | | | |
| ft∙ | (check all the Avg. DB | at apply) H of Dominar | nts: | ⊠ Trees: | | | | ngs/Shrubs: | Σ | Herbs | |
| N/A⊠ | (approx.) | | | <u>8</u> in. | | - | <u>2</u> in. | | | | |
| Dominant Bank Vegeta Bluegrass, sycamo | . , | orchardgra | ass | | | | | | | | |
| Aquatic Habitats (ex: su | | - | | overhanging | banks/rc | ots, leaf pac | ks. large | submerged wood | . riffles. | deep pools | <u></u> |
| Pools, riffles and er | | | , | | | , | ., | J. J | ,, | | , |
| Aquatic Organisms Ob | served (list): | | | | | | | | | | |
| Tadpoles and fish | | | | | | | | | | | |
| T&E Species Observed | l (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| Disturbances (ex: livesto Cattle access, man | | • | vaste c | lischarge pipe | es): | | | | | | |
| Tributary is: | | | | | | | | | | | |
| (check one) | □ Natural | | Artifi | cial, man-m | ade | 🛛 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | 🗆 High | | Mod | erate | | ⊠ Low | | | | | |

Sauc130

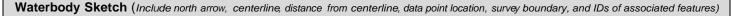
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Notes:

Highly degraded stream that contains hammocks from cattle access. The banks are highly susceptible to erosion.



| ۸ | 150' | ∧ N |
|------|-------------------|--------|
| | Data | Center |
| 150' | point Savc 130 | IIC |



Waterbody SAUC130 facing northwest upstream



Waterbody SAUC130 facing southeast downstream



Waterbody SAUC130 facing southwest across

| Survey Description | n | | | | | | | | |
|--|-------------------------------------|-----------------------------|------------------------|--------------------------------|---------------|------------------------|----------------------|----------------------------|---|
| Project Name: | | Waterbody Na | ame: | | v | aterbody ID: | | Date: | |
| Atlantic Coast Pipel | | Benson Rur | | | | auc131 | | 3/11/2016 | |
| State: | County: | | Company: | | | Member Initials: | | notos: | |
| Virginia | Augusta | | NRG | | CR, S | SA | 1 | -3 | |
| Tract Number(s): | · | | Nearest Mile | epost: | | Associated We | etland ID |)(s): | |
| 07-001-F040 | | | 111 | | | None | | | |
| Survey Type: (check one) | | e ⊠Re- | Route | □Access Road | | □Other: | | | |
| Physical Attributes | S | | | | | | | | |
| Stream Classification: (check one) | Ephemera | al 🛛 🗆 Inte | ermittent | Perennial | | | | | |
| Waterbody Type: | | | | | | | | | |
| | River Str | ream 🗆 Dit | ich 🗆 C | anal 🛛 🗆 Other | : | | | | |
| OHWM | OHWM Indica (check all that appl | | | | - | ∑\\\/reated | | | |
| Width:ft. | (check an that appr | y) | ⊠ Clear lir on bank | ne ⊡Shelvin | g | ⊠Wrested vegetation | ⊠3 | couring DWater staining | |
| Height: | | matted, or missi | ng 🗆 Wrack li | ine ⊠Litter a | nd | □Abrupt plant | | Soil characteristic change | ł |
| <u>1.5 f</u> t. N/A□ | vegetatio | on | | debris | | community cha | ange | | |
| Width of Waterbody - T Bank to Top of Bank: | | of Waterbody - of Slope: | Toe of Slope | Width of Waterb Water Edge: | ody - W | | Depth of Approx.) | Water: | |
| | 10 100 | of Slope. | | Water Luge. | | (· | (pp: 0/l.) | 0.5.4 | |
| <u>_25_</u> ft. | - | <u>6</u> ft. | | | <u>12</u> ft. | | √A□ | <u>0.5</u> ft. | |
| Sinuosity: | Water | velocity: | | Bank height | | E | Bank slo | ре | |
| (check one) | (Approx.) |) | | Right: | | | | Right: | |
| | | <u>_1_</u> fps | 6 | Left: | <u>3_</u> ft. | | | 60 degrees | |
| Meanderir | ng N/A□ | | | | <u>3_</u> ft. | | | <u>60</u> degrees | |
| Qualitative Attribu | tes | | | | | | | | |
| Water Appearance: (check one) | No water ⊠0 | Clear □Tur | | | rface um | ⊠Algal [mats | Other: | | |
| | Bedrock 🗆 Bo | oulder 🛛 Cob | ble 🛛 Grav | el 🛛 Sand 🛛 | ⊠ Silt/ c | clay 🗆 Organic | □ Otł | ner: | |
| (check all that apply) % of Substrate: | % | % <u>20 </u> % | <u>40</u> % | <u> 30 </u> % | <u>10_</u> % | % | | % | |
| Width of Riparian Zone | | | | | | | | | |
| ft- | (check all that | t apply) of Dominants: | □ Trees | | | ngs/Shrubs: | ⊠⊦ | Herbs | |
| <u></u> . N/A⊠ | (approx.) | of Dominants. | in. | - | in. | | | | |
| Dominant Bank Vegeta | . , | | h a un i | | | | | | |
| Bluegrass, orchard | - | | • | | | | | | |
| Aquatic Habitats (ex: su | | | on, overhanging | banks/roots, leaf pac | ks, large | submerged wood, | riffles, de | ep pools): | |
| Pools, riffles and en | • • | ation | | | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| crayfish | | | | | | | | | |
| T&E Species Observed | (list): | | | | | | | | |
| None | | | | | | | | | |
| Disturbances (ex: livesto | ock access, manure i | in waterbody, was | te discharge pip | es): | | | | | |
| Cattle access, manu | ure in water bo | ody | | | | | | | |
| Tributary is: (check one) | □ Natural | □ A | rtificial, man-m | nade 🛛 🖾 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | | loderate | ⊠ Low | | | | | _ |

Sauc131

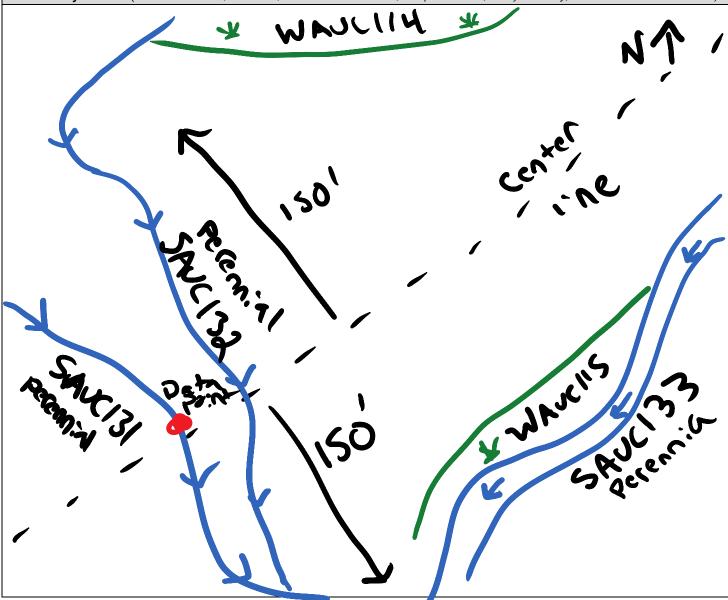
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Notes:

Highly degraded stream that contains hammocks from cattle access. The banks are highly susceptible to erosion.





Waterbody SAUC131 facing north upstream



Waterbody SAUC131 facing south downstream



Waterbody SAUC131 facing west across

| Survey Descriptio | n | | | | | | | | | | |
|--|---------------------------|-----------------------|--------------|------------------------|----------------|---------------|---------------|------------------------|--------------------|------------|---------------------|
| Project Name: | | Waterbod | - | | | | | aterbody ID: | | | Date: |
| Atlantic Coast Pipe | line | UNT to E | Benso | n Run | | | Si | auc132 | | | 3/11/2016 |
| State: | County: | | С | ompany: | | | Crew N | lember Initials | : | Photos: | |
| Virginia | Augusta | | Ν | RG | | | CR, S | SA | | 1-3 | |
| Tract Number(s): | | | N | earest Mile | epost: | | | Associated W | etland | ID(s): | |
| 07-001-F040 | | | 1 | 11 | | | | Fringe wetl | and V | VAUC11 | 4 |
| Survey Type: (check one) | | ne 🛛 | Re-Ro | ute | □Ac | cess Road | ł | □Other: | | | |
| Physical Attribute | S | | | | | | | | | | |
| Stream Classification: (check one) | Epheme | ral 🗆 | Intermi | ittent | ⊠Pe | rennial | | | | | |
| Waterbody Type: | • | | | | | | | | | | |
| | ∃River ⊠ S | tream 🗆 | Ditch | □ Ca | anal | □ Other | r: | | | | |
| онwм | OHWM Indic | | | | | | | | | | |
| Width: _ <u>15_</u> ft. | (check all that app | <i>)</i> (<i>y</i>) | | ☑ Clear lin on bank | ie | □Shelvir | ng | ⊠Wrested vegetation | | Scouring | □Water staining |
| Height: | ⊠Bent, | matted, or m | nissing | □Wrack lii | ne | ⊠Litter a | nd | □Abrupt plan | t | □Soil ch | aracteristic change |
| <u>1.5 f</u> t. N/A□ | vegetati | ion | | | | debris | | community ch | ange | | |
| Width of Waterbody - 1 Bank to Top of Bank: | | | dy - To | e of Slope | | | ody - W | ater Edge to | Depth (Approx.) | of Water | : |
| Bank to Top of Bank: | to 106 | e of Slope: | | | Water | Eage: | | | (Approx.) | | 0.5.4 |
| <u>_25_</u> ft. | | <u>6</u> ft. | | | N/A□ | - | <u>12</u> ft. | | N/A□ | - | <u>_0.5_</u> ft. |
| Sinuosity: | | velocity: | | | Bank h | eight | | | Bank s | slope | |
| (check one) | (Approx |) | | | | Right: | | | | Right: | |
| | | _1_ | _fps | | | Left: | <u>3_</u> ft. | | | Left | 60 degrees |
| Meanderi | ng N/A□ | | | | | | <u>3_</u> ft. | | | | 60 degrees |
| Qualitative Attribu | ites | | | | | | | | | | |
| Water Appearance: (check one) | [□] No water ⊠ | Clear 🗆 | Turbid | ⊡Sh on | een surface | | irface sum | ⊠Algal mats | □Othe | r: | |
| | Bedrock 🛛 B | oulder 🗆 | Cobble | ⊠ Grave | el 🛛 | Sand | ⊠ Silt/ c | lay 🗆 Organic | : 🗆 (| Other: | |
| (check all that apply) % of Substrate: | % | %% | 6 | <u> 10 </u> % | _3(| <u>)</u> % | <u>60</u> % | % | | % | |
| Width of Riparian Zone | e: Vegetativ | /e Layers: | | | | | | | | | |
| 4 | (check all the | | n to. | □ Trees: | | | | ngs/Shrubs: | \boxtimes | I Herbs | |
| <u>ft</u> · N/A⊠ | avg. DBi (approx.) | H of Domina | nts: | in. | | | in. | | | | |
| Dominant Bank Vegeta | | | | | | | | | | | |
| Bluegrass, orchard | l grass, comm | on rush, b | lackbe | erry, broo | m-sed | lge | | | | | |
| Aquatic Habitats (ex: s | ubmerged or emerge | ed aquatic veg | etation, | overhanging | banks/roo | ots, leaf pao | cks, large | submerged wood | , riffles, | deep pools | s): |
| Pools, riffles and er | mergent veget | ation | | | | | | | | | |
| Aquatic Organisms Ob | oserved (list): | | | | | | | | | | |
| crayfish | | | | | | | | | | | |
| T&E Species Observed | d (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| Disturbances (ex: livest | ock access, manure | in waterbody, | waste d | ischarge pipe | es): | | | | | | |
| Cattle access, man | ure in water b | ody | | | | | | | | | |
| Tributary is: (check one) | Natural | [| □ Artific | cial, man-m | ade | 🛛 Manip | oulated | | | | |
| Stream Quality ^a : (check one) | 🗆 High | [| ⊠ Mode | erate | | □ Low | | | | | |

Sauc132

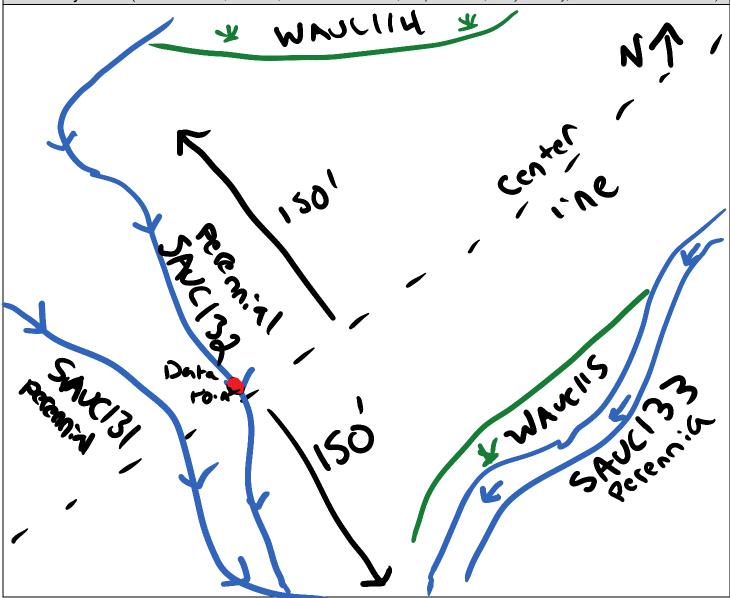
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

Stream has cattle access. The banks are slightly susceptible to erosion.





Waterbody SAUC132 facing northeast upstream



Waterbody SAUC132 facing southwest downstream



Waterbody SAUC132 facing northwest across

| Survey Descriptio | n | | | | | | | | | | |
|---|----------------------------------|------------------|-------------|---------------------------------------|----------------|----------------------|-----------------------------|------------------------------|--------------------|------------|---------------------|
| Project Name: | | Waterbody | | | | | | aterbody ID: | | | Date: |
| Southeast Reliabilit | у | Tim's Dra | ft | | | | S | auc133 | | | 3/11/2016 |
| State: | County: | | Com | pany: | | | Crew I | Member Initials | : | Photos: | |
| Virginia | Augusta | | NRG | 3 | | | CR, S | SA | | 1-3 | |
| Tract Number(s): | | | Neare | est Mile | epost: | | J | Associated W | etland | ID(s): | |
| 07-001-F040 | | | 111 | | | | | Wauc115 | | | |
| Survey Type: (check one) | | ne 🛛 🕅 | Re-Route | | □Ac | cess Road | l | □Other: | | | |
| Physical Attribute | s | | | | | | | | | | |
| Stream Classification: (check one) | □Epheme | eral □I | ntermitten | ıt | ⊠Pe | erennial | | | | | |
| Waterbody Type: | | | | | | | | | | | |
| | River S | itream 🗆 | Ditch | 🗆 Ca | anal | □ Other | : | | | | |
| OHWM Width: 15 ft. | OHWM Indic (check all that ap | | | Clear lir bank | ne | □Shelvin | g | ⊠Wrested vegetation | × | Scouring | □Water staining |
| Height: 4 ft. | ⊠Bent, vegetat | , matted, or mis | ssing ⊠V | Vrack li | ne | ⊠Litter aı debris | nd | □Abrupt plan community ch | | □Soil ch | aracteristic change |
| N/A 🗆 👘 | | | | | | | | | 0 | | |
| Width of Waterbody - 1 Bank to Top of Bank: | | of Waterbod | y - Toe of | f Slope | Width Water | | ody - W | | Depth (Approx.) | of Water | |
| <u>_30</u> ft. | | <u>6_</u> ft. | | | N/A□ | - | <u>12</u> ft. | | N/A□ | _ | <u>2.5_</u> ft. |
| Sinuosity: | Wate | r velocity: | | | Bank I | neight | | | Banks | slope | |
| (check one) | (Approx | | | | | Right: | | | | Right: | |
| | | _1_1 | ps | | | Left: | <u>5_</u> ft. | | | Left: | <u>90</u> degrees |
| ⊠Meanderi | ng N/A⊏ |] | | | | 2010 | <u>4_</u> ft. | | | 2011 | 60 degrees |
| Qualitative Attribu | tes | | | | | | | | | | |
| Water Appearance: (check one) | No water | IClear □T | urbid | ⊡Sh on | een surface | ⊡Su e sci | | ⊠Algal mats | □Othe | r: | |
| | Bedrock 🗆 E | Boulder 🛛 🗠 C | obble 🛛 | Grave | el 🛛 | Sand [| ⊠ Silt/ o | clay 🗆 Organic | ; 🗆 (| Other: | |
| (check all that apply) % of Substrate: | % | % _20 | % | <u>30_</u> % | _2 | <u>0 %</u> | <u>30 </u> % | % | | % | |
| Width of Riparian Zone | | ve Layers: | | - | | | | | _ | | |
| <u>_60 ft</u> - | | H of Dominan | - | [⊠] Trees: <u>12_</u> in. | : | | ⊠ Sapliı _ <u>1_</u> in. | ngs/Shrubs: | Þ | I Herbs | |
| N/A□ Dominant Bank Vegeta | (approx.) | | | | | | | | | | |
| Sycamore, wingste | | , orchardgra | ass, con | nmon | rush, l | blackberi | ry, bro | om-sedge | | | |
| Aquatic Habitats (ex: su | ubmerged or emerg | ed aquatic veget | ation, over | hanging | banks/ro | ots, leaf pac | ks, large | submerged wood | , riffles, | deep pools |): |
| Pools, riffles and er | nergent veget | tation, overh | anging | banks | s/roots | | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | | | |
| Crayfish, fish, water | striders, cad | disfly larvae | | | | | | | | | |
| T&E Species Observed | l (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| Disturbances (ex: livesto Cattle access, man | | | aste discha | arge pipe | es): | | | | | | |
| Tributary is: (check one) | □ Natural | | Artificial, | man-m | ade | ⊠ Manip | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | | Moderate | | | ⊠ Low | | | | | |

Sauc133

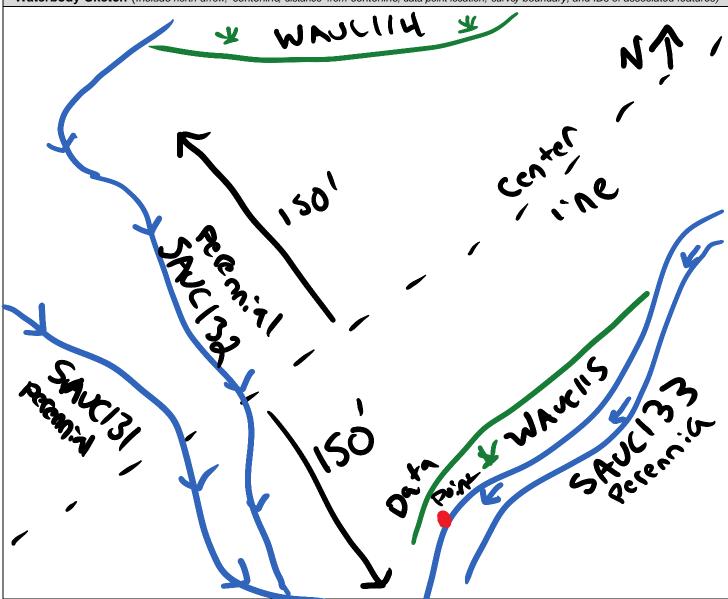
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

Stream has cattle access and manure in stream. The banks are highly susceptible to erosion. SAUR010 is part of SAUC133. This stream was extended to include that part of the stream.





Waterbody SAUC133 facing northeast upstream



Waterbody SAUC133 facing southwest downstream



Waterbody SAUC133 facing southeast across

| Survey Description | and the second se | | | | |
|---|---|----------------------------|-----------------|----------------------------|--|
| Project Name: | Waterbody N | · | | aterbody ID: | Date: |
| ЛЧ | UT to | Tim's Draft | | sauroog | 3/24/16 |
| State: County/P | arish: | Company: | | | Photos: |
| VA Aug. | usta | ESI | JE | Senton, NM | N,S,W |
| Tract Number(s): | | Nearest Milepost: | 1 | Associated Wetland | |
| 07-001-F04 | | 111 | | wanc114 | |
| Survey Type: | 1 | el la sined and contratas. | di solte da fad | | |
| The second second second second second | enterline XRe | -Route DAcces | ss Road | Other: | And the second s |
| Physical Attributes Stream Classification: | | | | | |
| | nemeral Dint | ermittent ØPerer | nial | | |
| Waterbody Type: | 1 | | | | Taka Sales I |
| (check one) | | itch 🗆 Canal 🛛 | Other: | | |
| | Indicator: | × | | | |
| Width: 8 ft. (check all | that apply) | Clear line | Shelving | Wrested C vegetation | Scouring ZW ater staining |
| | Bent, matted, or miss | ing DWrack line | Litter and | | Soil characteristic change |
| ft | egetation | | ebris | community change | A Son characteristic change |
| N/A□ Width of Waterbody - Top of | Width of Waterbody | - Toe of Slope Width of | Waterbody - W | ater Edge to Depth | of Water: |
| Bank to Top of Bank: | to Toe of Slope: | Water Ed | ge: | (Approx.) | |
| ft. | <u>7</u> ft. | | -t_f | t | <u>0,5</u> ft. |
| | | N/A | | N/A | |
| Sinuosity: 'check one) | Water velocity: (Approx.) | Bank hei | | Bank s | |
| □Straight | 2 | fos | light: (f | ft. | Right: 45 degrees |
| Meandering | | | Left: | | Left: 45 destant |
| yaqvieandernig | N/A | • | | ft. | degrees |
| Qualitative Attributes | | | | | |
| (check one) ON water | Clear DTu | rbid DSheen | | □Algal □Othe | r: |
| | | on surface | scum | mats . | |
| Substrate: Bedrock | Boulder Col | bble 🗆 Gravel 🖾 Sa | and A Silt/ c | lay 🗆 Organic 🔲 (| Other: |
| (check all that apply) % of Substrate: % | % | % % 30 | 0% 70 | %% | % |
| | | | | 1.1.1 | |
| | getative Layers: eck all that apply) | ⊠ T,rees: | Sanlir | ngs/Shrubs: 🛛 | Herbs |
| 7100 ft. Av | g. DBH of Dominants | | 2 | | N/A_in. |
| N/A (app Dominant Bank Vegetation (list): | orax.) | | 100 | | |
| | tul ave | P. J. con Jun : | 1 | | |
| Carya ovata, Be | The second se | | | | |
| Aquatic Habitats (ex: submerged or | | | | e submerged wood, riffles, | deep pools): |
| submerged vegetat | | d wood, rittles, | pools | | |
| Aquatic Organisms Observed (lis | st): | | | | |
| NO EPT observe | 9 | | | | |
| T&E Species Observed (list): | | | | | |
| None | | | | | |
| Disturbances (ex: livestock access, | manure in waterbody, wa | aste discharge pipes): | | | |
| timber harvest | | | | | |
| Tributary is: | in pilot | | | | |
| (check one) | Natural 🗆 | Artificial, man-made | □ Manipulated | | |
| Stream Quality *: | | | | | |
| (check one) . | High 🛱 | Moderate I | Low | | |

Waterbody ID: Saur009 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: Perennial channel with moderate flow & aguitic vegetation, Channel dissipates into previously defineated wetland at tract boundary Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) Centerline cauro09 Hotata, ENDSURIA wave 11427 END SANT Farm Rev 05/167014

Environmental Field Surveys Waterbody Photo Page



Waterbody data point saur009 facing north upstream.



Waterbody data point saur009 facing south downstream.

Photo Sheet 1 of 2

Environmental Field Surveys Waterbody Photo Page



Waterbody data point saur009 facing west across bank.

| Survey Description | on | | | | | | | | | | |
|--|--------------------|--------------------------|---------------|----------------------|-------------------|---------------|----------------|------------------------|------------------|----------------|--------------------------|
| Project Name: | | | ody Name | | | | | /aterbody ID: | | | Date: |
| Atlantic Coast Pipe | line | UNT to | Tizzle I | Branch | | | S | aue305 | | | 4/29/2016 |
| State: | County: | | C | ompany: | | | Crew I | Member Initials | : | Photos: | |
| Virginia | Augusta | | Ν | RG | | | CG, S | SA, SS | | 1-3 | |
| Tract Number(s): | | | N | earest Mile | epost: | | 1 | Associated W | etland | ID(s): | |
| 07-005 07-005-A001 | | | 1 | 11 | | | | none | | | |
| Survey Type: (check one) | ⊠Cente | ulia a | | | | | | | | | |
| , , | | enine | □Re-Rou | Jie | | cess Road | | Other: | | | |
| Physical Attribute Stream Classification: | | | | | | | | | | | |
| (check one) | □Ephe | meral | □Intermi | ttent | ⊠Pe | rennial | | | | | |
| Waterbody Type: | | | | | | | | | | | |
| (check one) | □River ▷ | Stream | □ Ditch | | anal | □ Other: | | | | | |
| ОНШМ | OHWM In | | | | | | | | _ | | |
| Width: 15 ft. | (check all tha | (арру) | | Clear lir on bank | ne | Shelving | g | ☐Wrested vegetation | Þ | Scouring | g □Water staining |
| Height: | | ent, matted, or | missing | ⊡Wrack li | ne | ⊠Litter ar | hd | □Abrupt plan | .t | □ Soil d | naracteristic change |
| ft. N/A□ | | etation | moong | | no | debris | | community ch | | | |
| Width of Waterbody - | Top of Wi | dth of Water | ody - To | e of Slope | Width | of Waterbo | odv - W | ater Edge to | Depth | of Water | : |
| Bank to Top of Bank: | | Toe of Slope | | | Water | | | Ū | (Approx. | | |
| <u>_17_</u> ft. | | <u>_16_</u> ft. | | | | | <u>14_</u> ft. | | | | <u>_1_</u> ft. |
| Cinuccitur | 14/ | | | | N/A□ | a | | | N/A□ Bank | | |
| Sinuosity: (check one) | | ater velocity: prox.) | | | Bank h | Right: | | | Bank | siope Right | |
| ⊠Straight | | | <u>3_</u> fps | | | - | <u>2_</u> ft. | | | • | 85 degrees |
| □Meander | ing N// | ۹ | | | | Left: | <u>2_</u> ft. | | | Left | : _ <u>45</u> degrees |
| Qualitative Attribu | itoc | | | | | | | | | | |
| Water Appearance: | lies | | | | | | | | | | |
| (check one) | ☐No water | ⊠Clear | □Turbid | ⊡Sh or | ieen i surface | ⊡Sur scu | | □Algal mats | □Othe | r: | |
| Substrate: | Bedrock | Boulder | Cobble | ⊠ Grav | el 🛛 | Sand D | ⊠ Silt/ c | clay 🗆 Organic | ; 🗆 (| Other: | |
| % of Substrate: | _% | _% | % | <u> 10 </u> % | 2 | <u>%</u> | <u>88_</u> % | % | | % | |
| Width of Riparian Zon | e: Veget | ative Lavers: | | | | | | | | | |
| - | (check a | all that apply) | | ⊠ Trees | : | \square | 🛛 Saplir | ngs/Shrubs: | \triangleright | I Herbs | |
| <u>150 ft</u> ⊷ N/A□ | Avg. I (approx. | DBH of Domin | nants: | <u>6</u> in. | | - | <u>1</u> in. | | | | |
| Dominant Bank Veget | ation (list): | | | | | | | | | | |
| Salix nigra, Rosa m | nultiflora | | | | | | | | | | |
| Aquatic Habitats (ex: s | ubmerged or em | erged aquatic v | egetation, o | overhanging | banks/ro | ots, leaf pac | ks, large | submerged wood | , riffles, | deep pool | s): |
| riffles | | | | | | | | | | | |
| Aquatic Organisms Ol | bserved (list): | | | | | | | | | | |
| amphibians | | | | | | | | | | | |
| T&E Species Observe | d (list): | | | | | | | | | | |
| none | | | | | | | | | | | |
| Disturbances (ex: lives | tock access, mar | nure in waterboo | ly, waste di | scharge pipe | es): | | | | | | |
| Adjacent to yard | | | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natu | ral | □ Artific | cial, man-m | ade | Manipu | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | | ⊠ Mode | erate | | □ Low | | | | | |

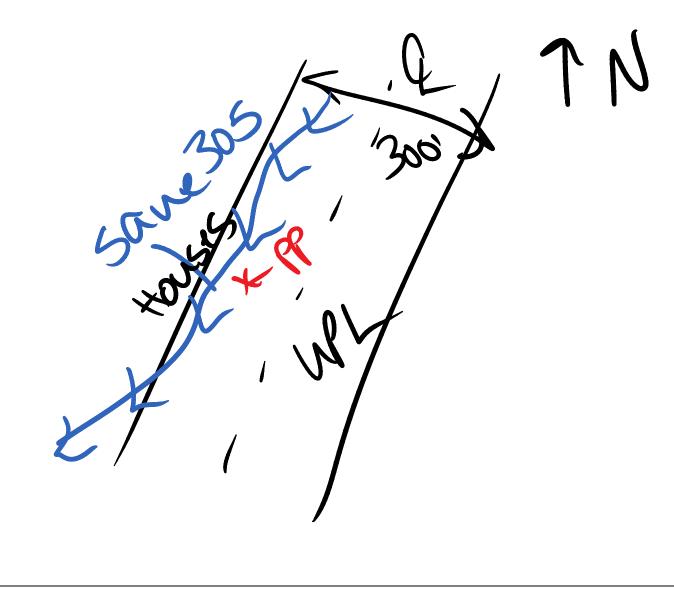
saue305

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 SAUE305 facing northeast upstream



Waterbody SAUE305 facing southwest downstream



Waterbody SAUE305 facing northwest across

| Survey Description | n | <u></u> | | | | | | | |
|--|-------------------------------------|---------------------|------------------------|---------------------------|---------------|-------------------------------|-------------|------------|---------------------|
| Project Name: | | Waterbody Na | | | | Vaterbody ID: | | | Date: |
| Atlantic Coast Pipel | ine | Calfpasture | River | | S | Sauy004 | | 7 | /18/2016 |
| State: | County: | | Company: | | Crew | Member Initials: | : F | Photos: | |
| West Virginia | Augusta | | Dominion | | KO, \$ | SA | | 1-3 | |
| Tract Number(s): | 1 | | Nearest Mile | epost: | | Associated W | etland | ID(s): | |
| 07-005-A005 | | | 111.5 | | | none | | | |
| Survey Type: (check one) | ⊠Centerline | e □Re- | Route | □Access Road | | □Other: | | | |
| Physical Attributes | | | | | | | | | |
| Stream Classification: | 3 | | | | | | | | |
| (check one) | Ephemera | al 🗌 Inte | rmittent | ⊠Perennial | | | | | |
| Waterbody Type: (check one) | River | ream 🗆 Dit | ch 🗆 C | anal 🛛 Other | : | | | | |
| OHWM Width: 30 ft. | OHWM Indica (check all that appl | | ⊠ Clear lir on bank | ne ⊠Shelvin | g | ⊠Wrested vegetation | \boxtimes | Scouring | ⊠Water staining |
| Height: | ⊠Bent, r vegetatio | matted, or missir | ng ⊠Wrack li | ne ⊠Litter ar debris | nd | ⊠Abrupt plant community ch | | ⊠Soil ch | aracteristic change |
| N/A□ Width of Waterbody - T | on of Midth | of Motorbody | Tag of Sland | Width of Waterb | ody M | Votor Edge to | Donth | of Water: | |
| Bank to Top of Bank: | | of Slope: | Toe of Slope | Water Edge: | ouy - v | | (Approx.) | or water. | |
| <u>_25_</u> ft. | - | <u>_15 ft</u> . | | | <u>8</u> ft. | I | N/A□ | - | <u>.25 ft</u> . |
| Sinuosity: | Water | velocity: | | Bank height | | | Bank s | lope | |
| (check one) | (Approx.) | | | Right: | | | | Right: | |
| , , , , , , , , , , , , , , , , , , , | | <u>_1</u> fps | | Left: | <u>8_</u> ft. | | | Left: | <u>70</u> degrees |
| ⊠Meanderir | ng N/A□ | | | | <u>4</u> ft. | | | | 20 degrees |
| Qualitative Attribu | tes | | | | | | | | |
| Water Appearance: (check one) | []] No water ⊠0 | Clear □Turl | | neen DSu n surface scu | | □Algal [mats | Other | : | |
| Substrate: | Bedrock 🗆 Bo | oulder 🛛 Cob | ble 🛛 Grav | el 🛛 Sand 🛛 | ⊠ Silt/ o | clay 🗆 Organic | |)ther: | |
| (check all that apply) % of Substrate: | % | % 80 % | <u> 10 </u> % | 5_% | <u>5</u> % | % | | % | |
| Width of Pinarian Zona | Vogototiv | | | | | | | | |
| Width of Riparian Zone | c: Vegetative (check all that | | ⊠ Trees | : | ⊠ Sapli | ngs/Shrubs: | \boxtimes | Herbs | |
| <u> </u> | Avg. DBH (approx.) | of Dominants: | <u>_10_</u> in. | - | <u>1</u> in. | | | | |
| Dominant Bank Vegeta | | | | | | | | | |
| Japanese honeysud | ckle, ragweed, | Sycamore, w | vingstem, te | easle, poison iv | y, jew | velweed | | | |
| Aquatic Habitats (ex: su | Ibmerged or emerge | d aquatic vegetatio | on, overhanging | banks/roots, leaf pac | ks, large | e submerged wood, | riffles, c | deep pools |): |
| Overhanging roots, | pools, riffles, r | oot wads, lar | ge submer | ged wood | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| macro-invertebrates | s, fish <i>,</i> frogs | | | | | | | | |
| T&E Species Observed | l (list): | | | | | | | | |
| None observed | | | | | | | | | |
| Disturbances (ex: livesto | ock access, manure i | in waterbody, wast | e discharge pip | es): | | | | | |
| None observed | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | | rtificial, man-m | ade 🗆 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | ⊠ M | oderate | □ Low | | | | | |

Sauy004

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 sauy004 facing north upstream



Waterbody sauy004 facing south downstream



Waterbody sauy004 facing west across

| Survey Descriptio | n | | | | | | <u> </u> | | | | |
|--|---|----------------------------------|----------------|------------------------------|----------------|----------------------|-----------------------------|------------------------|------------|------------|----------------------|
| Project Name: | | Waterbo | • | | | | | aterbody ID: | | | Date: |
| Atlantic Coast Pipe | line | White F | Rock B | Branch | | | S | auy003 | | | 7/18/2016 |
| State: | County: | • | C | Company: | | | Crew N | Member Initials | : | Photos: | |
| West Virginia | Augusta | | [| Dominion | | | KO, S | SA | | 1-3 | |
| Tract Number(s): | | | 1 | Nearest Mile | epost: | | 1 | Associated W | etland | ID(s): | |
| 07-005-A005 | | | | 111.5 | | | | none | | | |
| Survey Type: (check one) | ⊠Centerl | ine | □Re-R | oute | □Aco | cess Road | | □Other: | | | |
| Physical Attribute | s | | | | | | | | | | |
| Stream Classification: (check one) | □Ephem | eral | ⊠Intern | nittent | □Pei | rennial | | | | | |
| Waterbody Type: | | | | | | | | | | | |
| (check one) | ∃River ⊠ \$ | Stream | □ Ditch | n 🗆 Ca | anal | □ Other: | | | | | |
| OHWM Width: 10 ft. | OHWM Indi (check all that a | | | ⊠ Clear lir on bank | ne | ⊠Shelving | g | ⊠Wrested vegetation | | Scouring | g ⊠Water staining |
| Height:ft. | ⊠Ben vegeta | t, matted, or ition | missing | ∣ ⊠Wrack li | | ⊠Litter ar debris | d | Abrupt plan | | ⊠Soil cł | naracteristic change |
| N/A□ Width of Waterbody - 1 | - | | adu T | | Width (| of Watarb | adv 14 | latar Edge to | Danth | of Water | - |
| Bank to Top of Bank: | | n of waters be of Slope: | | oe of Slope | Water I | | bay - w | ater Edge to | (Approx.) | | : |
| <u>_25</u> ft. | | <u>_15</u> ft. | | | N/A□ | _ | <u>8_</u> ft. | | N/A□ | | <u>25 ft</u> . |
| Sinuosity: | | er velocity: | | | Bank h | eight | | | Bank s | slope | |
| (check one) | (Appro | | | | | Right: | 1 LL | | | Right | |
| | | - | <u>.1 </u> fps | | | Left: | <u>4 </u> ft. | | | Left | <u>45</u> degrees |
| Meanderi | ng N/A | | | | | | <u>4_</u> ft. | | | | 45 degrees |
| Qualitative Attribu | ites | | | | | | | | | | |
| Water Appearance: (check one) | No water | ⊠Clear | □Turbio | | een surface | ⊡Sur scu | | □Algal mats | □Othe | r: | |
| | Bedrock | Boulder D | Cobble | e 🛛 Grave | el 🖂 | Sand [| ∃ Silt/ c | lay 🗆 Organic | ; 🗆 (| Other: | |
| (check all that apply) % of Substrate: | % | % | <u>70_</u> % | <u> 15 </u> % | _5 | _% | <u>5_</u> % | % | | % | |
| Width of Riparian Zone | | ive Layers: | | | | | | | | | |
| <u>_500_ft</u> - N/A□ | (check all t Avg. DE (approx.) | hat apply) 3H of Domir | nants: | ⊠ Trees: _ <u>10_</u> in. | : | | I Saplir _ <u>1_</u> in. | ngs/Shrubs: | | I Herbs | |
| Dominant Bank Vegeta | | | | | | | | | | | |
| Japanese Honeysu poison ivv. iewel we | ed. | • | | - | | - | | - | | | - |
| Aquatic Habitats (ex: se Overhanging roots, | | | - | , overhanging | banks/roo | ots, leaf pacl | ks, large | submerged wood | , riffles, | deep pools | 5): |
| Aquatic Organisms Ob | served (list): | | | | | | | | | | |
| macro-invertebrates | - | | | | | | | | | | |
| T&E Species Observed | l (list): | | | | | | | | | | |
| None observed | | | | | | | | | | | |
| Disturbances (ex: liveston None observed | ock access, manu | re in waterbod | y, waste | discharge pipe | es): | | | | | | |
| Tributary is: (check one) | ⊠ Natura | | □ Artif | ficial, man-m | ade | 🗆 Manipu | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | | | | | | | | | | |

Sauy003

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 sauy003 facing northeast upstream



Waterbody sauy003 facing southwest downstream



Waterbody sauy003 facing northwest across

| Survey Description | n | | | | | | | | |
|--|-------------------------------------|-----------------------------|------------------|---------------------------------|---------------|------------------|----------------------|------------|---------------------|
| Project Name: | | Waterbody Na | | | | aterbody ID: | | | Date: |
| Atlantic Coast Pipel | | UNT to Whit | | | | aue301 | | | 4/20/2016 |
| State: | County: | | Company: | | Crew N | lember Initials | : F | Photos: | |
| Virginia | Augusta | | NRG | | CG, J | S | | 1-3 | |
| Tract Number(s): | | | Nearest Mile | epost: | • | Associated W | etland | ID(s): | |
| 07-005-A008; 07-005- | A009 | | 111.5 | | | none | | | |
| Survey Type: (check one) | ⊠Centerline | e □Re- | Route | □ Access Road | | Other: | | | |
| Physical Attribute | S | | | | | | | | |
| Stream Classification: (check one) | ⊠Ephemera | al □Inte | rmittent | Perennial | | | | | |
| Waterbody Type: | | | | | | | | | |
| (check one) | River Str | ream 🗌 Dite | ch 🗆 Ca | anal 🗌 Other: | | | | | |
| OHWM Width: | OHWM Indica (check all that appl | | Clear lir | ne Shelving | q | ⊠Wrested | \boxtimes | Scouring | □Water |
| <u>14</u> ft. | | | on bank | | | vegetation | | Ū | staining |
| Height: 2 ft. | , | matted, or missir | ng ⊡Wrack li | | nd | Abrupt plan | | ⊠Soil ch | aracteristic change |
| N/A 🗆 | vegetatio | n | | debris | | community ch | ange | | |
| Width of Waterbody - T Bank to Top of Bank: | | of Waterbody - of Slope: | Toe of Slope | Width of Waterbo Water Edge: | ody - W | | Depth ((Approx.) | of Water: | |
| | | | | J | | | | | ft. |
| <u>20_</u> ft. | - | <u>_12_</u> ft. | | N/A⊠ | ft | | N/A⊠ | | |
| Sinuosity: | | velocity: | | Bank height | | | Bank s | lope | |
| (check one) | (Approx.) | | | Right: | <u>3_</u> ft. | | | Right: | _45_ degrees |
| | | T | ps | Left: | | | | Left: | |
| | ng N/A⊠ | | | | <u>2</u> ft. | | | | <u>30</u> degrees |
| Qualitative Attribu | tes | | | | | | | | |
| Water Appearance: (check one) | No water | Clear DTurb | | leen ⊡Sur surface scu | | □Algal [mats | Other | : | |
| Substrate: | Bedrock 🗆 Bo | oulder 🛛 Cobl | ole 🛛 Grave | el 🛛 Sand 🛛 | ∃ Silt/ c | lay 🗆 Organic | |)ther: | |
| (check all that apply) % of Substrate: | % | % 60 % | 20 % | 20 % | | % % | | % | |
| Width of Riparian Zone | | | | | | | | | |
| which of Riparian 2016 | (check all that | t apply) | ⊠ Trees | : 🛛 🛛 | Saplin | ngs/Shrubs: | \boxtimes | Herbs | |
| <u>ft</u> · | Avg. DBH (approx.) | of Dominants: | <u>_12_</u> in. | - | <u>1</u> in. | | | | |
| Dominant Bank Vegeta | tion (list): | | | | | | | | |
| Tuliptree, rose, oak | , hickory | | | | | | | | |
| Aquatic Habitats (ex: su | ubmerged or emerge | d aquatic vegetatic | on, overhanging | banks/roots, leaf pacl | ks, large | submerged wood | , riffles, c | deep pools |): |
| none | | | | | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| none | | | | | | | | | |
| T&E Species Observed | (list): | | | | | | | | |
| none | | | | | | | | | |
| Disturbances (ex: livesto | | in waterbody, wast | e discharge pipe | es): | | | | | |
| Trash, possible bar | k revettment | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Ar | tificial, man-m | ade 🛛 Manipu | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | | oderate | □ Low | | | | | |

Saue301

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)

ave 302

gave 3



Waterbody SAUE301 facing southeast upstream



Waterbody SAUE301 facing northwest downstream



Waterbody SAUE301 facing northeast across

| Survey Description | า | | | | | | | | |
|--|--------------------------------------|-----------------------------|------------------------|---------------------------------|-----------------|------------------------------|----------------------|------------|---------------------|
| Project Name: | | Waterbody Na | | | w | aterbody ID: | | Date: | |
| Atlantic Coast Pipeli | | White Rock | Branch | | _ | aue302 | | | 4/20/2016 |
| State: | County: | | Company: | | Crew N | Member Initials | : F | Photos: | |
| Virginia | Augusta | | NRG | | CG, J | IS | | 1-3 | |
| Tract Number(s): | • | | Nearest Mile | epost: | | Associated W | etland | ID(s): | |
| 07-005-A008; 07-005-A | 009 | | 111.5 | | | none | | | |
| Survey Type: (check one) | Centerline | e □Re-F | Route | □ Access Road | | □Other: | | | |
| Physical Attributes | 6 | | | | | | | | |
| Stream Classification: (check one) | ⊠Ephemera | al 🗌 Inter | mittent | Perennial | | | | | |
| Waterbody Type: | | | | | | | | | |
| (check one) | River Str | eam 🗆 Dito | ch 🗆 Ca | anal 🗌 Other: | : | | | | |
| OHWM Width: 14 ft. | OHWM Indica (check all that apply | | □ Clear lir on bank | ne Shelvin | g | ⊠Wrested vegetation | \boxtimes | Scouring | □Water staining |
| Height:ft. | ⊠Bent, n vegetatio | natted, or missin | lg | ne ⊠Litter ar debris | nd | □Abrupt plan community ch | | ⊠Soil ch | aracteristic change |
| N/A | - | | | | | | 0 | | |
| Width of Waterbody - T Bank to Top of Bank: | | of Waterbody - of Slope: | Toe of Slope | Width of Waterbo Water Edge: | ody - W | | Depth ((Approx.) | of Water: | |
| <u>_20</u> ft. | _ | <u>12_</u> ft. | | NI/A 57 | f | t. | N/A⊠ | _ | ft. |
| Sinuosity: | Water | velocity: | | N/A⊠ Bank height | | | Bank s | lone | |
| (check one) | (Approx.) | | | Right: | | | burnt o | Right: | |
| Boliaight | | f | os | Left: | <u>3_</u> ft. | | | Left: | 45 degrees |
| | ng N/A⊠ | | | | <u>2</u> ft. | | | Lon. | <u>30</u> degrees |
| Qualitative Attribu | tes | | | | | | | | |
| Water Appearance: (check one) | No water | Clear 🗆 Turb | | een □Sui surface scu | | □Algal [mats | □Other | : | |
| Substrate: | Bedrock 🗆 Bo | ulder 🛛 Cobb | ole 🛛 Grave | el 🛛 Sand 🛛 | □ Silt/ c | lay 🗆 Organic | |)ther: | |
| (check all that apply) % of Substrate: | % | _% <u>60</u> % | <u>20</u> % | <u> 20 </u> % | | _%% | | _% | |
| Width of Riparian Zone | | | | | | | | | |
| ft. | (check all that Avg. DBH | apply) of Dominants: | ⊠ Trees | | | ngs/Shrubs: | \boxtimes | Herbs | |
| N/A⊠ | (approx.) | of Dominantor | <u>_12_</u> in. | - | _ <u>1_</u> in. | | | | |
| Dominant Bank Vegeta Tuliptree, rose, oak, | | | | | | | | | |
| Aquatic Habitats (ex: su | bmerged or emerged | d aquatic vegetatio | n, overhanging | banks/roots, leaf pac | ks, large | submerged wood, | , riffles, c | deep pools |): |
| none | | | | | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| none | | | | | | | | | |
| T&E Species Observed | (list): | | | | | | | | |
| none | | | | | | | | | |
| Disturbances (ex: livesto | ck access, manure i | n waterbody, waste | e discharge pipe | es): | | | | | |
| Trash, possible ban | k revettment | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Ari | tificial, man-m | ade 🗆 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | ⊠ Mo | oderate | □ Low | | | - | | |

Saue302

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)

50 me 302

gave 3



Waterbody SAUE302 facing southeast upstream



Waterbody SAUE302 facing northwest downstream



Waterbody SAUE302 facing northeast across

| Survey Descriptio | n | | | | | | | | |
|--|-----------------------|-----------------------|------------------------|---------------------------|---------------|------------------------|----------------|------------|---------------------|
| Project Name: | | Waterbody Nar | | | | /aterbody ID: | | | Date: |
| Atlantic Coast Pipe | line | UNT to Calfp | asture Riv | er | S | auc123 | | 3 | 8/9/2016 |
| State: | County: | | Company: | | Crew I | Member Initials | : | Photos: | |
| Virginia | Augusta | | NRG | | CR, S | SA | | 1-3 | |
| Tract Number(s): | | | Nearest Mile | epost: | | Associated W | etland | ID(s): | |
| 07-005-A015 | | | | | | none | | | |
| Survey Type: (check one) | | e ⊠Re-R | loute | □ Access Road | | □Other: | | | |
| Physical Attribute | s | | | | | | | | |
| Stream Classification: | | | | | | | | | |
| (check one) | | al 🛛 Inter | mittent | Perennial | | | | | |
| Waterbody Type: (check one) | □River ⊠ Str | ream 🗆 Ditc | h 🗆 Ca | anal 🛛 Other | : | | | | |
| онwм | OHWM Indica | | | | | | | | |
| Width: <u>3</u> ft. | (check all that appl | ly) | ☑ Clear lir on bank | ne ⊡Shelvin | g | □Wrested vegetation | | Scouring | □Water staining |
| Height: | □Bent, i | matted, or missing | g ⊡Wrack li | ne ⊠Litter ar | nd | □Abrupt plan | t | □Soil ch | aracteristic change |
| ft. N/A□ | vegetatio | on | | debris | | community ch | ange | | |
| Width of Waterbody - | | | oe of Slope | Width of Waterb | ody - W | | | of Water: | |
| Bank to Top of Bank: | to Toe | of Slope: | | Water Edge: | | | (Approx.) | | |
| <u>_10_</u> ft. | - | <u>1_</u> ft. | | | <u>3</u> ft. | | | - | <u>0.3</u> ft. |
| Sinuosity: | Water | velocity: | | N/A□ Bank height | | | N/A⊟ Bank s | lone | |
| (check one) | (Approx.) | | | Right: | | I | Dalik S | Right: | |
| □Straight | | <u>_1_</u> fps | | | <u>3_</u> ft. | | | • | 60 degrees |
| ⊠Meanderi | ing N/A 🗆 | | | Left: | <u>3_</u> ft. | | | Left: | 80 degrees |
| Qualitative Attribu | ites | | | | | | | | |
| Water Appearance: | 7 | | | | | | | | |
| (check one) | □No water ⊠ | Clear | | leen ⊡Su i surface sci | | □Algal [mats | ☐Other | - | |
| Substrate: | Bedrock Bo | oulder 🛛 Cobb | le 🛛 Grav | el 🛛 Sand 🛛 | □ Silt/ c | clay 🗆 Organic | | Other: | |
| % of Substrate: | %% | % | <u> 30 </u> % | <u> 70 </u> % | _% | % | | % | |
| Width of Riparian Zone | e: Vegetativ | e Lavers: | | | | | | | |
| | (check all tha | t apply) | ⊠ Trees | : 2 | 🛛 Saplir | ngs/Shrubs: | \boxtimes | Herbs | |
| <u>ft</u> . N/A⊠ | Avg. DBH (approx.) | I of Dominants: | <u>_10_</u> in. | - | <u>2</u> in. | | | | |
| Dominant Bank Vegeta | ation (list): | | | | | | | | |
| Juncus effuses, de | er tong grass, s | sawtooth black | kberry, hor | senettl, barnya | rd gra | ss, wild onior | n | | |
| Aquatic Habitats (ex: s | ubmerged or emerge | ed aquatic vegetation | n, overhanging | banks/roots, leaf pac | ks, large | submerged wood, | , riffles, (| deep pools |): |
| Emergant vegetati | on | | | | | | | | |
| Aquatic Organisms Ob | oserved (list): | | | | | | | | |
| Water striders | | | | | | | | | |
| T&E Species Observed | d (list): | | | | | | | | |
| none | | | | | | | | | |
| Disturbances (ex: livest | ock access, manure | in waterbody, waste | discharge pipe | es): | | | | | |
| none | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Art | ificial, man-m | ade 🗆 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | ⊠ Mo | derate | □ Low | | | | | |

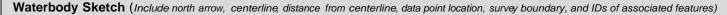
Sauc123

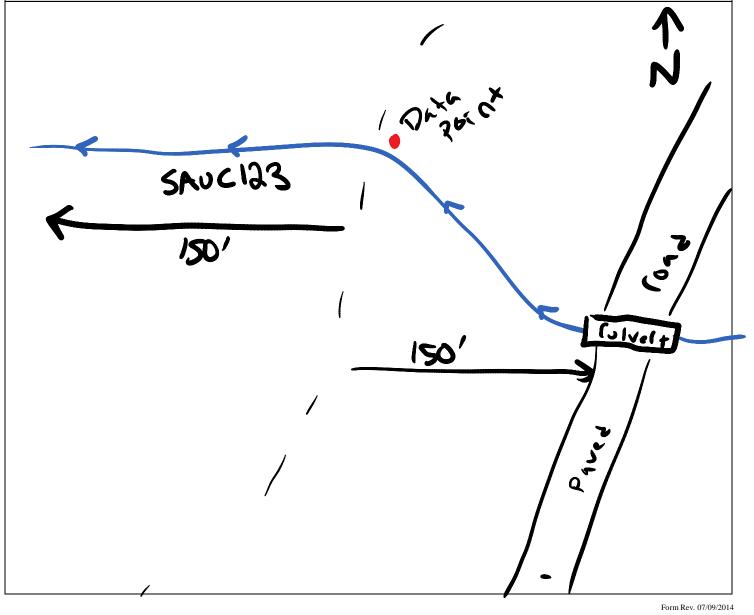
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SAUC123 facing southeast upstream



Waterbody SAUC123 facing northwest downstream



Waterbody SAUC123 facing northeast across

| Survey Descriptio | on | | | | | | | | | | |
|---|----------------------|------------------------------|------------|------------------------|----------------------|------------|---------------|------------------------|---|------------|----------------------|
| Project Name: | | Waterbody | - | | | | w | aterbody ID: | | Date: | |
| Atlantic Coast Pipe | line | Calfpastu | ure Riv | ver | | | Sa | auc124 | | | 3/9/2016 |
| State: | County: | | Co | ompany: | | | Crew N | lember Initials | : | Photos: | |
| Virginia | Augusta | | N | RG | | | CR, S | A | | 1-3 | |
| Tract Number(s): | | | Ne | earest Mile | post: | | 1 | Associated W | etland | ID(s): | |
| 07-005-A017 | | | 11 | 12.2 | | | | None | | | |
| Survey Type: (check one) | | ine 🛛 | Re-Rou | ute | | ss Road | | □Other: | | | |
| Physical Attribute | s | | | | | | | | | | |
| Stream Classification: (check one) | Epheme | eral 🗌 | Intermit | ttent | ⊠Perer | inial | | | | | |
| Waterbody Type: | - | | | | | | | | | | |
| | □River □ S | Stream 🛛 | Ditch | □ Ca | anal [| Other | : | | | | |
| OHWM | OHWM Indie | | | | | | | | _ | 0 | |
| Width: 45_ft. | (check all that ap | (עוקט | | ☑ Clear lin on bank | e L | Shelvin | g | □Wrested vegetation | L | Scouring | g ⊟Water staining |
| Height: | | t, matted, or m | issing | ⊠Wrack li | | Litter ar | nd | □Abrupt plan | | □Soil cł | naracteristic change |
| _ <u>2.5_</u> ft. N/A□ | vegeta | tion | | | de | bris | | community ch | ange | | |
| Width of Waterbody - ⁻ Bank to Top of Bank: | | h of Waterbo be of Slope: | dy - Toe | e of Slope | Width of Water Ed | | ody - W | | Depth (Approx.) | of Water | : |
| • | 10 10 | • | | | water Eu | ye. | | | (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | A (1) |
| <u>_55</u> ft. | | <u>_20_</u> ft. | | | N/A□ | | <u>40</u> ft. | | N/A□ | | <u>1</u> ft. |
| Sinuosity: | | er velocity: | | | Bank heig | ght | | | Bank s | lope | |
| (check one) | (Appro | эх.) | | | R | ight: | | | | Right | |
| | | 1.5 | _fps | | | Left: | <u>5</u> ft. | | | Left | <u>50</u> degrees |
| Meanderi | ing N/A | | | | | | <u>8_</u> ft. | | | | 60 degrees |
| Qualitative Attribu | utes | | | | | | | | | | |
| Water Appearance: (check one) | □No water | ⊠Clear □ | Turbid | ⊡Sh on | een surface | ⊡Su scu | | □Algal [mats | □Othe | 1 | |
| | Bedrock | Boulder 🗌 | Cobble | ⊠ Grave | el 🛛 Sa | nd [| □ Silt/ c | lay 🗆 Organic | | Other: | |
| (check all that apply) % of Substrate: | <u>10 % 5 </u> | % <u>30</u> | _% | <u>40</u> % | <u>15 </u> | % | _% | % | | % | |
| Width of Riparian Zon | e: Vegetat | ive Layers: | | | | | | | | | |
| 450.4 | (check all t | | | ⊠ Trees: | | ۵ | ⊠ Saplin | igs/Shrubs: | \boxtimes | Herbs | |
| <u> </u> | avg. DB (approx.) | BH of Domina | nts: | <u> 10 </u> in. | | - | <u>2</u> in. | | | | |
| Dominant Bank Vegeta | ation (list): | | | | | | | | | | |
| Red maple, easterr | n red cedar, s | weet-gum, | sawto | oth black | berry, s | /camo | re | | | | |
| Aquatic Habitats (ex: s | ubmerged or emerged | ged aquatic veg | etation, o | overhanging | banks/roots | leaf pac | ks, large | submerged wood | , riffles, | deep pools | 5): |
| leaf packs, overha | | ock piles | | | | | | | | | |
| Aquatic Organisms Of | bserved (list): | | | | | | | | | | |
| Water striders | | | | | | | | | | | |
| T&E Species Observed | d (list): | | | | | | | | | | |
| none | | | | | | | | | | | |
| Disturbances (ex: livest | tock access, manur | e in waterbody, | waste dis | scharge pipe | es): | | | | | | |
| none | | | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natura | I | □ Artific | ial, man-m | ade 🗆 | Manip | ulated | | | | |
| Stream Quality ^a : (check one) | 🗆 High | D | ⊠ Mode | erate | | Low | | | | | |

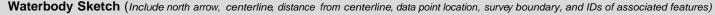
Sauc124

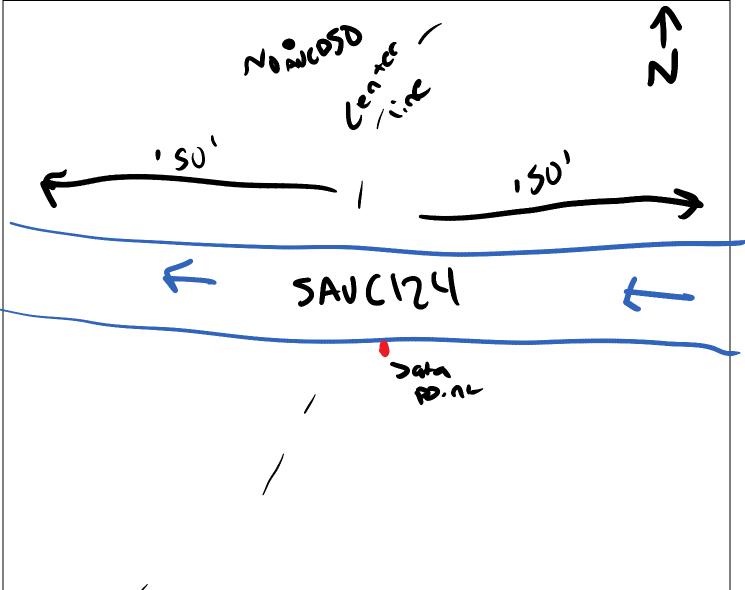
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SAUC124 facing southeast upstream



Waterbody SAUC124 facing northwest downstream



Waterbody SAUC124 facing northeast across

| Open Waterbod | dy Dat | a Sheet | | | | | | | | | | | |
|---|------------|--------------------------|------------------------|--------------|----------------------|------------------|---------------|----------------|-----------------------|------------------|-------------|--------------------|--|
| Survey Descripti | on | | | | | | | | | | | | |
| Project Name: | | V | Vaterbody | Name: | | | 1 | Waterbod | ly ID: | | Date: | | |
| Atlantic Coast Pip | eline | L | Jnnamed | d Pond | | | | Oauc05 | 3 | | 3/10/20 | 16 | |
| State: | County | : | | Compa | any: | | Crew | Member | Initials: | Photos: | | | |
| Virginia | Augus | ta | | NRG | | | CR, | SA | | 1-3 | | | |
| Tract Number(s): | 1 | | | Neares | st Milepost: | | | Associate | ed Wetland | ID(s): | | | |
| 07-005-A017 | | | | 112.3 | | | | Fringe | | | | | |
| Survey Type: (check one) | | | × | Re-Rout | e [| □Access Ro | bad | □Oth | ner: | | | | |
| Physical Attribut | es | | | | | | | | | | | | |
| Waterbody Type: | ck Pond | | Pond D | aka 🗆 | Reservoir 🗆 | Impoundm | ont 🗆 | Oxhow | | | | | |
| | | | | | | Impoundi | | | | | | | |
| Hydrologic Regime: | ⊠ Pe | ermanently F | looded | Semip | ermanently F | looded | □ Seas | sonally Flo | oded 🗆 | Temporari | ly Floode | d | |
| онwм | C | HWM Indica | ator: | - | | | | | | - | - | | |
| Height: | | | | | □ Clear line on bank | □Sh | elving | | Wrested getation | □Sco | uring | □Water staining | |
| <u>8</u> ft. | | □Bent, i | matted, or | missing | □Wrack | □Litt | ter and | $\Box A$ | Abrupt plant | ⊡Soil cł | naracterist | ic change | |
| | | vegetatio | on | - | line | debri | S | cor | nmunity cha | ange | | - | |
| Depth of Water: | | | Bank height (average): | | | | | | Bank slope (average): | | | | |
| _ <u>6</u> N/A□ | _ft. | | | | <u>14</u> ft. | | | | _ | <u>60</u> degree | es | | |
| Qualitative Attrib | outes | | | | | | | | | | | | |
| Water Appearance: (check one) | □No wa | ater ⊠C | lear 🗆 | Turbid | □ Sheen on surfac | | Surface | e □Al mate | 0 | Other: | | | |
| Substrate: (check all that apply) | Bedr | ock 🗆 Bou | ılder 🗆 | Cobble | Gravel | ⊠ Sand | ⊠ Si | ilt/ clay □ | Organic | Other: | | | |
| % of Substrate: | | _% | _% | % | % | <u> 50 </u> % | 50 | _% | % | | % | | |
| Width of Riparian Zor | ne: | Vegetative L | • | | | | | | | | | | |
| ft. | | (check all that ap | рју) | | ⊠ Trees: | | ⊠ Sa | plings/Shr | ubs: | ⊠ Hei | bs | | |
| N/A⊠ | | Avg. DBH of (approx.) | f Dominar | its: | <u>12</u> in. | | <u>_2_</u> ir | ۱. | | | | | |
| Dominant Bank Vege | tation (| list): | | | | | | | | | | | |
| White pine, Virgini | | | ed cedar | , broom | n-sedge, ca | attail, bar | nyard | grass | | | | | |
| Aquatic Habitats (ex: s | submerged | or emerged aqua | atic vegetation | , overhangir | ng banks/roots, lea | af packs, large | submerge | d wood, riffle | s, deep pools, e | etc.): | | | |
| Emergent vegetat | | | | | | | | | | | | | |
| Aquatic Organisms C | Observe | d (list): | | | | | | | | | | | |
| None | | | | | | | | | | | | | |
| T&E Species Observe | ed (list): | | | | | | | | | | | | |
| None | | | | | | | | | | | | | |
| Disturbances (ex: live | stock acc | ess, manure in | waterbody, | waste disc | charge pipes): | | | | | | | | |
| None | | | | | | | | | | | | | |
| Waterbody is: (check one) | | Natural | [| ⊠ Artificia | al, man-made | □ Ma | nipulate | ed | | | | | |
| Waterbody Quality ^a : (check one) | | □ High | C | ⊠ Modera | ate | □ Low | | | | | | | |

Waterbody ID: Oauc053 High Quality: Natural, natural bank vegetation around entire waterbody; 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 by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank 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: 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 or a data point locations, survey boundary, and IDs of associated features) OAUCOS 3 nres n



Open waterbody OAUC053 facing north



Open waterbody OAUC053 facing northwest



Open waterbody OAUC053 facing west

| Open Waterboo | dy Dat | a Sheet | | | | | | | | | |
|---|-------------------|--------------------|------------------|--------------|----------------------|-------------------|----------------|--------------------------------|------------------|------------|-----------|
| Survey Descripti | on | | | | | | | | | | |
| Project Name: | | V | Vaterbody | Name: | | | N | Waterbody ID: | | Date: | |
| Atlantic Coast Pip | eline | ι | Jnnamed | d pond | | | C | Oauc054 | | 3/10/20 | 16 |
| State: | County | /: | | Comp | any: | (| Crew | Member Initials: | Photos: | | |
| Virginia | Augus | sta | | NRG | | (| CR, S | SA | 1-3 | | |
| Tract Number(s): | | | | Neare | st Milepost: | | / | Associated Wetland | ID(s): | | |
| 07-005-A018 | | | | 112.5 | 5 | | | Fringe | | | |
| Survey Type: (check one) | | | × | Re-Rou | te 🗆 | Access Roa | d | □Other: | | | |
| Physical Attribut | es | | | | | | | | | | |
| Waterbody Type: | | | | | . | | . – | | | | |
| (check one) Stor | ck Pond | □ Natural I | Pond L L | _ake ⊔ | Reservoir 🗆 I | mpoundme | nt 🗆 | Oxbow 🗆 Other: | | | |
| Hydrologic Regime: | | ermanently F | looded | □ Semir | permanently Flo | ooded 🗆 | Seas | onally Flooded | Temporari | v Flooded | d |
| онwм | | OHWM Indica | | | ,,,,, | | | | | , | - |
| - | | check all that app | | | Clear line | □Shel | ving | □Wrested | □Scou | uring | □Water |
| Height: <u>10</u> ft. | Height: 10 ft. | | | | on bank | | | vegetation | | | staining |
| | | □Bent, vegetati | matted, or on | missing | □Wrack line | □Litter debris | r and | □Abrupt plant community cha | | aracterist | ic change |
| Depth of Water: | | | Bank hei | ight (ave | erage): | | | Bank slope (avera | age): | | |
| | _ft. | | | | <u>14</u> ft. | | | _ | <u>60</u> degree | s | |
| N/A 🗆 | | | | | | | | | | | |
| Qualitative Attrib | outes | | | | | | | | | | |
| Water Appearance: (check one) | □No w | ater ⊠C | lear 🗆 | Turbid | □Sheen on surface | | urface n | e ⊟Algal ⊟C mats | Other: | | |
| Substrate: (check all that apply) | Bedr | ock 🗆 Bou | ulder 🗆 | Cobble | □ Gravel | ⊠ Sand | ⊠ Si | lt/ clay 🛛 Organic | Other: | | |
| % of Substrate: | | _% | _% | % | % | <u>50_</u> % | 50 | <u>%</u> % | | % | |
| Width of Riparian Zo | ne: | Vegetative | | | | | | | | | |
| ft. | | (check all that a | oply) | | ☐ Trees: | 2 | ⊠ Sap | olings/Shrubs: | ⊠ Her | bs | |
| N/A⊠ | | Avg. DBH o | f Dominar | nts: | <u>12</u> in. | - | _ <u>2_</u> in | ı. | | | |
| Dominant Bank Vege | tation (| , | | | | | | | | | |
| White pine, Virgin | | | ed cedaı | r, broor | n-sedge, rus | sh, barnya | ırd gı | rass | | | |
| Aquatic Habitats (ex: s | submergeo | l or emerged aqua | atic vegetation | ı, overhangi | ng banks/roots, leaf | packs, large sut | omergeo | d wood, riffles, deep pools, e | tc.): | | |
| Emergent vegetat | ion | | | | | | | | | | |
| Aquatic Organisms C | Observe | d (list): | | | | | | | | | |
| Bass, newts, alga | е | | | | | | | | | | |
| T&E Species Observe | ed (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| Disturbances (ex: live None | stock acc | ess, manure in | waterbody, | waste dis | charge pipes): | | | | | | |
| | | | | | | | | | | | |
| Waterbody is: (check one) | | Natural | [| ⊠ Artifici | al, man-made | 🗆 Manij | oulate | ed | | | |
| Waterbody Quality ^a : (check one) | | 🗆 High | [| ⊠ Moder | ate 🗆 |] Low | | | | | |

Oauc054

High Quality: Natural, natural bank vegetation around entire waterbody; 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 by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank

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: 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:

Pond stocked with bass

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









Open waterbody OAUC054 facing north



Open waterbody OAUC054 facing northwest



Open waterbody OAUC054 facing west

| Survey Descriptio | n | | | | | | | | | | | |
|--|-----------------------------|----------------|---------------|------------------------|----------|----------------|---------------|------------------------|-------------|-------------|---------------------|--|
| Project Name: | | | ody Name: | | | | | aterbody ID: | | | Date: | |
| Atlantic Coast Pipe | line | UNT to | o Calfpas | sture Riv | er | | S | auc125 | | 3 | /10/2016 | |
| State: | County: | • | Co | ompany: | | | Crew M | Member Initials | 5: | Photos: | | |
| Virginia | Augusta | | NF | RG | | | CR, S | SA | | 1-3 | | |
| Tract Number(s): | | | Ne | arest Mile | epost: | | | Associated W | etland | ID(s): | | |
| 07-005-A018 | | | | | | | | None | | | | |
| Survey Type: (check one) | □Cente | rline | ⊠Re-Rou | ite | □Ac | ccess Road | | Other: | | | | |
| Physical Attribute | S | | | | | | | | | | | |
| Stream Classification: (check one) | Epher | noral | □Intermit | tont | | erennial | | | | | | |
| . , | Ернег | licial | | | | | | | | | | |
| Waterbody Type: (check one) | □River ⊠ | Stream | □ Ditch | □ Ca | anal | □ Other | : | | | | | |
| онум | OHWM Inc (check all that | | | | | | - | | _ | | | |
| Width: _ <u>30_</u> ft. | (Check all that | арру) | | ⊠ Clear lir on bank | ne | □Shelvin | g | □Wrested vegetation | L | Scouring | □Water staining | |
| Height: | | nt, matted, o | r missing | ⊠Wrack li | ne | ⊠Litter a | nd | □Abrupt plar | | □Soil cha | aracteristic change | |
| ft. N/A□ | veget | tation | | | | debris | | community ch | nange | | | |
| Width of Waterbody - | | | | e of Slope | | | ody - W | | | of Water: | | |
| Bank to Top of Bank: | to | Toe of Slope |): | | water | Edge: | | | (Approx. | | | |
| <u>_35_</u> ft. | | <u>8</u> ft. | | | N/A□ | | <u>20</u> ft. | | N/A□ | - | <u>1_</u> ft. | |
| Sinuosity: | Wa | ter velocity: | | | - | height | | | Bank | slope | | |
| (check one) | | prox.) | | | | Right: | | | | Right: | | |
| | | - | <u>1</u> fps | | | Left: | <u>6_</u> ft. | | | Left: | 80 degrees | |
| ⊠Meanderi | ng N/A | | | | | 2011 | <u>8_</u> ft. | | | | 60 degrees | |
| Qualitative Attribu | ites | | | | | | | | | | | |
| Water Appearance: (check one) | ☐No water | ⊠Clear | □Turbid | □Sh | ieen | □Su | rface | □Algal | □Othe | er: | | |
| | | | | on | surfac | | um | mats | | | | |
| Substrate: | Bedrock | Boulder | ⊠ Cobble | ⊠ Grave | el 🛛 | Sand | □ Silt/ c | ay 🗆 Organic | | Other: | | |
| | <u>15_</u> % | % | <u>25_</u> % | <u> 50 </u> % | _1 | <u>10 </u> % | | _%% | , | % | | |
| Width of Riparian Zone | e: Vegeta | ative Layers | : | | | | | | | | | |
| | (check al | ll that apply) | nonto | ⊠ Trees | : | | | ngs/Shrubs: | Σ | Herbs | | |
| <u>80 ft</u> ∙ N/A□ | avg. D (approx.) | BH of Domi | nants: | <u>_14_</u> in. | | - | <u>2</u> in. | | | | | |
| Dominant Bank Vegeta | ation (list): | | | | | | | | | | | |
| White pine, Virginia | i pine, sycan | nore, mult | ifloral ros | se, Japai | nese ł | noneysuc | kle | | | | | |
| Aquatic Habitats (ex: s | ubmerged or eme | erged aquatic | egetation, o | verhanging | banks/ro | oots, leaf pac | ks, large | submerged wood | l, riffles, | deep pools) | | |
| Riffles, overhanging | g roots and l | banks, roc | k piles, le | eaf pack | S | | | | | | | |
| Aquatic Organisms Ot | oserved (list): | | | | | | | | | | | |
| Fish, water striders | | | | | | | | | | | | |
| T&E Species Observed | d (list): | | | | | | | | | | | |
| None | | | | | | | | | | | | |
| Disturbances (ex: livest | ock access, man | ure in waterbo | dy, waste dis | scharge pipe | es): | | | | | | | |
| None | | | | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natur | al | □ Artifici | ial, man-m | ade | □ Manip | ulated | | | | | |
| Stream Quality ^a : (check one) | 🗆 High | | ⊠ Mode | rate | | □ Low | | | | | | |

Sauc125

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)

| | SE ISO ONUCOSS JI Data POINT | |
|----------------|---------------------------------------|---|
| | JI Data JOINT | • |
| Center 1:ne | | |
| 1,116 | 150' | |
| | | |



Waterbody SAUC125 facing north upstream



Waterbody SAUC125 facing south downstream



Waterbody SAUC125 facing west across

| Open Waterboo | dy Dat | a Sheet | | | | | | | | | |
|---|--------------------|---------------------|------------------|-----------------------|----------------------|------------------|------------------------|--------------------------------|-------------|--------------------|----------|
| Survey Descripti | on | | | | | | | | | | |
| Project Name: | | V | Vaterbody | Name: | | | l. | Waterbody ID: | 1 | Date: | |
| Atlantic Coast Pip | eline | ι | Jnnamed | Pond | | | | Oauc055 | | 3/10/20 | 16 |
| State: | County | : | | Comp | any: | | Crew | Member Initials: | Photos: | | |
| Virginia | Augus | ta | | NRG | | | CR, | SA | 1-3 | | |
| Tract Number(s): | | | | Neare | st Milepost: | | 4 | Associated Wetland | ID(s): | | |
| 07-005-A018 | | | | | | | | Fringe | | | |
| Survey Type: (check one) | | | \boxtimes | Re-Rout | te 🗆 | Access Ro | ad | □Other: | | | |
| Physical Attribut | es | | | | | | | | | | |
| Waterbody Type: | | Natural F | Pond 🗆 La | ake 🗆 | Reservoir | Impoundme | ent 🗆 | Oxbow D Other: | | | |
| Hydrologic Regime: | 🗆 Pe | ermanently F | looded | ⊠ Semip | permanently Fl | ooded 🗆 | Seas | sonally Flooded | Temporarily | / Flooded | ł |
| онwм | - | HWM Indica | | | | | الد الم | | | | |
| Height: | check all that app | <i>iy)</i> | | Clear line on bank | □She | elving | □Wrested vegetation | □Scou | ring | □Water staining | |
| <u>2.5</u> ft. | | □Bent, vegetatio | matted, or r | nissing | □Wrack line | □Litte debris | er and | □Abrupt plant community ch | | aracteristi | c change |
| Depth of Water: | | | Bank heig | ght (ave | rage): | | | Bank slope (aver | age): | | |
| N/A□ | _ft. | | | | <u>6</u> ft. | | | - | 60 degrees | 6 | |
| Qualitative Attrib | outes | | | | | | | | | | |
| Water Appearance: (check one) | □No wa | ater ⊠C | lear 🗆 | Turbid | □Sheen on surface | | Surface Im | e □Algal □ mats | Other: | | |
| Substrate: (check all that apply) | Bedro | ock 🗆 Bou | ulder 🗆 C | Cobble | □ Gravel | ⊠ Sand | 🗆 Si | lt/ clay ⊠ Organic | □ Other: | | |
| % of Substrate: | | _% | _% _10 | _% | % | <u>70</u> % | % | <u>20</u> % | 9 | 6 | |
| Width of Riparian Zo | | Vegetative I | | | | | | | | | |
| ft. | | (check all that ap | эріу) | | [⊠] Trees: | | ⊠ Sap | olings/Shrubs: | ⊠ Herb |)S | |
| N/A⊠ | | Avg. DBH o | f Dominan | ts: | <u>_24_</u> in. | | _ <u>2_</u> in |). | | | |
| Dominant Bank Vege | etation (I | ist): | | | | | | | | | |
| Northern red oak, | sycam | ore, curly | dock, bla | ckberr | y, broomseo | dge | | | | | |
| Aquatic Habitats (ex: | submerged | or emerged aqua | atic vegetation, | overhangi | ng banks/roots, leaf | packs, large s | ubmerge | d wood, riffles, deep pools, e | etc.): | | |
| Leaf piles | | | | | | | | | | | |
| Aquatic Organisms C | Observed | d <i>(list)</i> : | | | | | | | | | |
| Frogs and newts | | | | | | | | | | | |
| T&E Species Observe | ed (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| Disturbances (ex: live | stock acc | ess, manure in | waterbody, | waste dis | charge pipes): | | | | | | |
| Located within ho | rse pas | sture | | | | | | | | | |
| Waterbody is: (check one) | ļ | Natural | | Artifici | al, man-made | □ Man | ipulate | ed | | | |
| Waterbody Quality ^a : (check one) | | □ High | × | Moder | ate 🗌 | Low | | | | | |

Oauc055

High Quality: Natural, natural bank vegetation around entire waterbody; 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.

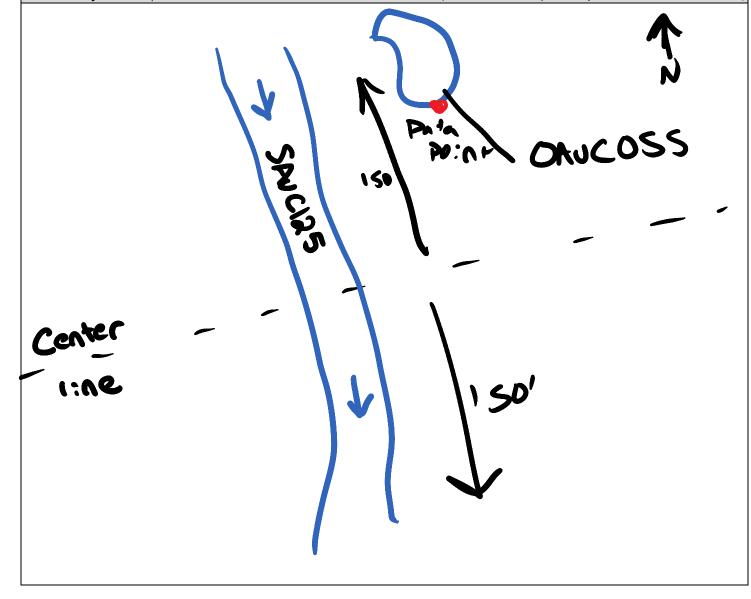
Moderate Quality: Altered by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers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

Low Quality: 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:

Pond stocked with bass

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





Open waterbody OAUC055 facing east



Open waterbody OAUC055 facing north



Open waterbody OAUC055 facing northeast

| Survey Descriptio | n | | | | | | | | |
|--|---|-----------------------------|-----------------------------|---------------------------------|-----------------------------|-------------------------------|--------------------|-------------|---------------------|
| Project Name: | | Waterbody Na | | | /aterbody ID: auc126 | | | ate: | |
| Atlantic Coast Pipel | ine | UNT to Calf | pasture Riv | | | | | 3 | /10/2016 |
| State: | County: | 1 | Company: | | Crew I | w Member Initials: Pho | | | |
| Virginia | Augusta | | NRG | | CR, S | CR, SA | | | |
| Tract Number(s): | 1 | | Nearest Milepost: | | | Associated Wetland ID(s): | | | |
| 07-005-A026 | | | | | | None | | | |
| Survey Type: (check one) | | e ⊠Re-I | Route | □ Access Road | | □Other: | | | |
| Physical Attribute | S | | | | | | | | |
| Stream Classification: (check one) | Ephemera | al 🛛 Inte | rmittent | Perennial | | | | | |
| Waterbody Type: (check one) |]River ⊠ Str | ream 🗆 Dite | ch 🗆 Ca | anal 🗌 Other: | : | | | | |
| OHWM Width: _ <u>8_</u> ft. | OHWM Indica (check all that appl | | ⊠ Clear lir on bank | ne 🗆 Shelvin | g | □Wrested vegetation | | Scouring | □Water staining |
| Height: ft. N/A□ | ⊠Bent, r vegetatio | matted, or missir on | ng ⊠Wrack li | ne ⊠Litter ar debris | nd | □Abrupt plant community ch | | □Soil ch | aracteristic change |
| Width of Waterbody - 1 Bank to Top of Bank: | | of Waterbody - of Slope: | Toe of Slope | Width of Waterbo Water Edge: | ody - W | | Depth (Approx.) | of Water: | |
| <u></u> | - | _1_ft. | | N/A | <u>8</u> ft. | | N/A 🗆 | - | <u>0.5_</u> ft. |
| Sinuosity: | Water | velocity: | | Bank height | | | Bank s | lope | |
| (check one) | (Approx.) | | | Right: | | | | Right: | |
| | | <u>_1_</u> fps | | Left: | <u>3_</u> ft. | | | Left: | 70 degrees |
| ⊠Meanderii | ng N/A□ | | | | _ <u>4_</u> ft. | | | | 70 degrees |
| Qualitative Attribu | tes | | | | | | | | |
| Water Appearance: (check one) | []] No water ⊠0 | Clear DTurk | | leen □Sul surface scu | | □Algal [mats | □Other | : | |
| | Bedrock 🗆 Bo | oulder 🛛 Cobl | ole 🛛 Grav | el 🛛 Sand 🛛 | □ Silt/ c | clay 🗆 Organic | | Other: | |
| (check all that apply) % of Substrate: | <u>15 </u> % | <u>% 25</u> % | <u> 50 </u> % | <u> 10 </u> % | | _%% | | % | |
| Width of Riparian Zone | e: Vegetative | e Layers: | | | | | | | |
| <u>80 ft</u> - N/A□ | (check all that Avg. DBH (approx.) | t apply) of Dominants: | ⊠ Trees _ <u>16_</u> in. | | ⊠ Saplir _ <u>2_</u> in. | ngs/Shrubs: | \boxtimes | Herbs | |
| Dominant Bank Vegeta | tion (list): | | | | | | | | |
| White pine, Virginia | pine, red oak, | beech, river | birch | | | | | | |
| Aquatic Habitats (ex: su | ubmerged or emerge | d aquatic vegetatic | on, overhanging | banks/roots, leaf pac | ks, large | submerged wood, | riffles, o | deep pools) | : |
| Riffles, overhanging | g roots and bar | nks, rock piles | s, leaf pack | S | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| water striders | | | | | | | | | |
| T&E Species Observed | (list): | | | | | | | | |
| None | | | | | | | | | |
| Disturbances (ex: liveste | ock access, manure i | in waterbody, wast | e discharge pipe | es): | | | | | |
| None | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Ar | tificial, man-m | ade 🗆 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | ⊠ Mo | oderate | □ Low | | | | | |

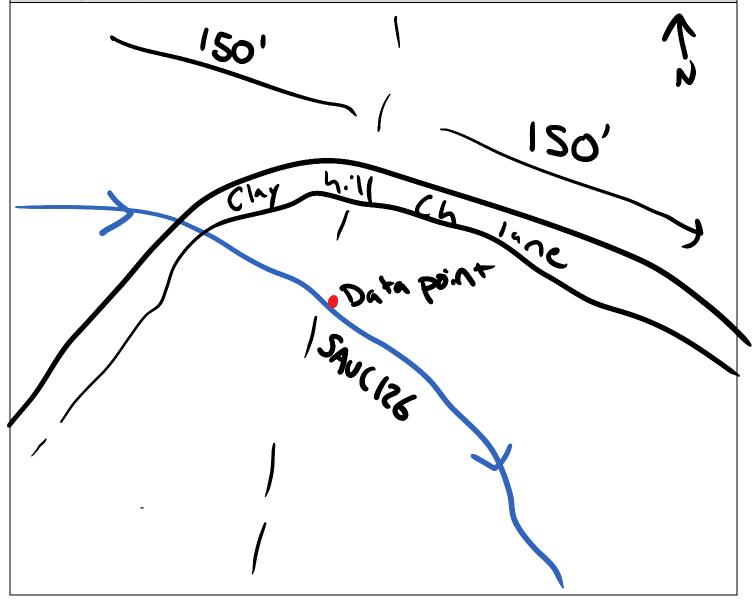
Sauc126

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 SAUC126 facing northwest upstream



Waterbody SAUC126 facing southeast downstream



Waterbody SAUC126 facing southwest across

| saua437 |
|---------|
|---------|

| L | inear | Wa | ter | bod | y I | Dat | ta | She | et |
|---|-------|----|-----|-----|-----|-----|----|-----|----|
| | | | | | | | | | |

| Survey Description | 1 | | | | | 9/27/16 |
|---|--|-----------------------|---|-------------------------|--------------------------------|--|
| Project Name: | | Waterbody Na | | | Waterbody ID: | Date: |
| ACP | | Baker | Draft | | saurou | |
| | County/Parish: | | Company: | FDM | Crew Member Initials | s: Photos: |
| VA | Augusta | | ESI | | J Benton, M | MNISIE (fore |
| Tract Number(s): | | | Nearest Mile | epost: | Associated W | |
| 07-005 - A | 026 | | 113 | | N/A W | vaua402 |
| Survey Type: (check one) | Centerline | Re- | Route | □ Access Road | I Other: | |
| Physical Attributes | | | | | | |
| Stream Classification: | — . | | | | | |
| (check one) | □Ephemera | l Linte | rmittent | Perennial | | |
| Waterbody Type: | | | | | | |
| (check one) | River 🕱 Stre | eam 🗆 Dit | ch 🗆 C | anal 🗆 Other | | |
| OHWM Width: 15 ft. | OHWM Indicat (check all that apply) | | Clear lir on bank | ne 🗆 Shelvin | g ⊡Wrested vegetation | ⊡Scouring ÆWater staining |
| Height:ft. | Bent, m | atted, or missin n | ng 🖾 Wrack li | ne ALitter a debris | nd DAbrupt plan community c | |
| N/A⊡ Width of Waterbody - Te | an of Midth o | f Waterbody - | Too of Slope | Width of Waterh | ody - Water Edge to | Depth of Water: |
| Bank to Top of Bank: | | of Slope: | Toe of Stope | Water Edge: | ouy - mater Luge to | (Approx.) |
| 9 ft. | | 7 ft. | | | 6 # | 0.3 ft. |
| I | | n. | | N/A | <u> </u> | N/A□ |
| Sinuosity: | | elocity: | | Bank height | | Bank slope |
| (check one) | (Approx.) | 1 | | Right: | 73 | Right: 5580 degrees |
| Detagne | | | fps | Left: | <u>ft.</u> | Left:degrees |
| Meanderin | g N/A□ | | | - | <u>29</u> _{ft.} | Left: 7075 degrees |
| Qualitative Attribut | tes | | | | | |
| Water Appearance: (check one) | No water 🖾 🗹 | lear 🗆 Tur | | neen 🗆 Su | urface 🗆 Algal | □ Other: |
| | NO Water part | | | | cum mats | |
| | Bedrock 🗆 Bo | ulder 🕅 Cob | ble 🗟 Grav | · ` | Silt/ clay D Organ | ic 🛛 Other: |
| (check all that apply) % of Substrate: | 30 % | _% _25 | _% _20 | % 10 % | 15 % | %% |
| Width of Riparian Zone | : Vegetative | Lavers: | | | | and the second |
| | Vahack all that | | Tree | s: | Saplings/Shrubs: | 🖾 Herbs |
| <u>> [00 ft</u> . 90 | Avg. Don | of Dominants: | 10 | | in. | N/A in. |
| Dominant Bank Vegeta | (approx.) | | | | | |
| | | have C | aton to | - calibriana | Polishchurg | acrostichoides |
| Aquatic Habitats (ex: su | | Louistian C | an protocol | banke/roots loof- | inte large submarrad | acrosticitors) |
| Leuf pucks | | | on, overhanging | y pariks/roots, lear pa | iona, large submerged W00 | a, miles, deep pools). |
| Aquatic Organisms Ob | served (list): | 1.412 | | | | |
| caddisflies, | | s, mayf | lies, s | nails | | |
| T&E Species Observed | | , (' | | | | |
| None | | | | | | |
| Disturbances (ex: livesto | ock access, manute | in waterbody, was | ste discharge pi | pes): | | |
| road cross | ing | | | | | |
| Tributary is: (check one) | A Natural | | Artificial, man- | made 🗆 Mani | ipulated | |
| Stream Quality *: | | | 10 - 20 - 10 - 10 - 10 - 10 - 10 - 10 - | | | |
| (check one) | - 🗆 High | 1 20 | Moderate | □ Low | | |

saua437 Waterbody ID: SAUL ODT 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: Perennial channel, bedrock controlled, road crossing present upstream - ford (no culvert) no evidence of bank instability. previously named saur007 Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features). Centerline 5000008 50.01007 ford * data point Form Rev. 05/16/2014



Waterbody data point saua437 facing north upstream.



Waterbody data point saua437 facing south downstream.

Photo Sheet 1 of 2



Waterbody data point saua437 facing east across bank.



Waterbody saua437 facing west upstream at ford crossing.



Waterbody saua437 facing east downstream at ford crossing.



Waterbody saua437 facing north across bank at ford crossing.

| Linear Waterbody Data Shee | t | |
|--|--|--|
| Survey Description | | |
| Project Name: | Waterbody Name: | Waterbody ID: Date: |
| ACP | UNT to Baker Draft | SAUT008 3[25/16 |
| State: County/Parish: | Company: | Crew Member Initials: Photos: |
| VA Augusta | | J Benton, NM NW, SE, NE |
| Tract Number(s): | Nearest Milepost: | Associated Wetland ID(s): |
| 07-005-A026 | 113 | N/A |
| Survey Type: (check one) | e pare-Route □Access Road | □Other: |
| Physical Attributes | · | and an end of the second s |
| Stream Classification: (check one) | al Intermittent Perennial | |
| Waterbody Type: (check one) | ream 🗆 Ditch 🗆 Canal 🗆 Other: | and a second |
| OHWM OHWM Indica Width: 3_ft. | | g 🗆 Wrested 🗆 Scouring 🖉 Water vegetation staining |
| Height: 0.5 ft. bBent, vegetati | matted, or missing AWrack line DLitter ar on debris | d DAbrupt plant DSoil characteristic chang community change |
| Bank to Top of Bank: to Toe | | 2_ft. 0-2_ft. |
| Sinuosity: Water (check one) (Approx. | fps | N/AD Bank slope Right: 60 degree |
| | Left: | ft. Left: <u>66</u> degree |
| Qualitative Attributes | | |
| Water Appearance: (check one) | Clear DTurbid DSheen DSu on surface sci | |
| Substrate: ^[Check all that apply] % of Substrate: <u>30</u> % | | Silt/ clay □ Organic □ Other: <u>15 %</u> %% |
| N/AD (check all the (| e Layers: at apply) A Trees: t of Dominants:in. | Saplings/Shrubs: 🛛 Herbs in. <u>MA</u> in. |
| Dominant Bank Vegetation (list): | strobus, Carpinus carolinian | • |
| | ed aquatic vegetation, overhanging banks/roots, leaf par | |
| leuf packs, riffles | | na, na 20 contro 20 contro 1 transfer contro 1 t |
| Aquatic Organisms Observed (list): | | |
| caddisflies, mayfl | es, aquatic worms | |
| T&E Species Observed (list): Nັກຂ | | |
| | in waterbody wante disabarga sizes's | |
| Disturbances (ex: livestock access, manure adjucent road (dr | | |
| Tributary is: (check one) X Natura | | pulated |
| Stream Quality *: | | |
| (check one) . 🖵 High | 🖾 Moderate 🛛 Low | |

Waterbody ID: Saur DU8 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: Perennial channel, tributary to SAUROOT Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) Centerline Saur DUS Saur 007 +data point 1. Form Rev. 05/16/2014



Waterbody data point saur008 facing northwest upstream.



Waterbody data point saur008 facing southeast downstream.



Waterbody data point saur008 facing northeast across bank.

| Survey Description | า | | | | | | | |
|--|-----------------------|--|------------------------|--------------------------------|----------------|------------------------|----------------|-----------------------|
| Project Name: | | Waterbody Na | | | | /aterbody ID: | | Date: |
| Atlantic Coast Pipeli | | UNT to Calfp | • | | | aua410 | | 5/14/2016 |
| State: | County: | | | | | Member Initials: | Photos | : |
| 0 | Augusta | | NRG - ERM GB, | | | | 3 pho | otos |
| Tract Number(s): | | | Nearest Mile | epost: | | Associated Wet | land ID(s): | |
| 07-005-A036 | | | 113.3 | | | none. | | |
| Survey Type: (check one) | | □Re-F | Route | □ Access Road | | □Other: | | |
| Physical Attributes | 5 🛛 | | | | | | | |
| Stream Classification: (check one) | | I 🗆 Inter | mittent | Perennial | | | | |
| Waterbody Type: | · | | | | | | | |
| | River 🛛 Stre | eam 🗆 Dito | h 🗆 Ca | anal 🗆 Other | : | | | |
| ОНѠМ | OHWM Indicat | | | | | | | |
| Width:9.0ft. | (check all that apply |) | ⊠ Clear lir on bank | ne ⊠Shelvin | g | □Wrested vegetation | Scouri | ng ⊡Water staining |
| Height: | □Bent, n | natted, or missin | g 🗆 Wrack I | line ⊠Litter ar | nd | □Abrupt plant | □Soil | characteristic change |
| ft. N/A□ | vegetatio | | - | debris | | community char | 0 | - |
| Width of Waterbody - To Bank to Top of Bank: | | of Waterbody - ⁻ of Slope: | Toe of Slope | Width of Waterb Water Edge: | ody - W | | epth of Wate | er: |
| | | or Siope. | | Water Luge. | | | ,pront) | 0.75 () |
| <u> </u> | | <u>6.0 </u> ft. | | N/A□ | <u>7.0 _</u> f | t. N/ | | <u>0.75 </u> ft. |
| Sinuosity: | Water | velocity: | | Bank height | | | ank slope | |
| (check one) | (Approx.) | - | | Right: | | | Righ | |
| g | | 0.75 | fps | Left: | 3.0 _ | <u>_ft.</u> | Le | <u>90</u> degrees |
| Meanderin | 9 N/A□ | | | | 3.0 _ | _ft. | | <u>65</u> degrees |
| Qualitative Attribut | es | | | | | | | |
| Water Appearance: (check one) | No water ⊠C | Clear □Turb | | neen ⊡Su n surface sci | | □Algal □0 mats | Other: | |
| | Bedrock 🗆 Bo | ulder 🛛 Cobb | le 🛛 Grave | el 🛛 Sand 🛛 | ⊠ Silt/ c | clay 🛛 Organic | □ Other: | |
| (check all that apply) % of Substrate: | %% | % <u>35</u> % | % <u>40 %</u> | 6 <u>15</u> % | <u>5</u> % | <u> 5 </u> % | % | |
| Width of Riparian Zone | | | | | | | | |
| 100 ft- | (check all that | apply) of Dominants: | ⊠ Trees | | • | ngs/Shrubs: | ⊠ Herbs | |
| <u>100 II</u> . N/A□ | (approx.) | or Dominants. | 13.0 | in | 1.5 | in. | | |
| Dominant Bank Vegetat | tion (list): | | | | | | | |
| White oak, red mapl berry, may-apple, ci | nauefoil. deer i | tonque grass | . bluegrass | s. violet | | • • | | |
| Aquatic Habitats (ex: sul Occasional small po | 0 | | | | ks, large | submerged wood, ri | ffles, deep po | ols): |
| Aquatic Organisms Obs | served (list): | - | | - | | | | |
| Water striders, inver | | ish | | | | | | |
| T&E Species Observed | (list): | | | | | | | |
| none | | | | | | | | |
| Disturbances (ex: livesto | ck access, manure ir | n waterbody, waste | e discharge pipe | es): | | | | |
| Old road bed on nor | theast side | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Art | ificial, man-m | ade 🗆 Manip | ulated | | | |
| Stream Quality ^a : (check one) | ⊠ High | | oderate | □ Low | | | | |

saua410

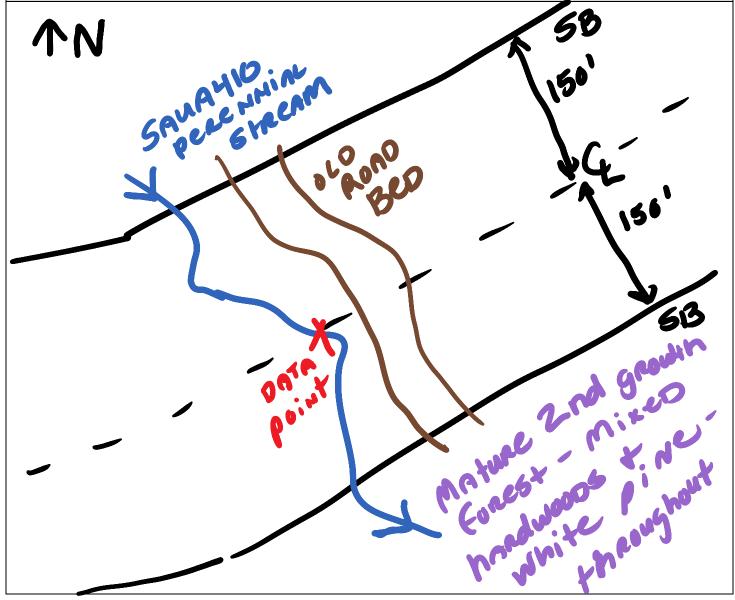
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

Stream continues out of corridor in both directions; area is a mature second growth forest with canopy of mixed hardwoods and white pine. Moderate gradient stream with well developed floodplain.





Waterbody SAUA410 facing northwest upstream



Waterbody SAUA410 facing southeast downstream



Waterbody SAUA410 facing northeast across

| Survey Description | n | | | | | | | | |
|--|-----------------------|-------------------------|----------------------|---------------------------|--------------------------|------------------------------|-------------|-------------|---------------------|
| Project Name: | | Waterbody Na | | | | Vaterbody ID: | | | Pate: |
| Atlantic Coast Pipel | ine | UNT to Calf | pasture Riv | ver | S | aua406 | | 4 | /11/2016 |
| State: | County: | | Company: | | Crew I | Member Initials | : | Photos: | |
| Virginia | Augusta | | NRG - ERM GB, J | | | JS 3 ph | | | S |
| Tract Number(s): | | | Nearest Mile | epost: | | Associated W | etland | ID(s): | |
| 07-005-A037 | | | 113.4 | | | none | | | |
| Survey Type: (check one) | ⊠Centerline | e □Re-F | Route | □Access Road | | □Other: | | | |
| Physical Attributes | S 🛛 | | | | | | | | |
| Stream Classification: (check one) | Ephemera | al 🛛 🖾 Inter | mittent | Perennial | | | | | |
| Waterbody Type: (check one) | River 🛛 Str | eam 🗆 Dito | ch □C | anal 🗆 Other | : | | | | |
| онум | OHWM Indica | tor: | | | | | | | |
| Width: <u>2.0</u> ft. | (check all that apply | | Clear lir on bank | ne ⊡Shelvin | g | □Wrested vegetation | \boxtimes | Scouring | □Water staining |
| Height:ft. | ⊠Bent, n vegetatio | natted, or missin n | g 🛛 Wrack | line ⊠Litter ar debris | nd | □Abrupt plan community ch | | □Soil ch | aracteristic change |
| N/A□ Width of Waterbody - T | op of Width d | of Waterbody - | Toe of Slope | Width of Waterb | odv - W | ater Edge to | Depth | of Water: | |
| Bank to Top of Bank: | | of Slope: | | Water Edge: | | | (Approx.) | | |
| <u>_12.0</u> ft. | - | <u>1.0</u> ft. | | | <u>1.0 _</u> f | | N/A□ | (|) <u>.10 </u> ft. |
| Sinuosity: | | velocity: | | Bank height | | | Bank s | slope | |
| (check one) | (Approx.) | | | Right: | 10.0 | 4 | | Right: | 05 |
| | | <u> 0.10 </u> f | ps | Left: | 10.0 _ | <u>.</u> n. | | Left: | <u>65</u> degrees |
| | ng N/A□ | | | | 10.0 _ | ft. | | | <u>65</u> degrees |
| Qualitative Attribu | tes | | | | | | | | |
| Water Appearance: (check one) | No water ⊠0 | Clear □Turb | | neen ⊡Su n surface scu | | □Algal mats | □Othe | r: | |
| Substrate: | Bedrock 🗆 Bo | ulder 🛛 Cobb | ole 🛛 Grav | el 🛛 Sand 🛛 | ⊠ Silt/ o | clay 🛛 Organic | : □ (| Other: | |
| (check all that apply) % of Substrate: | %% | <u> 15 </u> % | <u>20</u> % | <u>30</u> % | <u>10_</u> % | <u> 25 </u> % | | % | |
| Width of Riparian Zone | | | | | | | | | |
| <u>ft</u> . | • | apply) of Dominants: | ⊠ Trees _10.0 | | ⊠ Sapliı _ <u>2.0</u> | ngs/Shrubs: _in. | \ge | Herbs | |
| N/A⊠ Dominant Bank Vegeta | (approx.) | | | | | | | | |
| Scarlet oak, souther | . , | te oak, bitterr | nut hickory | , white pine, Ch | nristma | as fern, starw | vort | | |
| Aquatic Habitats (ex: su | bmerged or emerged | d aquatic vegetatio | n, overhanging | banks/roots, leaf pac | ks, large | e submerged wood | , riffles, | deep pools) |): |
| Leaf packs | | | | | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| none | | | | | | | | | |
| T&E Species Observed | l (list): | | | | | | | | |
| none | | | | | | | | | |
| Disturbances (ex: livesto | ock access, manure i | n waterbody, waste | e discharge pip | es): | | | | | |
| None apparent | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Ar | tificial, man-m | nade 🗆 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | ⊠ Mo | oderate | □ Low | | | | | |

saua406

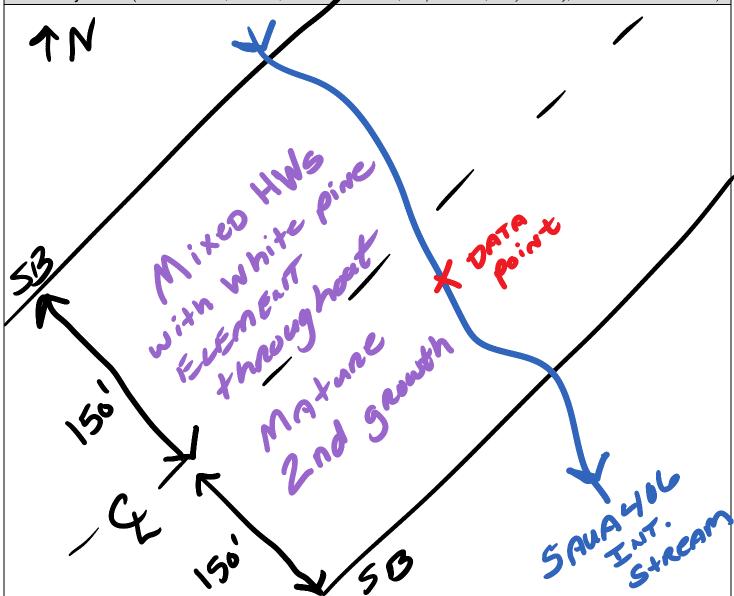
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

Continues out of corridor in both directions; mixed hardwoods throughout.





Waterbody SAUA406 facing north upstream



Waterbody SAUA406 facing south downstream



Waterbody SAUA406 facing west across

| Survey Description | on | | | | | | | | | | - |
|--|----------------------------|-------------------------------------|-----------------|-------------------------------------|-------------------|---------------|-----------------------------|---------------------------|-------------------|------------|---------------------------------|
| Project Name: | | | - | | | | | /aterbody ID: | | | Date: |
| Atlantic Coast Pipe | eline | UNT to | b Body L | ICK Bran | ch | | Sa | auz012 | | E | 6/17/2016 |
| State: | County: | | C | ompany: | | | Crew I | Member Initials | 5: | Photos: | |
| Virginia | Augusta | | E | RM | | | SS | | | 1-3 | |
| Tract Number(s): | | | N | earest Mile | epost: | | | Associated Wetland ID(s): | | | |
| 07-005-A037 | | | 1 | 13.4 | | | | None | | | |
| Survey Type: (check one) | Cente | erline | □Re-Rou | ute | ⊠Ac | cess Road | 1 | □Other: | | | |
| Physical Attribute | | | | | | | | | | | |
| Stream Classification (check one) | : □Ephe | meral | □Intermi | ttent | ⊠Pe | rennial | | | | | |
| Waterbody Type: (check one) | □River ⊠ | Stream | □ Ditch | □ Ca | anal | □ Other | : | | | | |
| OHWM Width: | OHWM In (check all that | | | Clear lir | ne | ⊠Shelvin | g | □Wrested | | Scouring | |
| <u>4</u> ft. Height: | □Be | ent, matted, o | | on bank | ne | □Litter a | nd | vegetation | nt | □Soil ch | staining aracteristic change |
| <u>0.5</u> ft. N/A□ | vege | etation | - | | | debris | | community ch | nange | | U |
| Width of Waterbody - Bank to Top of Bank: | | dth of Waterl Toe of Slope | | e of Slope | Width Water | | ody - W | | Depth (Approx. | of Water | : |
| <u>7</u> ft. | | <u>5</u> ft. | | | N/A□ | - | <u>4_</u> ft. | | N/A⊠ | _ | <u>0.5</u> ft. |
| Sinuosity: (check one) | | ater velocity: prox.) | | | Bank h | neight | | | Bank | slope | |
| Straight | (7) | |) E foo | | | Right: | <u>3_</u> ft. | | | Right: | <u>80</u> degrees |
| Maandar | ing | | <u>).5_</u> fps | | | Left: | | | | Left | |
| | N// | <u>م</u> | | | | | <u> 1_</u> ft. | | | | 45 degrees |
| Qualitative Attrib | utes | | | | | | | | | | |
| Water Appearance: (check one) | □No water | ⊠Clear | □Turbid | ⊡Sh on | ieen i surface | ⊡Su e sc | rface um | □Algal mats | □Othe | r: | |
| | Bedrock | Boulder | ⊠ Cobble | ⊠ Grave | el 🛛 | Sand | ⊠ Silt/ c | lay 🗆 Organic | ; 🗆 (| Other: | |
| (check all that apply) % of Substrate: | % | % | <u>50</u> % | <u>20</u> % | 1 | <u>0 % </u> | <u>20 </u> % | % | | % | |
| Width of Riparian Zon | | ative Layers: | | 53 - | | | | (0) | _ | | |
| <u>50 ft</u> · N/A□ | | all that apply) DBH of Domi) | nants: | [⊠] Trees <u>10</u> in. | : | | ⊠ Saplir _ <u>2_</u> in. | ngs/Shrubs: | Þ | I Herbs | |
| Dominant Bank Veget | ation (list): | , | | | | | | | | | |
| Bush honeysuckle | , Smilax rotu | Indifolia | | | | | | | | | |
| Aquatic Habitats (ex: s | submerged or em | erged aquatic v | regetation, o | overhanging | banks/ro | ots, leaf pac | ks, large | submerged wood | , riffles, | deep pools | ·): |
| Overhanging bank | | | | | | | | | | | |
| Aquatic Organisms O | bserved (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| T&E Species Observe None | d (list): | | | | | | | | | | |
| Disturbances (ex: lives | tock access, mar | nure in waterboo | dy, waste di | scharge pipe | es): | | | | | | |
| None | | | - | | · | | | | | | |
| Tributary is: (check one) | ⊠ Natu | ral | □ Artific | cial, man-m | ade | 🗆 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | | □ Mode | erate | | ⊠ Low | | | | | |

sauz012

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

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

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

Notes:

This is a moderately sized perennial stream draining from a pond to the west of the access road. It is bridged across the access road.

300' Corridor Ulvert 5902012 590 2013 N @) en (E', e' Form Rev. 07/09/2014



Waterbody sauz012 facing west upstream



Waterbody sauz012 facing east downstream



Waterbody sauz012 facing south across

| Survey Description | า | | | | | /aterbody ID: | | | |
|---|---------------------------------------|--|-------------------|-----------------------|-----------------|---------------------------|------------|-----------|----------------------|
| Project Name: | | Waterbody Nar | erbody Name: | | | | | | Date: |
| Atlantic Coast Pipeli | | Calfpasture F | River | | | aua405 | | | 4/11/2016 |
| State: | County: | | Company: | | Crew I | Member Initials | : | Photos: | |
| 0 | Augusta | | NRG - ERM GB, | | | JS 3 pho | | | OS |
| Tract Number(s): | | | Nearest Milepost: | | | Associated Wetland ID(s): | | | |
| 07-005-A038; 07-00 | 5-A041 | | 113.5 | | | waua403 | | | |
| Survey Type: (check one) | | Re-R | loute | □ Access Road | | □Other: | | | |
| Physical Attributes | 5 🛛 | | | | | | | | |
| Stream Classification: (check one) | Ephemera | al 🗆 Inter | mittent | Perennial | | | | | |
| Waterbody Type: | | | | | | | | | |
| | River 🗆 Str | eam 🗌 Ditc | h 🗆 Ca | anal 🗌 Other: | | | | | |
| OHWM Width: | OHWM Indicat (check all that apply | | 🛛 Clear lir | ne ⊠Shelving | q | ⊠Wrested | X | Scouring | g ⊡Water |
| <u>30.0</u> ft. | | | on bank | | 0 | vegetation | | | staining |
| Height: | · · · · | natted, or missing | g 🛛 Wrack | | nd | □Abrupt plan | | □Soil c | haracteristic change |
| ft. N/A□ | vegetatio | n | | debris | | community ch | ange | | |
| Width of Waterbody - To | | | Foe of Slope | Width of Waterbo | ody - W | | | of Water | r: |
| Bank to Top of Bank: | to Toe | of Slope: | | Water Edge: | | | (Approx.) |) | |
| <u>_50.0</u> ft. | _ | <u>17.0</u> ft. | | | <u>18.0 _</u> f | | N/A□ | - | <u>1.25 ft</u> . |
| Sinuosity: | Water | velocity: | | N/A□ Bank height | | | Banks | slone | |
| (check one) | (Approx.) | le l | | Right: | | | Danie | Right | : |
| □Straight | | <u> </u> | S | Left: | <u>6.5 </u> f | it. | | Left | 80 degrees |
| ⊠Meanderin | 9 N/A□ | | | | <u>5.0 _</u> f | t. | | Len | 40 degrees |
| Qualitative Attribut | es | | | | | | | | |
| Water Appearance: | No water ⊠C | Clear ⊡Turb | id ⊓Sh | neen 🗆 Sur | faco | □Algal | □Othe | r. | |
| | | | | isurface scu | | mats | | 1. | |
| Substrate: | Bedrock 🛛 Bo | ulder 🛛 Cobb | le 🛛 Grav | el 🛛 Sand 🛛 | □ Silt/ c | clay 🗆 Organic | : 🗆 (| Other: | |
| % of Substrate: | %10 | <u>% 65</u> % | <u> 15 </u> % | <u> 10 </u> % | | _%% | | % | |
| Width of Riparian Zone | | | | | | | | | |
| 200 # | (check all that | | ⊠ Trees | | | ngs/Shrubs: | \ge | I Herbs | |
| <u>200 ft</u> ⊷ N/A□ | (approx.) | of Dominants: | 9.0 | in | | in. | | | |
| Dominant Bank Vegetat | tion (list): | | | | | | | | |
| Sycamore, yellow po rve. bird's foot trefoil | . common par | nic arass | | | | | | | |
| Aquatic Habitats (ex: sul Riffles, overhanging | | | | banks/roots, leaf pac | ks, large | submerged wood | , riffles, | deep pool | s): |
| Aquatic Organisms Obs | served (list): | - | | | | | | | |
| Minnows, invertebra | | | | | | | | | |
| T&E Species Observed | (list): | | | | | | | | |
| none | | | | | | | | | |
| Disturbances (ex: livesto | ck access, manure i | n waterbody, waste | discharge pipe | es): | | | | | |
| Agricultural runoff fre | om adjacent fi | eld | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Art | ificial, man-m | iade 🗆 Manipi | ulated | | | | |
| Stream Quality ^a : (check one) | 🗆 High | ⊠ Mo | derate | □ Low | | | | | |

saua405

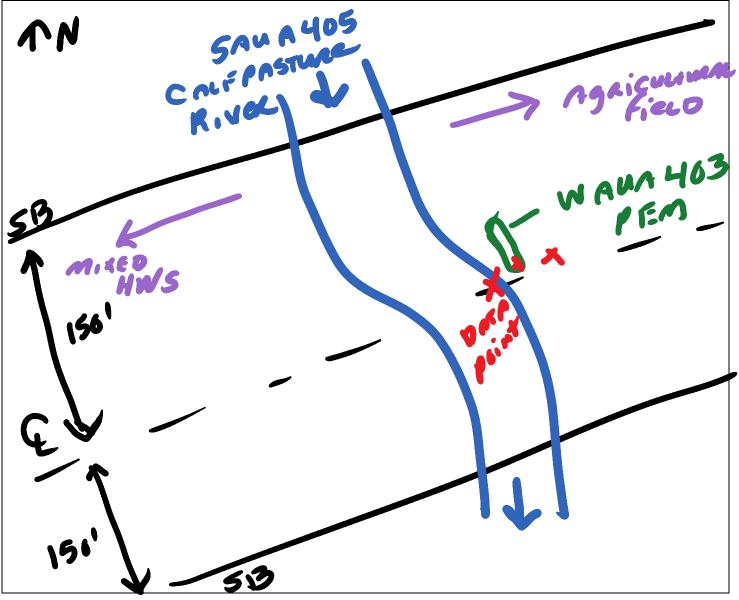
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

Continues out of corridor in both directions; mixed hardwoods on west side, active agricultural field on east side with minimal buffer. Floodplain pool on east side at edge of agricultural field – PEM wetland waua403.





Waterbody SAUA405 facing north upstream



Waterbody SAUA405 facing south downstream



Waterbody SAUA405 facing west across

| Survey Description | on | | | | <u> </u> | | | | |
|--|--------------------------------|-------------------|--------------------|----------------------------|-----------------|---------------------------|--------------|--------------------|--------------------|
| Project Name: | | Waterbody | | | | Waterbody ID: | | | |
| Atlantic Coast Pipe | line | UNT to C | alfpasture Riv | rer | S | aue304 | | 4/28 | /2016 |
| State: | County: | | Company: | | Crew M | Member Initials | : P | hotos: | |
| Virginia | Augusta | | NRG | | CG, S | SA, SS | | 1-3 | |
| Tract Number(s): | | | Nearest Milepost: | | | Associated Wetland ID(s): | | | |
| 07-005-A054 | | | | | | none | | | |
| Survey Type: (check one) | ⊠Centerli | ne 🗆 F | Re-Route | □Access Road | | □Other: | | | |
| , , | | | | | | | | | |
| Physical Attribute Stream Classification: | | | | | | | | | |
| (check one) | ⊠Epheme | eral 🛛 🗆 I | ntermittent | Perennial | | | | | |
| Waterbody Type: (check one) | □River ⊠ S | Stream 🗆 | Ditch 🗆 C | anal 🗌 Other: | | | | | |
| онwм | OHWM India | | | | | | | | |
| Width:ft. | (check all that ap | (עוסו | Clear lineOn bank | ne ⊡Shelving | g | □Wrested vegetation | \boxtimes | Scouring | □Water staining |
| Height: | □Bent | , matted, or mi | ssing □Wrack li | ine 🗆 Litter ar | nd | □Abrupt plan | | ⊠Soil charac | teristic change |
| ft. N/A□ | vegetat | tion | | debris | | community ch | ange | | |
| Width of Waterbody - | | | y - Toe of Slope | Width of Waterbo | ody - W | ater Edge to | | of Water: | |
| Bank to Top of Bank: | to 10 | e of Slope: | | Water Edge: | | | (Approx.) | | |
| <u>4</u> ft. | | <u>1_</u> ft. | | | f | t. | N/A⊠ | | ft. |
| Sinuosity: | Wate | r velocity: | | Bank height | | | Bank sl | оре | |
| (check one) Straight | (Appro: | | | Right: | | | | Right: | |
| | | | fps | Left: | <u>0.5_</u> ft. | | | <u>35</u> Left: | _degrees |
| □Meander | ing N/A⊠ | 3 | | | <u>0.5_</u> ft. | | | | _degrees |
| Qualitative Attribu | utes | | | | | | | | |
| Water Appearance: (check one) | $^{\boxtimes}$ No water \Box |]Clear □1 | Furbid □St or | neen ⊡Sur n surface scu | | □Algal mats | □Other: | | |
| | Bedrock 🗆 E | Boulder 🛛 🛛 | obble 🛛 Grav | el 🛛 Sand 🛛 | ⊠ Silt/ c | lay 🗆 Organic | | ther: | |
| (check all that apply) % of Substrate: | % | <u>% 30</u> | <u>% 40 %</u> | <u> 20 </u> % | <u>10_</u> % | % | | % | |
| Width of Riparian Zon | e: Vegetati | ve Layers: | | | | | | | |
| " | (check all th | | ⊠ Trees | | | ngs/Shrubs: | \boxtimes | Herbs | |
| <u>ft</u> . N/A⊠ | (approx.) | H of Dominan | ts: <u>4</u> in. | - | _ <u>1_</u> in. | | | | |
| Dominant Bank Veget | ation (list): | | | | | | | | |
| Blue beech, violet, | pine, grasses | | | | | | | | |
| Aquatic Habitats (ex: s | ubmerged or emerg | ged aquatic vege | ation, overhanging | banks/roots, leaf pack | ks, large | submerged wood | , riffles, d | eep pools): | |
| none | | | | | | | | | |
| Aquatic Organisms O | bserved (list): | | | | | | | | |
| none | | | | | | | | | |
| T&E Species Observe | d (list): | | | | | | | | |
| none | | | | | | | | | |
| Disturbances (ex: lives | tock access, manure | e in waterbody, w | aste discharge pip | es): | | | | | |
| none | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | | Artificial, man-m | nade 🗆 Manipu | ulated | | | | |
| Stream Quality ^a : (check one) | 🗆 High | × | Moderate | □ Low | | | | | |

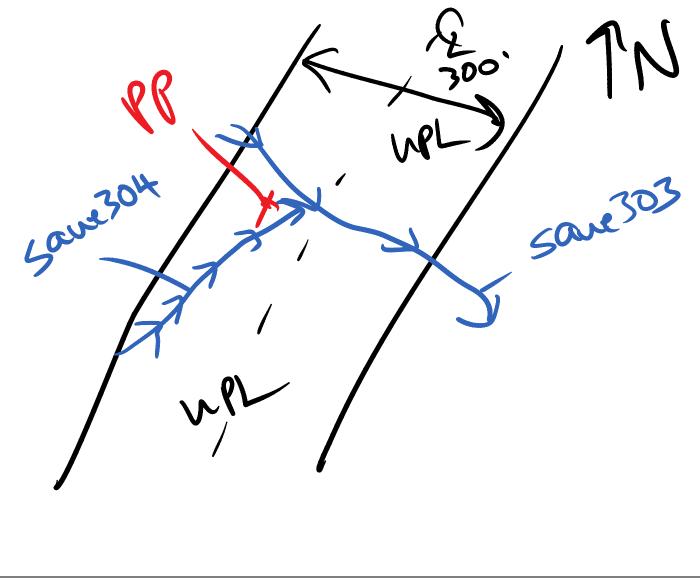
Saue304

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 SAUE304 facing west upstream



Waterbody SAUE304 facing east downstream



Waterbody SAUE304 facing south across

| Survey Descriptio | n | - | | | | | | | |
|--|-------------------------------------|-------------------------------|----------------|--------------------------------|---------------|--------------------------------------|---------------------|------------|---------------------|
| Project Name: | | Waterbody Nam | | | | Vaterbody ID: | | | ate: |
| Atlantic Coast Pipe | line | UNT to Calfpa | | er | S | aue303 | | 4, | /28/2016 |
| State: | County: | | Company: | | Crew I | Member Initials: | Р | hotos: | |
| Virginia | Augusta | | NRG | | CG, S | SA, SS | 1 | 1-3 | |
| Tract Number(s): | | | Nearest Mile | epost: | | Associated We | tland I | D(s): | |
| 07-005-A054 | | | | | | none | | | |
| Survey Type: (check one) | ⊠Centerline | e □Re-R | oute | □Access Road | | □Other: | | | |
| Physical Attribute | S | | | | | | | | |
| Stream Classification: (check one) | | al □Interr | nittent | ⊠Perennial | | | | | |
| Waterbody Type: | | | | | | | | | |
| (check one) | River ⊠ Sti | ream 🗆 Ditch | n 🗆 Ca | anal 🗌 Other | : | | | | |
| OHWM Width: | OHWM Indica (check all that appl | | Clear lir | ne 🗆 Shelvin | a | ⊠Wrested | \boxtimes | Scouring | □Water |
| <u>6</u> ft. | | | on bank | | 5 | vegetation | | | staining |
| Height: 1 ft. | ⊠Bent, r vegetatio | matted, or missing | g | ne □Litter ar debris | nd | □Abrupt plant community character | | ⊠Soil cha | aracteristic change |
| N/A□ | vegetatio | | | debris | | Community Cha | ange | | |
| Width of Waterbody - 1 Bank to Top of Bank: | | of Waterbody - T of Slope: | oe of Slope | Width of Waterb Water Edge: | ody - W | | Depth o Approx.) | f Water: | |
| _10 ft. | | | | | 1 LL | | | | 0.2_ ft. |
| <u>_10</u> n. | - | <u>4_</u> ft. | | N/A□ | <u>4_</u> ft. | | I∕A□ | | <u>0.2_</u> |
| Sinuosity: | | velocity: | | Bank height | | E | Bank sl | оре | |
| (check one) | (Approx.) | | | Right: | 1_ ft. | | | Right: | 45 degrees |
| | | <u>0.5</u> fps | | Left: | <u> </u> | | | Left: | 45 degrees |
| Meanderi | ng N/A□ | | | | <u>2</u> ft. | | | | <u>30</u> degrees |
| Qualitative Attribu | ites | | | | | | | | |
| Water Appearance: (check one) | No water ⊠0 | Clear □Turbi | | leen ⊡Su I surface sci | | □Algal □ mats | Other: | | |
| | Bedrock 🛛 🖾 Bo | oulder 🛛 Cobbl | e 🛛 Grave | el 🛛 Sand 🛛 | Silt/ o | clay 🗆 Organic | | ther: | |
| (check all that apply) % of Substrate: | <u>%_5</u> % | <u>40</u> % | <u>35</u> % | <u> 5 </u> % | <u>15_</u> % | % | | _% | |
| Width of Riparian Zone | e: Vegetativ | o Lavers: | | | | | | | |
| | (check all that | | ⊠ Trees | : | 🛛 Saplii | ngs/Shrubs: | \boxtimes | Herbs | |
| <u>15 ft</u> - N/A□ | (approx.) | of Dominants: | <u>8</u> in. | - | <u>2</u> in. | | | | |
| Dominant Bank Vegeta | | | | | | | | | |
| Hemlock, hickory, b | | - | | | | | | | |
| Aquatic Habitats (ex: se | ubmerged or emerge | d aquatic vegetation | , overhanging | banks/roots, leaf pac | ks, large | e submerged wood, | riffles, d | eep pools) | : |
| Riffles, pools | | | | | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| Insects, crayfish | | | | | | | | | |
| T&E Species Observed | l (list): | | | | | | | | |
| none | | | | | | | | | |
| Disturbances (ex: livest | ock access, manure | in waterbody, waste | discharge pipe | es): | | | | | |
| none | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Arti | ficial, man-m | ade 🗆 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | ⊠ High | | derate | □ Low | | | | | |

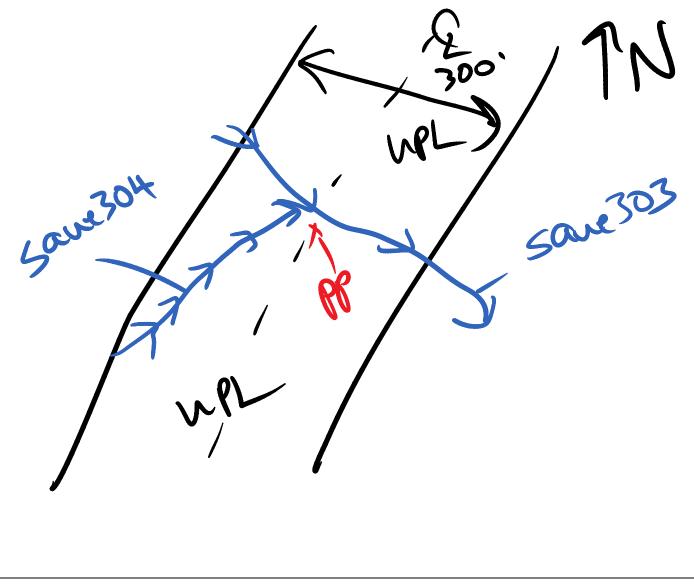
Saue303

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 SAUE303 facing north upstream



Waterbody SAUE303 facing south downstream



Waterbody SAUE303 facing east across

| Survey Description | on | | | | | | | | | | _ |
|--|--------------------------|-----------------------------------|-----------------|----------------------|----------------|--------------|---------------|------------------------|------------|---|----------------------|
| Project Name: | | Waterbo | - | | | | | aterbody ID: | | | Date: |
| Atlantic Coast Pipe | eline | UNT to | Calfp | asture Riv | er | | Sa | auz010 | | t i i i i i i i i i i i i i i i i i i i | 6/15/2016 |
| State: | County: | | | Company: | | | Crew N | lember Initials | :: | Photos: | |
| Virginia | Augusta | | | ERM | | | SS | | | 1-3 | |
| Tract Number(s): | 1 | | | Nearest Mile | epost: | | | Associated W | etland | ID(s): | |
| 07-005-A055 | | | | 114 | | | | None | | | |
| Survey Type: (check one) | □Cent | erline | □Re-R | oute | ⊠Acce | ess Road | | □Other: | | | |
| Physical Attribute | es | | | | | | | | | | |
| Stream Classification (check one) | | | | ••• | | | | | | | |
| · · · | Ephe | emeral | | nittent | ⊠Pere | nniai | | | | | |
| Waterbody Type: (check one) | River | ⊠ Stream | □ Ditc | h 🗆 Ca | anal | Other: | | | | | |
| ОНШМ | OHWM In (check all th | | | | 5 | 7 Chabin | | | | | |
| Width: _ <u>2_f</u> t. | (check an an | αι αρριγ) | | Clear lir on bank | ie 2 | Shelving | J | ☐Wrested vegetation | L | Scouring | I □Water staining |
| Height: | □B | ent, matted, or | missing | g ⊡Wrack li | ne 🗆 | Litter an | d | □Abrupt plan | | □Soil cł | naracteristic change |
| ft. N/A□ | veg | etation | | | d | ebris | | community ch | nange | | |
| Width of Waterbody - | | idth of Waterk | | oe of Slope | | | ody - W | ater Edge to | | of Water | : |
| Bank to Top of Bank: | to | Toe of Slope | | | Water Eo | ige: | | | (Approx., |) | |
| <u>_3 ft</u> . | | <u>5</u> ft. | | | N/A□ | | <u>2</u> ft. | | N/A□ | - | <u>_0.5_</u> ft. |
| Sinuosity: | w | ater velocity: | | | Bank he | ight | | | Bank | slope | |
| (check one) | (A | pprox.) | | | F | Right: | o " | | | Right: | |
| _ | | _(| <u>).5_</u> fps | | | Left: | <u>2_</u> ft. | | | Left | <u>75</u> degrees |
| | ring N | /A□ | | | | - | <u>2_</u> ft. | | | | <u>75</u> degrees |
| Qualitative Attrib | utes | | | | | | | | | | |
| Water Appearance: (check one) | □No water | ⊠Clear | □Turbi | | een surface | ⊡Sur scu | | □Algal mats | □Othe | r: | |
| Substrate: | Bedrock | □ Boulder D | ⊲ Cobb | - | | | ∃ Silt/ c | | : □ (| Other: | |
| (check all that apply) % of Substrate: | | | | | | | | | | | |
| / of Substrate. | % | % | <u>50 </u> % | <u> 50 </u> % | % |) _ | _% | % | | % | |
| Width of Riparian Zor | | tative Layers: all that apply) | | ⊠ Trees | | | Saplin | ngs/Shrubs: | | I Herbs | |
| <u>250+ ft</u> · | Avg. | DBH of Domin | nants: | <u>10</u> in. | • | | <u>2</u> in. | iys/Siliubs. | | | |
| N/A□ Dominant Bank Veget | (appro: | к.) | | | | | | | | | |
| Juglans nigra, Pine | | | | | | | | | | | |
| Aquatic Habitats (ex: s | submerged or er | nerged aquatic v | egetatior | n, overhanging | banks/roots | s, leaf pack | s, large | submerged wood | , riffles, | deep pools | \$): |
| None | | | | | | | | | | | |
| Aquatic Organisms O | bserved (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| T&E Species Observe | ed (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| Disturbances (ex: lives | stock access, ma | nure in waterboo | ly, waste | discharge pipe | es): | | | | | | |
| None | | | | | | | | | | | |
| Tributary is: (check one) | ⊠ Nat | ural | 🗆 Arti | ficial, man-m | ade [|] Manipu | lated | | | | |
| Stream Quality ^a : (check one) | 🗆 Higl | า | □ Mo | derate | Σ | I Low | | | | | |

sauz010

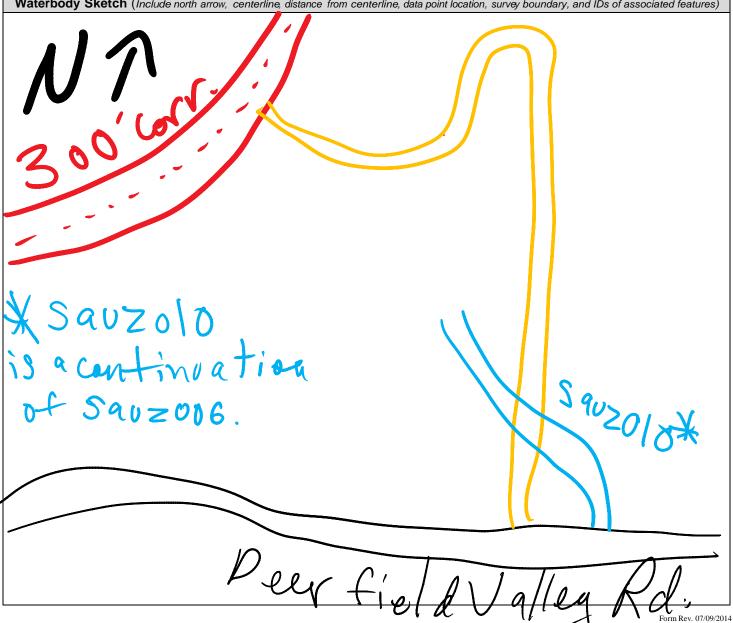
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

This is a small perennial stream that crosses the access road at a culvert.





Waterbody sauz010 facing north upstream



Waterbody sauz010 facing south downstream



Waterbody sauz010 facing west across

| Survey Description | on | . | | | | | | | | | - |
|--|-----------------------|---------------------------------------|----------|------------------------------|----------------|---------------|---------------------------|------------------------|--------------------|------------|---------------------|
| Project Name: | | Waterbo | - | | | | | aterbody ID: | | | Date: |
| Atlantic Coast Pipe | eline | UNI to | Calfp | asture Riv | er | | Sa | auz008 | | ł | 8/15/2016 |
| State: | County: | | | Company: | | | Crew N | lember Initials | 5: | Photos: | |
| Virginia | Augusta | | | ERM | | | SS | | | 1-3 | |
| Tract Number(s): | | | | Nearest Mile | epost: | | | Associated W | etland | ID(s): | |
| 07-005-A055 | | | | 114 | | | | None | | | |
| Survey Type: (check one) | □Center | line | □Re-R | oute | ⊠Acc | ess Road | | □Other: | | | |
| Physical Attribute | es | | | | | | | | | | |
| Stream Classification (check one) | : ⊠Ephem | eral | □Interr | nittent | □Per | ennial | | | | | |
| · · · | | | | mueni | | | | | | | |
| Waterbody Type: (check one) | □River ⊠ | Stream | Ditcl | n 🗆 Ca | anal | □ Other: | | | | | |
| ОНѠМ | OHWM Ind | | | | | | | | | 10 | |
| Width: _ <u>1_</u> ft. | | φριγ) | | Clear lir on bank | ie | ⊠Shelvino | 9 | □Wrested vegetation | L | Scouring | □Water staining |
| Height: | | t, matted, or | missing | g ⊡Wrack li | | □Litter an | d | □Abrupt plar | | □Soil ch | aracteristic change |
| ft. N/A□ | vegeta | ation | | | | debris | | community ch | nange | | |
| Width of Waterbody - | | | ody - T | oe of Slope | | | ody - W | ater Edge to | Depth (Approx.) | of Water | : |
| Bank to Top of Bank: | to I | oe of Slope: | | | Water E | • | | | (Approx.) | | o. (. () |
| <u>_2 ft</u> . | | <u>1_</u> ft. | | | N/A□ | - | <u>1</u> ft. | | N/A□ | - | <u>0.1</u> ft. |
| Sinuosity: | Wat | er velocity: | | | Bank he | eight | | | Bank s | slope | |
| (check one) | (Appr | ox.) | | | | Right: | ~ | | | Right: | |
| _ | | | _fps | | | Left: | <u>0.4_</u> ft. | | | Left | <u>80</u> degrees |
| | ring N/A | \boxtimes | | | | | <u>0.4_</u> ft. | | | | 80 degrees |
| Qualitative Attrib | utes | | | | | | | | | | |
| Water Appearance: (check one) | oxtimes No water | | □Turbi | | een surface | ⊡Sur scu | | □Algal mats | □Othe | r: | |
| | Bedrock | Boulder | Cobbl | e 🛛 Grave | el 🛛 S | Sand 🛛 | ⊴ Silt/ c | lay 🗆 Organio | ; [] (| Other: | |
| (check all that apply) % of Substrate: | % | % | _% | <u>20</u> % | _50 | _% _ | <u>30_</u> % | % | | % | |
| Width of Riparian Zor | | tive Layers: | | | | | | | | | |
| <u>250+ ft</u> - | · | ^{that apply)} 3H of Domin | ants: | ⊠ Trees: _ <u>10_</u> in. | : | | Saplir _ <u>2_</u> in. | ngs/Shrubs: | | I Herbs | |
| N/A⊡ Dominant Bank Veget | (approx.) | | | | | | | | | | |
| Cornus florida, Nys | | | | | | | | | | | |
| Aquatic Habitats (ex: | submerged or eme | ged aquatic ve | getation | , overhanging | banks/roo | ts, leaf pack | ks, large | submerged wood | l, riffles, | deep pools | ·): |
| None | | | | | | | | | | | |
| Aquatic Organisms O | bserved (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| T&E Species Observe | ed (list): | | | | | | | | | | |
| None | | | | | | | | | | | |
| Disturbances (ex: lives | tock access, manu | re in waterbody | y, waste | discharge pipe | es): | | | | | | |
| None | | | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natura | al | □ Arti | ficial, man-m | ade | 🗆 Manipu | ulated | | | | |
| Stream Quality ^a : (check one) | 🗆 High | | | derate | | ⊠ Low | | | | | |

s'902006

Form Rev. 07/09/2014

sauz008

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

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

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

Notes:

This is a small ephemeral stream.

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

5900

Peer fie

008



Waterbody sauz008 facing southwest upstream



Waterbody sauz008 facing northeast downstream



Waterbody sauz008 facing northwest across

| Survey Description | n | | | | | | | | |
|--|---------------------|---------------------------------------|----------------------|---------------------------------|-----------------|------------------------|----------------------|--------------|--------------------|
| Project Name: | _ | Waterbody Na | | | | aterbody ID: | | Date | |
| Atlantic Coast Pipel | ine | UNT to Cali | Pasture Ri | ver | Sa | auz007 | | 6/15 | 5/2016 |
| State: | County: | | Company: | | Crew M | Member Initials | : P | hotos: | |
| Virginia | Augusta | | ERM | | SS | | 1 | 1-3 | |
| Tract Number(s): | | | Nearest Mile | epost: | | Associated W | etland I | D(s): | |
| 07-005-A055 | | | 114 | | | None | | | |
| Survey Type: (check one) | | e □Re | Route | ⊠Access Road | | Other: | | | |
| Physical Attributes | s | | | | | | | | |
| Stream Classification: (check one) | ⊠Ephemer | al ⊡Inte | ermittent | Perennial | | | | | |
| Waterbody Type: | - | | | | | | | | |
| | River St | ream 🗆 Di | tch 🗆 C | anal 🛛 Other: | | | | | |
| онwм | OHWM Indica | | | | | | | | |
| Width: <u>1</u> ft. | (check all that app | ly) | Clear lir on bank | ne ⊠Shelving | g | □Wrested vegetation | | Scouring | □Water staining |
| Height: | | matted, or missi | ng 🗆 Wrack li | | nd | □Abrupt plan | | □Soil charad | cteristic change |
| ft. N/A□ | vegetatio | on | | debris | | community ch | ange | | |
| Width of Waterbody - T Bank to Top of Bank: | | | Toe of Slope | Width of Waterbo Water Edge: | ody - W | | Depth o (Approx.) | of Water: | |
| Ballk to Top of Ballk. | to roe | of Slope: | | water Euge. | | | (Approx.) | | <i>6</i> |
| _ <u>ft</u> . | - | <u>1_</u> ft. | | N/A□ | <u>1_</u> ft. | | N/A□ | 0.1 | <u>_</u> π. |
| Sinuosity: | | velocity: | | Bank height | | | Bank sl | оре | |
| (check one) | (Approx., |) | | Right: | | | | Right: | |
| | | fps | | Left: | <u>0.4_</u> ft. | | | Left: |)_ degrees |
| | ng N/A⊠ | | | | <u>0.4_</u> ft. | | | |)_ degrees |
| Qualitative Attribu | tes | | | | | | | | |
| Water Appearance: (check one) | No water | Clear 🗆 Tui | | neen ⊡Sur n surface scu | | □Algal [mats | □Other: | | |
| | Bedrock 🗆 Be | oulder 🗆 Cob | ble 🛛 Grav | el 🛛 Sand 🛛 | ⊠ Silt/ c | lay 🗆 Organic | | ther: | |
| (check all that apply) % of Substrate: | % | %% | <u>20</u> % | <u> 50 </u> % | <u>30_</u> % | % | | % | |
| Width of Riparian Zone | | | | | | | | | |
| 250+ ft- | (check all tha | ^{t apply)} I of Dominants | ⊠ Trees | | • | ngs/Shrubs: | \boxtimes | Herbs | |
| N/A 🗆 | (approx.) | of Dominants | <u> 10 </u> in. | - | <u>2</u> in. | | | | |
| Dominant Bank Vegeta | | | | | | | | | |
| Cornus Florida, Nys | - | | | | | | | | |
| Aquatic Habitats (ex: su | bmerged or emerge | d aquatic vegetati | on, overhanging | banks/roots, leaf pacl | ks, large | submerged wood | , riffles, d | eep pools): | |
| None | | | | | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| None | | | | | | | | | |
| T&E Species Observed | (<i>list</i>): | | | | | | | | |
| None | | | | | | | | | |
| Disturbances (ex: livesto | ock access, manure | in waterbody, was | te discharge pipe | es): | | | | | |
| None | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | | rtificial, man-m | ade 🗆 Manipu | ulated | | | | |
| Stream Quality ^a : (check one) | □ High | | loderate | ⊠ Low | | | | | |

³902006

Form Rev. 07/09/2014

sauz007

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

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

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

Notes:

This is a small ephemeral stream.

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

San .

Perfie



Waterbody sauz007 facing southwest upstream



Waterbody sauz007 facing northeast downstream



Waterbody sauz007 facing northwest across

| Linear Waterbody Data S | heet |
|-------------------------|------|
|-------------------------|------|

| Survey Description | | | | | | | | | |
|---|---------------------------------------|-------------------------------|-----------------------------|------------------------------------|--------------------------|---|-----------------------|----------------------------|--|
| Project Name: | | Waterbody Nar | ne: | | Waterbody ID: Date: | | | | |
| Atlantic Coast Pipelir | ne | Jonas Draft | | | Sa | aua409 | | 5/6/2016 | |
| State: | County: | | Company: | | Crew N | Member Initials: | Photos: | | |
| Virginia A | Augusta | | NRG - ER | М | GB, S | SA | 3 phot | OS | |
| Tract Number(s): | | | Nearest Mile | epost: | | Associated Wetlan | d ID(s): | | |
| 07-005-A045; 007-00 | 05-A055; 07-0 | 05-A057 | 114.3 | | | waua405 | | | |
| Survey Type: (check one) | Centerline | □Re-F | Route | □ Access Road | | □Other: | | | |
| Physical Attributes | \boxtimes | | | | | | | | |
| Stream Classification: (check one) | □ Ephemera | I 🗆 Inter | mittent | Perennial | | | | | |
| Waterbody Type: (check one) | River 🖂 Stre | eam 🗆 Ditc | h □ Ca | anal 🗆 Other: | <u>.</u> | | | | |
| | | | | | | | | | |
| OHWM Width: 30.0 ft. | OHWM Indicat (check all that apply | | ⊠ Clear lir on bank | ne Shelvin | g | □Wrested vegetation | ⊠Scourin | g □Water staining | |
| Height: | | natted, or missing | a ⊠Wrock I | line 🛛 Litter ar | nd | □Abrupt plant | | haracteristic change | |
| | vegetation | n | 0 | debris | | community change | | | |
| Width of Waterbody - To Bank to Top of Bank: | | of Waterbody - 1 of Slope: | Toe of Slope | Width of Waterbo Water Edge: | ody - W | ater Edge to Dept | h of Wate | r: | |
| <u>40.0</u> ft. | _ | <u>_22.0 _</u> ft. | | | 30.0 | ft. | | <u>2.75 _</u> ft. | |
| Sinuosity: | Wator | velocity: | | N/A□ Bank height | | N/A | slope | | |
| (check one) | (Approx.) | elocity. | | Right: | | Dalin | Right | | |
| Straight | | f | ps | | 8.0 | ft. | • | 80 degrees | |
| ⊠Meandering | Ŋ N/A□ | | | Left: | 20.0 _ | <u>f</u> t. | Lef | t: <u>85</u> degrees | |
| Qualitative Attribute | es | | | | | | | | |
| Water Appearance: (check one) | No water ⊠C | lear □Turb | | | | □Algal □Oth | er: | | |
| Substrate: | Bedrock 🛛 Bo | ulder 🖂 Cobb | - | el ⊠ Sand [| um ⊒ Silt/ c | mats lay □ Organic □ | Other: | | |
| (check all that apply) % of Substrate: | | | | | _ 0 0 | , - <u>-</u> | | | |
| | % _5 | % <u>60</u> % | % <u>30 %</u> | <u> 5 </u> % _ | | _%% | % | | |
| Width of Riparian Zone: | Vegetative (check all that | | M T | | | | 🖂 I I a rha a | | |
| <u>200 ft</u> - | · | of Dominants: | ⊠ Trees: <u>12.0</u> | | ⊴ Sapiir _ <u>1.0</u> | ngs/Shrubs: _in. | ⊠ Herbs | | |
| N/A□ Dominant Bank Vegetati | ()) | | | | | | | | |
| Hemlock, yellow pop sweet birch. Virginia | lar, white pine | , sycamore, o berry, areen | green ash, brier. garlig | red maple, spi c mustard, nettl | cebusl e. wild | h, autumn olive, l I rve. mav-apple. | Morrow': violet. s | s honeysuckle, starwort | |
| Aquatic Habitats (ex: sub | | | | | | submerged wood, riffles | s, deep poo | ls): | |
| Coarse woody debris | , o (| j banks and r | oots, scatt | erea poois, rim | es | | | | |
| Aquatic Organisms Obs | () | | | | | | | | |
| Minnows, invertebrat | es | | | | | | | | |
| T&E Species Observed (| (list): | | | | | | | | |
| none | | | | | | | | | |
| Disturbances (ex: livestoc | k access, manure ir | waterbody, waste | e discharge pipe | es): | | | | | |
| Pasture to the NNW | but buffer inta | ct and cattle | excluded b | by fencing | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Art | ificial, man-m | ade 🗆 Manip | ulated | | | | |
| Stream Quality ^a : (check one) | ⊠ High | □ Mo | oderate | □ Low | | | | | |

saua409

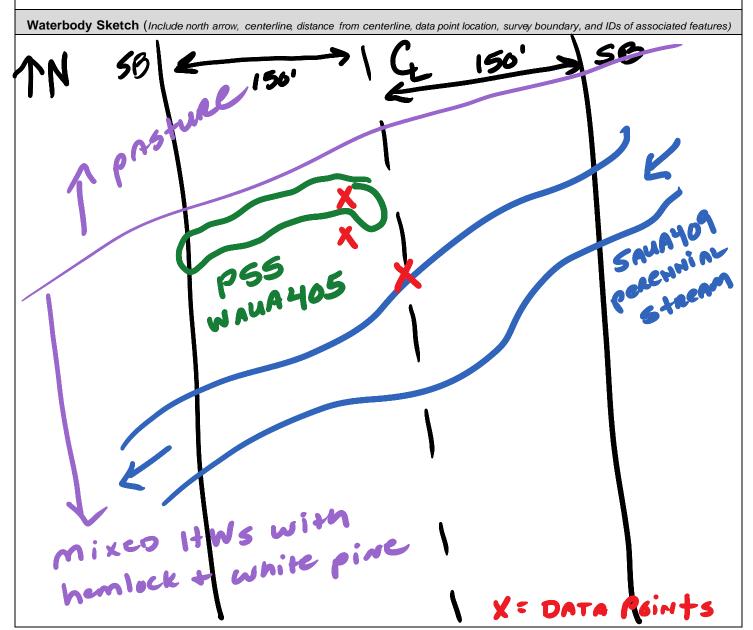
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

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

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

Notes:

Stream continues out of corridor in both directions; PSS wetland waua405 located on floodplain but there is no surface connection between features; Mixed hardwoods with hemlock and white pine; canopy thin in places due to mortality caused by beavers.





Waterbody SAUA409 facing east upstream



Waterbody SAUA409 facing southwest downstream



Waterbody SAUA409 facing south-southeast across

| Survey Description | on | | | | | | | |
|--|------------------------------------|---------------------------|------------------------|-------------------------|-----------------|-----------------------------------|--------------|----------------------|
| Project Name: | | Waterbody Na | | | | /aterbody ID: | | Date: |
| Atlantic Coast Pipe | line | UNT to Body | / Lick Bran | ch | S | auc121 | | 3/4/2016 |
| State: | County: | 1 | Company: | | Crew I | Member Initials: | Photos: | I |
| Virginia | Augusta | | NRG | | CR, S | SA | 1-3 | |
| Tract Number(s): | | | Nearest Mile | epost: | | Associated Wetla | nd ID(s): | |
| 07-001-A003; 07-0 | 05-A045 | | 114.4 | | | None | | |
| Survey Type: (check one) | | e □Re-I | Route | □ Access Road | | □Other: | | |
| Physical Attribute | es | | | | | | | |
| Stream Classification: (check one) | | ral □Inter | rmittent | ⊠Perennial | | | | |
| Waterbody Type: | - | | | | | | | |
| | □River ⊠ St | ream 🗆 Dite | ch 🗆 Ca | anal 🗌 Other: | : | | | |
| OHWM Width: <u>60</u> ft. | OHWM Indica (check all that app | | ⊠ Clear lir on bank | ne 🗆 Shelvin | g | □Wrested vegetation | □Scourin | g ⊟Water staining |
| Height: _ <u>3_</u> ft. N/A□ | ⊠Bent, vegetatio | matted, or missir on | ng ⊠Wrack li | ne ⊠Litter ar debris | nd | □Abrupt plant community change | | haracteristic change |
| Width of Waterbody - | Top of Width | of Waterbody - | Toe of Slope | Width of Waterbo | ody - W | ater Edge to Dep | th of Wate | r: |
| Bank to Top of Bank: | | e of Slope: | | Water Edge: | | (Appr | | |
| <u>_70</u> ft. | | <u>12</u> ft. | | | <u>50</u> ft. | NI/A | _ | <u>_2.5_</u> ft. |
| Sinuosity: | Water | velocity: | | N/A□ Bank height | | N/A Ban | k slope | |
| (check one) | (Approx. | | | Right: | | Ban | Right | t: |
| □Straight | | <u>_1_</u> fps | | | <u>15_</u> ft. | | Lef | 70 degrees |
| ⊠Meander | ing N/A□ | | | Len. | <u>6_</u> ft. | | Lei | <u>60</u> degrees |
| Qualitative Attrib | utes | | | | | | | |
| Water Appearance: (check one) | □No water | Clear | oid ⊡Sh | ieen 🗆 Sui | rface | □Algal □Ot | her: | |
| | | | on | surface scu | - | mats | | |
| Substrate: [(check all that apply) | Bedrock 🛛 B | oulder 🛛 Cobb | ole 🛛 Grave | el 🛛 Sand 🛛 | □ Silt/ c | clay 🗆 Organic 🛛 | Other: | |
| % of Substrate: | <u>% 10</u> | <u>% 50</u> % | <u>30</u> % | <u> 10 </u> % | _% | % | % | |
| Width of Riparian Zon | | ve Layers: | | | | | | |
| 40 ft- | (check all tha | at apply) I of Dominants: | ⊠ Trees | | | ngs/Shrubs: | ⊠ Herbs | |
| N/A 🗆 | (approx.) | TOT DOMINANTS. | <u>_10_</u> in. | - | _ <u>2_</u> in. | | | |
| Dominant Bank Veget | | | | | | | | |
| White pine, Virginia | a pine, cherry, s | sycamore, rec | d oak, broo | msedge | | | | |
| Aquatic Habitats (ex: s | | | | | | | es, deep poo | ls): |
| Riffles, deep pools | , emergent veg | getation, rock | piles, leaf p | acks, overhang | ging ro | oots | | |
| Aquatic Organisms O | bserved (list): | | | | | | | |
| Caddisfly larvae | | | | | | | | |
| T&E Species Observe | d (list): | | | | | | | |
| none | | | | | | | | |
| Disturbances (ex: lives | tock access, manure | in waterbody, waste | e discharge pipe | es): | | | | |
| none | | | | | | | | |
| Tributary is: (check one) | ⊠ Natural | □ Ar | tificial, man-m | ade 🗆 Manip | ulated | | | |
| Stream Quality ^a : (check one) | □ High | Mo | oderate | □ Low | | | | |

Sauc121

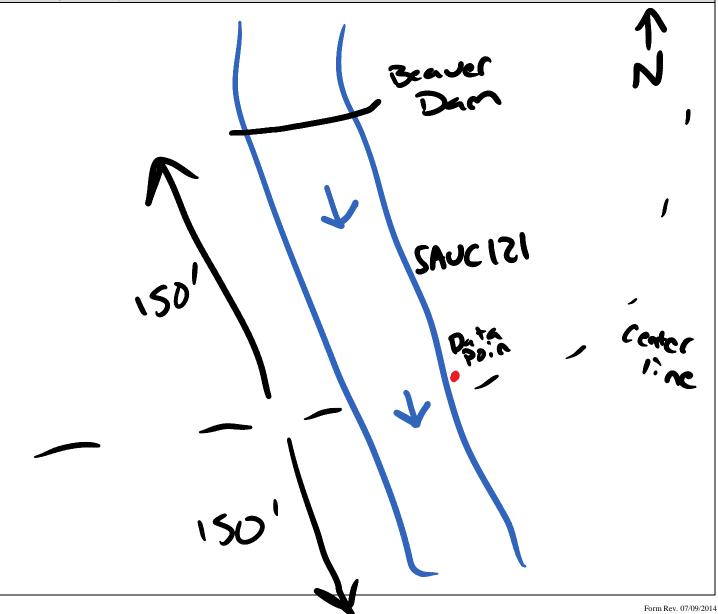
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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





Waterbody SAUC121 facing north upstream



Waterbody SAUC121 facing south downstream



Waterbody SAUC121 facing west across

| Open Waterboo | dy Da | ta Sheet | | | | | | | | | | |
|---|------------------|---------------------|-----------------|-------------|-----------------------|------------------|---------------|----------------------|------------|------------------|-------------|--------------------|
| Survey Descripti | on | | | | | | | | | | | |
| Project Name: | | V | Vaterbody | Name: | | | 1 | Waterbody ID | : | | Date: | |
| Atlantic Coast Pip | eline | ι | Jnnamed | d pond | | | | Oauc052 | | | 3/4/201 | 6 |
| State: | Count | y: | | Comp | any: | | Crew | Member Initia | als: | Photos: | | |
| Virginia | Augu | sta | | NRG | | | CR, | SA | | 1-3 | | |
| Tract Number(s): | 1 | | | Neare | st Milepost: | | <u> </u> | Associated W | etland | ID(s): | | |
| 07-001-A003 | | | | | | | | None | | | | |
| Survey Type: (check one) | | Centerline | | Re-Rou | te 🗆 | Access Ro | ad | □Other: | | | | |
| Physical Attribut | es | | | | | | | | | | | |
| Waterbody Type: (check one) | ck Pond | d 🗆 Natural F | Pond □ I | ake 🗆 | Reservoir | Impoundm | ent 🗆 | Oxbow □ 0 |)ther: | | | |
| | | | | | | Inpoundin | | | | | | |
| Hydrologic Regime: | ⊠F | ermanently F | looded | 🗆 Semij | permanently Fl | ooded | ∃ Seas | sonally Floode | d 🗆 | Temporari | ily Floode | d |
| онwм | | OHWM Indica | | | | | | | | | | |
| Height: | | (check all that app | ly) | | Clear line on bank | □She | elving | □Wres vegetat | | □Sco | uring | □Water staining |
| <u>8</u> ft. | | □Bent, vegetatio | matted, or | missing | □Wrack line | □Litte debris | er and | □ Abruj commu | | □Soil cł ange | naracterist | tic change |
| Depth of Water: | | | Bank hei | ght (ave | erage): | | | Bank slop | e (aver | age): | | |
| N/A□ | _ft. | | | | <u> 10 f</u> t. | | | | - | 60_degree | es | |
| Qualitative Attrib | outes | | | | | | | | | | | |
| Water Appearance: (check one) | □No v | vater ⊠C | lear 🗆 | Turbid | □Sheen on surface | | Surface um | e □Algal mats | | Other: | | |
| Substrate: (check all that apply) | □ Bed | rock 🗆 Bou | ılder 🗆 | Cobble | □ Gravel | ⊠ Sand | ⊠ Si | it/ clay □ Orថ | ganic | Other: | | |
| % of Substrate: | | _% | _% | % | % | <u>20</u> % | 80 | _% | % | | % | |
| Width of Riparian Zo | ne: | Vegetative I | ayers: | | | | | | | | | |
| ft. | | (check all that ap | oply) | | Trees: | | ⊠ Sap | olings/Shrubs: | | ⊠ Hei | rbs | |
| N/A⊠ | | Avg. DBH o | f Dominan | nts: | in. | | <u>2</u> in | 1. | | | | |
| Dominant Bank Vege | tation | (approx.) | | | | | | | | | | |
| Sycamore, cattail, | | | eed can | ary gra | ISS | | | | | | | |
| Aquatic Habitats (ex: s | submerge | d or emerged aqua | atic vegetation | , overhangi | ng banks/roots, leaf | packs, large s | ubmerge | d wood, riffles, dee | p pools, e | tc.): | | |
| Emergent vegetat | ion, d | eep pool | | | | | | | | | | |
| Aquatic Organisms C | Observe | ed (list): | | | | | | | | | | |
| Snails | | | | | | | | | | | | |
| T&E Species Observe | ed (list) | : | | | | | | | | | | |
| None | | | | | | | | | | | | |
| Disturbances (ex: live | stock ac | cess, manure in | waterbody, | waste dis | charge pipes): | | | | | | | |
| none | | | | | | | | | | | | |
| Waterbody is: (check one) | | ⊠ Natural | [| □ Artifici | al, man-made | □ Mar | nipulate | ed | | | | |
| Waterbody Quality ^a : (check one) | : | □ High | | ⊠ Moder | ate [| Low | | | | | | |

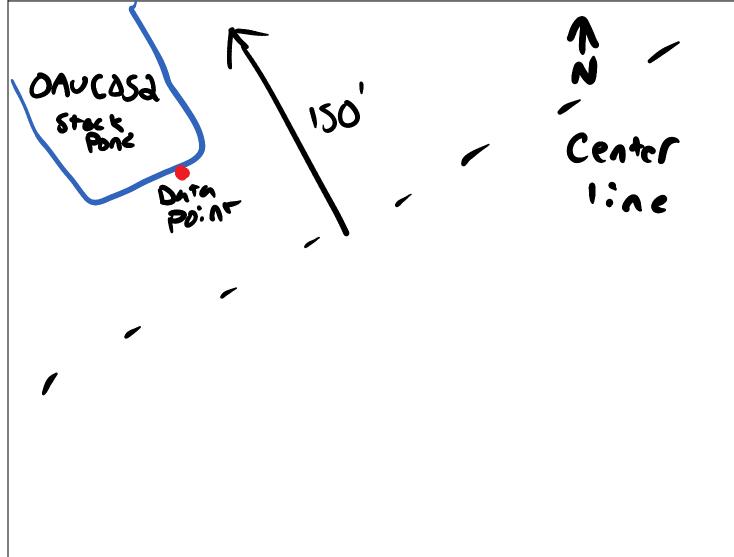
Oauc052

High Quality: Natural, natural bank vegetation around entire waterbody; 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 by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank 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: 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:





Open waterbody OAUC052 facing northwest



Open waterbody OAUC052 facing southwest



Open waterbody OAUC052 facing west

| Survey Description | n | | - | | | | | | _ |
|--|----------------------|----------------------------|-------------------------|----------------------------|---------------|------------------------------|----------------|------------|----------------------|
| Project Name: | | Waterbody | | | | /aterbody ID: | | | Date: |
| Atlantic Coast Pipel | ine | UNT to Bo | dy Lick Bran | ch | s | auc120 | | | 3/4/2016 |
| State: | County: | | Company: | | Crew I | Member Initials | : | Photos: | |
| Virginia | Augusta | | NRG | | CR, S | SA | | 1-3 | |
| Tract Number(s): | | | Nearest Mil | epost: | | Associated W | etland | ID(s): | |
| 07-001-A003 | | | 114.7 | | | Wauc106 | | | |
| Survey Type: (check one) | ⊠Centerli | | e-Route | □Access Road | | □Other: | | | |
| | | | e-Noule | | | | | | |
| Physical Attribute Stream Classification: | 5 | | | | | | | | |
| (check one) | ⊠Epheme | eral □Ir | termittent | Perennial | | | | | |
| Waterbody Type: (check one) | River ⊠ S | tream 🗆 I | Ditch 🗆 C | anal 🛛 Other: | | | | | |
| онwм | OHWM India | | | | | | | | |
| Width: _2_ft. | (check all that ap | (עוק | ⊠ Clear li on bank | ne 🗆 Shelving | g | □Wrested vegetation | | Scouring | g ⊟Water staining |
| Height: ft. N/A□ | ⊠ Bent, vegetat | | sing □Wrack I | ine □Litter ar debris | nd | □Abrupt plan community ch | | □Soil cł | naracteristic change |
| Width of Waterbody - T | op of Width | of Waterbody | - Toe of Slope | Width of Waterbo | ody - W | ater Edge to | Depth | of Water | : |
| Bank to Top of Bank: | | e of Slope: | • | Water Edge: | | Ū. | (Approx.) |) | |
| <u>8</u> ft. | | <u>1_</u> ft. | | _ | <u>2</u> ft. | | | - | <u>0.3</u> ft. |
| Sinuosity: | Wato | r velocity: | | N/A Bank height | | | N/A⊡ Bank s | | |
| (check one) | (Appro: | | | Right: | | | Dalik | Right | : |
| □Straight | | <u>_1_</u> f | ps | Left: | <u>1_</u> ft. | | | Left | 60 degrees |
| ⊠Meanderin | ng N/A⊏ |] | | Leit. | <u>1_</u> ft. | | | Len | <u>60</u> degrees |
| Qualitative Attribu | tes | | | | | | | | |
| Water Appearance: | | | | | , | | | | |
| (check one) | No water ▷ | IClear □T | | neen DSur n surface scu | | □Algal mats | □Othe | r: | |
| Substrate: | Bedrock 🗆 E | Boulder 🗆 Co | obble 🛛 Grav | el 🛛 Sand 🛛 | ⊠ Silt/ c | clay 🗆 Organic | : □ C | Other: | |
| % of Substrate: | % | % | % | <u>% 20</u> % | <u>80_</u> % | % | | % | |
| Width of Riparian Zone | : Vegetati | ve Layers: | | | | | | | |
| - | (check all th | at apply) H of Dominant | ⊠ Trees | | | ngs/Shrubs: | \boxtimes | Herbs | |
| _ <u>20 ft</u> - N/A□ | аvg. DB (approx.) | H of Dominant | s: <u>10</u> in. | | <u>2</u> in. | | | | |
| Dominant Bank Vegeta | . , | | | | | | | | |
| White pine, apple, b | proomsedge | | | | | | | | |
| Aquatic Habitats (ex: su | ubmerged or emerg | ed aquatic veget | ation, overhanging | banks/roots, leaf pack | ks, large | submerged wood | , riffles, | deep pools | 5): |
| none | | | | | | | | | |
| Aquatic Organisms Ob | served (list): | | | | | | | | |
| none | | | | | | | | | |
| T&E Species Observed | (list): | | | | | | | | |
| none | | | | | | | | | |
| Disturbances (ex: livesto | ock access, manure | e in waterbody, w | aste discharge pip | es): | | | | | |
| Tributary is: | | | | | | | | | |
| (check one) Stream Quality ^a : | Natural | | Artificial, man-m | nade 🛛 Manipu | ulated | | | | |
| (check one) | 🗆 High | \boxtimes | Moderate | □ Low | | | | | |

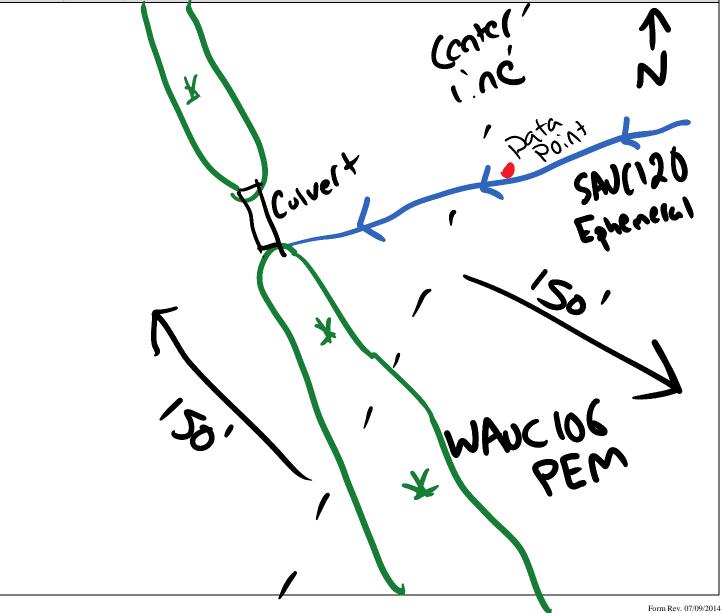
Sauc120

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 SAUC120 facing northeast upstream



Waterbody SAUC120 facing southwest downstream



Waterbody SAUC120 facing northwest across



Waterbody SAUC119 facing northwest upstream



Waterbody SAUC119 facing southeast downstream



Waterbody SAUC119 facing southwest across

| Survey Descripti | on | | | | | | | | | | |
|--|-----------------|---|-----------------|------------------------|-------------|------------|---------------|------------------------|-------------------|------------|----------------------|
| Project Name: | | | ody Name | | | | | aterbody ID: | | | Date: |
| Atlantic Coast Pipe | eline | UNT to | Ramse | y's Draft | | | S | AUB103 | | 4 | 4/23/2015 |
| State: | County: | | Co | ompany: | | | Crew N | lember Initials | 5: | Photos: | |
| Virginia | Augusta | | N | RG | | | TP, A | S | | 01-03 | |
| Tract Number(s): | | | Ne | earest Mile | epost: | | | Associated W | etland | ID(s): | |
| 07-001-A004 | | | 11 | 10.3 | | | | none | | | |
| Survey Type: (check one) | ⊠Ce | enterline | □Re-Rou | ute | | ss Road | | □Other: | | | |
| Physical Attribut | | | | | | | | | | | |
| Stream Classification | | | | | | | | | | | |
| (check one) | □Ер | hemeral | ⊠Intermit | ttent | Perer | nnial | | | | | |
| Waterbody Type: (check one) | □River | Stream | Ditch | | anal [| Other: | | | | | |
| онум | | Indicator: that apply) | | | | Chabin | | | N | | |
| Width: _ <u>2.0</u> ft. | (check all | та арруу | | ☑ Clear lir on bank | ie 🗵 | Shelvin | g | □Wrested vegetation | 2 | Scouring | g □Water staining |
| Height: | | Bent, matted, or | r missing | □Wrack li | | Litter ar | nd | □Abrupt plar | | □Soil cł | naracteristic change |
| ft. N/A□ | VE | egetation | | | de | ebris | | community ch | nange | | |
| Width of Waterbody - | | Width of Water | | e of Slope | | | ody - W | ater Edge to | Depth (Approx. | of Water | : |
| Bank to Top of Bank: | | to Toe of Slope | : | | Water Ed | ge: | | | (Approx. | | |
| <u>_4_</u> ft. | | <u>_1_</u> ft. | | | N/A□ | - | <u>2</u> ft. | | N/A□ | - | <u>02</u> ft. |
| Sinuosity: | | Water velocity: | | | Bank hei | ght | | | Bank | slope | |
| (check one) | | (Approx.) | | | | light: | | | | Right | |
| | | (| <u>).5_</u> fps | | | Left: | <u>1_</u> ft. | | | Left | <u>85</u> degrees |
| ⊠Meande | ering | N/A□ | | | | 2011 | <u>1_</u> ft. | | | 2011 | _ <u>85</u> _degrees |
| Qualitative Attrib | outes | | | | | | | | | | |
| Water Appearance: (check one) | □No water | ⊠Clear | □Turbid | □Sh | een | □Sur | face | □Algal | □Othe | r | |
| | | | | - | surface | SCL | | mats | | | |
| Substrate: (check all that apply) | □ Bedrock | Boulder | ⊠ Cobble | ⊠ Grav | el 🛛 Sa | ind 🛛 | ⊠ Silt/ c | lay 🗆 Organic | | Other: | |
| % of Substrate: | % | % | <u>35_</u> % | <u>35</u> % | 10 | % _ | <u>20_</u> % | % | | % | |
| Width of Riparian Zo | ne: Veç | getative Layers: | | | | | | | | | |
| >50 ft· | | ck all that apply) 3. DBH of Domi | nonto | ⊠ Trees | : | | | ngs/Shrubs: | | Herbs | |
| <u>>50 n</u> . N/A□ | | rox.) | nams. | <u>_10_</u> in. | | - | <u>2</u> in. | | | | |
| Dominant Bank Vege | tation (list): | | | | | | | | | | |
| Northern red oak, | white pine | , Virginia pine | Э | | | | | | | | |
| Aquatic Habitats (ex: | submerged or | emerged aquatic v | regetation, c | overhanging | banks/roots | , leaf pac | ks, large | submerged wood | l, riffles, | deep pools | 5): |
| Cobble, leaf pack | | | | | | | | | | | |
| Aquatic Organisms C | Dbserved (lis | t): | | | | | | | | | |
| None | | | | | | | | | | | |
| T&E Species Observe | ed (list): | | | | | | | | | | |
| none | | | | | | | | | | | |
| Disturbances (ex: live | stock access, r | manure in waterboo | dy, waste di | scharge pipe | es): | | | | | | |
| None | | | | | | | | | | | |
| Tributary is: (check one) | ⊠ Na | atural | □ Artific | ial, man-m | ade 🗆 | Manipu | ulated | | | | |
| Stream Quality ^a : (check one) | 🗆 Hi | gh | ⊠ Mode | rate | | Low | | | | | |

Waterbody ID: SAUB103

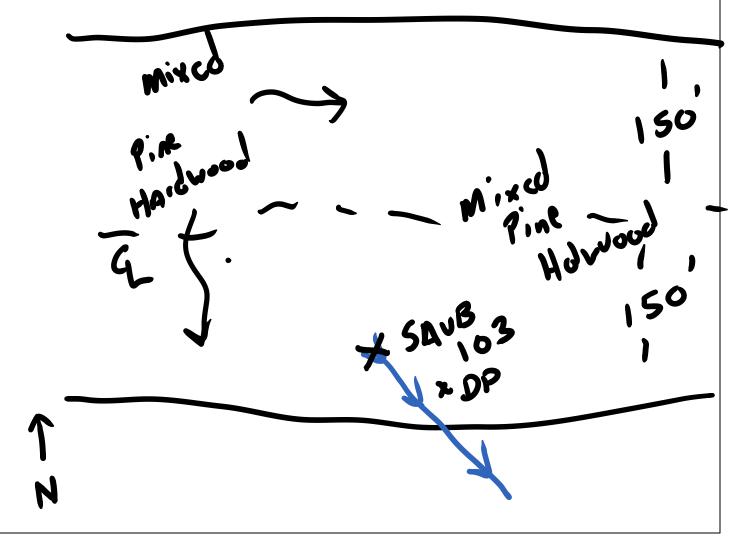
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Lots of cobble, leaf packs, weak sinuosity, weak bed and bank.





Waterbody SAUB103 facing north upstream



Waterbody SAUB103 facing west across



Waterbody SAUB103 facing south downstream

| Survey Descriptio | n | | | | | | | | | | |
|--|-----------------------|----------------|-----------------|------------------------|--------------------------|--------------|----------------|------------------------|-------------------|-----------|----------------------|
| Project Name: | | | ody Name | | | | | aterbody ID: | | | Date: |
| Atlantic Coast Pipe | - | Rams | ey's Dra | | | | | AUB104 | | | 4/23/2015 |
| State: | County: | | С | ompany: | | | | lember Initials | 5: | Photos: | |
| Virginia | Augusta | | N | RG | | | TP, A | S | | 01-03 | |
| Tract Number(s): | | | Ν | earest Mile | epost: | | | Associated W | etland | ID(s): | |
| 07-001-A004 | | | 1 | 10.3 | | | | none | | | |
| Survey Type: (check one) | ⊠Center | line | □Re-Ro | ute | | Road | | □Other: | | | |
| Physical Attribute | | | | | | | | | | | |
| Stream Classification: (check one) | □Epherr | neral | | ittent | ⊠Perenn | al | | | | | |
| Waterbody Type: | | | | | | | | | | | |
| (check one) | □River ⊠ | Stream | Ditch | 🗆 Ca | anal 🗌 | Other: | | | | | |
| ОНѠМ | OHWM Ind | | | | | | | | | | |
| Width: <u>12_</u> ft. | (check all that a | appiy) | | ☑ Clear lir on bank | ne ⊠S | helving |) | □Wrested vegetation | | Scouring | g □Water staining |
| Height: | □Ber | nt, matted, c | or missing | □Wrack li | ne 🗆 Li | tter an | d | □Abrupt plar | nt | □Soil c | haracteristic change |
| <u>3.0</u> ft. N/A□ | vegeta | ation | | | deb | ris | | community ch | nange | | |
| Width of Waterbody - Bank to Top of Bank: | | | | e of Slope | Width of W Water Edge | | ody - Wa | ater Edge to | Depth (Approx. | of Wate | r: |
| Ballk to Top of Ballk. | 10 1 | oe of Slope | | | water Eug | . | | | (Approx., | | |
| <u>_20</u> ft. | | <u>5</u> ft. | | | N/A□ | | <u>12_</u> ft. | | N/A□ | | <u>_1.0_</u> ft. |
| Sinuosity: | Wat | er velocity | : | | Bank heigh | t | | | Bank | slope | |
| (check one) | (Аррі | rox.) | | | Rig | | | | | Right | |
| | | | <u>2.5_</u> fps | | | eft: | <u>7_</u> ft. | | | Left | <u>85</u> degrees |
| ⊠Meanderi | ng N/A | | | | - | | <u>5_</u> ft. | | | Lon | <u>85</u> degrees |
| Qualitative Attribu | ites | | | | | | | | | | |
| Water Appearance: (check one) | [□] No water | ⊠Clear | □Turbid | □Sh | een surface | □Sur scu | | □Algal mats | □Othe | r: | |
| Substrate: | Bedrock | Boulder | ⊠ Cobble | | | | | ay 🗆 Organio | : □(| Other: | |
| (check all that apply) | | | | | | | | | | | |
| | <u>5 </u> % | % | <u>35</u> % | <u>35</u> % | <u> 15 </u> % | | <u>10_</u> % | % | · | % | |
| Width of Riparian Zon | | tive Layers | : | ⊠ Trees | | | 1 Sanlin | gs/Shrubs: | Г | Herbs | |
| <u>>50 ft</u> · | | BH of Dom | inants: | <u>12_in.</u> | | | <u>2</u> in. | ys/Shirubs. | L | | |
| N/A 🗆 Dominant Dank Vanat | (approx.) | | | _ <u></u> _ | | | | | | | |
| Dominant Bank Vegeta Sugar maple, white | | ia pine, ye | ellow bird | ch | | | | | | | |
| Aquatic Habitats (ex: s | ubmerged or eme | rged aquatic | vegetation, | overhanging | banks/roots, le | af pack | s, large | submerged wood | l, riffles, | deep pool | s): |
| Cobble, leaf pack, | fallen timber, | , roots alc | ong bank | | | | | | | | |
| Aquatic Organisms Of | oserved (list): | | | | | | | | | | |
| Mayfly, caddis fly, v | water penny | | | | | | | | | | |
| T&E Species Observed | d (list): | | | | | | | | | | |
| none | | | | | | | | | | | |
| Disturbances (ex: livest | ock access, manu | ure in waterbo | ody, waste d | ischarge pipe | es): | | | | | | |
| None | | | | | | | | | | | |
| Tributary is: (check one) | ⊠ Natura | al | | cial, man-m | ade 🗆 I | Manipu | lated | | | | |
| Stream Quality ^a : (check one) | □ High | | ⊠ Mode | erate | | .ow | | | | | |

Waterbody ID: SAUB104

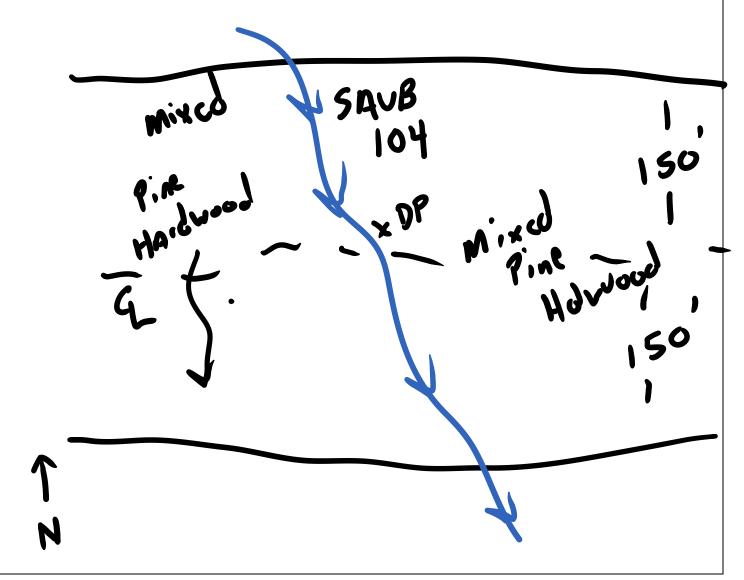
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Lots of cobble, leaf packs, well defined bed and bank, strong grade control, strong bars and benches, mostly one long riffle with a few pools.





Waterbody SAUB104 facing north upstream



Waterbody SAUB104 facing east across