

# CDC/EMER

14W12102

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Other :  
 COLLECTOR(S) : C. Basinger / S. Knight

VISIT ID

#2

Lab Number AC04607  
 Date Received : 2-4-14  
 Time Received : 13:30  
 Received By : mpj  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: Don River, downstream of release, within VA

| Station #/Location Code     | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin    | Time End      | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-----------------------------|-----------------------|---------------------|---------------|---------------|---------------------|----------------------|-------------------|-------------|
| <u>4P079NC0003468AshDan</u> | <u>2/3/14</u>         | <u>2/3/14</u>       | <u>9:20am</u> | <u>9:30pm</u> |                     |                      |                   | <u>G</u>    |

|  |         |   |          |   |           |   |                |
|--|---------|---|----------|---|-----------|---|----------------|
| BOD 310  | mg/L    | Chloride 940                                    | mg/L     | NH3 as N 610  | mg/L      | Li-Lithium 1132   | ug/L           |
| COD High 340   | mg/L    | Chlorophyll a EPA 445.0 modified option         | ug/L     | <input checked="" type="checkbox"/> TKN an N 625            | mg/L      | <input checked="" type="checkbox"/> Mg- Magnesium 927   | mg/L           |
| COD Low 335  | mg/L    | Color: True 80                                  | c.u.     | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630   | mg/L      | <input checked="" type="checkbox"/> Mn-Manganese 1055   | ug/L           |
| Coliform: MF Fecal 31616                                   | /100ml  | Color: (pH) 83 pH=                              | c.u.     | <input checked="" type="checkbox"/> P: Total as P 665       | mg/L      | <input checked="" type="checkbox"/> Na-Sodium 929       | mg/L           |
| Coliform: MF Total 31504                                   | /100ml  | Color: pH 7.6 82                                | c.u.     | PO4 as P 70507  | mg/L      | <input checked="" type="checkbox"/> Arsenic: Total 1002 | ug/L           |
| Coliform: tube Fecal 31615                                 | /100ml  | Cyanide 720                                     | mg/L     | P: Dissolved as P 666                                       | mg/L      | <input checked="" type="checkbox"/> Se- Selenium 1147   | ug/L           |
| Coliform: Fecal Strep 31673                                | /100ml  | Fluoride 951                                    | mg/L     | K-Potassium   | mg/L      | <input checked="" type="checkbox"/> Hg- Mercury 71900   | AW 2/4/14 ug/L |
| Residue: Total 500   | mg/L    | Formaldehyde 71880                              | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L      | <input checked="" type="checkbox"/> Ba-Barium           | ug/L           |
| Volatile 505   | mg/L    | Grease and Oils 556                             | mg/L     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L      | Organochlorine Pesticides                               |                |
| Fixed 510  | mg/L    | Hardness Total 900                              | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L      | Organophosphorus Pesticides                             |                |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L    | Specific Cond. 95                               | umhos/cm | <input checked="" type="checkbox"/> Ni-Nickel 1067          | ug/L      | Organonitrogen Pesticides                               |                |
| Volatile 535   | mg/L    | MBAS 38260                                      | mg/L     | <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L      | Acid Herbicides   |                |
| Fixed 540  | mg/L    | Phenols 32730                                   | ug/L     | <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L      |   |                |
| pH 403   | units   | <input checked="" type="checkbox"/> Sulfate 945 | mg/L     | <input checked="" type="checkbox"/> V-Vanadium              | ug/L      | Base/Neutral&Acid Extractable Organics                  |                |
| Acidity to pH 4.5 436                                      | mg/L    | Sulfide 745                                     | mg/L     | <input checked="" type="checkbox"/> Ag- Silver 1077         | ug/L      | TPH Diesel Range  |                |
| Acidity to pH 8.3 435                                      | mg/L    | Boron   | mg/L     | <input checked="" type="checkbox"/> Al- Aluminum 1105       | ug/L      |   |                |
| Alkalinity to pH 8.3 415                                   | mg/L    | Tannin & Lignin                                 | ug/L     | <input checked="" type="checkbox"/> Be- Beryllium 1012      | ug/L      | Purgeable Organics (VOA bottle req'd)                   |                |
| Alkalinity to pH 4.5 410                                   | mg/L    | Hexavalent Chromium                             | ug/L     | <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L      | TPH Gasoline Range                                      |                |
| TOC 680  | mg/L    | Bicarbonate                                     | mg/L     | <input checked="" type="checkbox"/> Co- Cobalt 1037         | ug/L      | TPH/BTEX Gasoline Range                                 |                |
| Turbidity 76   | NTU     | Carbonate                                       | mg/L     | <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L      | Phytoplankton   |                |
| Coliform Total Tube  | /100 ml | Total Dissolved Solids                          | mg/L     | <input checked="" type="checkbox"/> Mo-Molybdenum           | ug/L      |   |                |
|  |         |   |          | <input checked="" type="checkbox"/> Sb-Antimony             | ug/L      |   |                |
|  |         |   |          | <input checked="" type="checkbox"/> Sn-Tin                  | ug/L      |   |                |
|  |         |   |          | <input checked="" type="checkbox"/> Tl-Thallium             | ug/L      |   |                |
|  |         |   |          | <input checked="" type="checkbox"/> Ti-Titanium             | ug/L      |   |                |
|  |         |   |          | <input checked="" type="checkbox"/> Hg-1631                 | AW 2/4/14 | Temperature on arrival (°C):                            | <u>0.8</u>     |

COMMENTS:

|   |                     |   |                                 |                   |
|---|---------------------|---|---------------------------------|-------------------|
| County:   | <b>ROCKINGHAM</b>   | <br><b>Division of Water Resources</b> | Sample ID:                      | <b>AC04607</b>    |
| River Basin:  | <b>ROA01</b>        |   | PO Number #                     | <b>14W12102</b>   |
| Report To:  | <b>WSROSP</b>       |   | Date Received:                  | <b>02/04/2014</b> |
| Collector:  | <b>C BASINGER</b>   |   | Time Received:                  | <b>13:30</b>      |
| Region:   | <b>WSRO</b>         | Labworks LoginID  | <b>MSWIFT</b>                   |                   |
| Sample Matrix:  | <b>SURFACEWATER</b> | Final Report Date:  | <b>2/7/14</b>                   |                   |
| Loc. Type:  | <b>STREAM</b>       | Report Print Date:  | <b>02/07/2014</b>               |                   |
| Emergency Yes/No  | <u>Yes</u>          | VisitID   | <input type="text" value="01"/> |                   |
| COC Yes/No  | <u>Yes</u>          |   |                                 |                   |
| <b>Final Report</b>   |                     |   |                                 |                   |
| Loc. Descr.: <b>DS-VA LINE, DAN RIVER, DOWNSTREAM OF RELEASE WITHIN VA</b>  |                     |   |                                 |                   |
| Location ID: <b>4P07QNC0003468ASHDAN</b>  |                     | Collect Date: <b>02/03/2014</b>   | Collect Time: <b>21:20</b>      | Sample Depth      |
| <b>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</b> |                     |   |                                 |                   |

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units     | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-----------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |           |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>0.8</b>           | °C        |                     | 2/4/14           | MSWIFT       |
| <b>WET</b> |                                      |      |                      |           |                     |                  |              |
|            | Residue_Suspended in liquid          | 6.2  | <b>329</b>           | mg/L      | SM 2540 D-1997      | 2/4/14           | CGREEN       |
|            | Ion Chromatography                   |      | <u>_TITLE_</u>       | mg/L      | EPA 300.0 rev2.1    | 2/5/14           | CGREEN       |
|            | Chloride                             | 1.0  | <b>14</b>            | mg/L      | EPA 300.0 rev2.1    | 2/5/14           | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U,J2</b>      | mg/L      | EPA 300.0 rev2.1    | 2/5/14           | CGREEN       |
|            | Sulfate                              | 2.0  | <b>5.1</b>           | mg/L      | EPA 300.0 rev2.1    | 2/5/14           | CGREEN       |
| <b>NUT</b> |                                      |      |                      |           |                     |                  |              |
|            | Total Kjeldahl N as N in liquid      | 0.2  | <b>0.58</b>          | mg/L as N | EPA 351.2 REV 2     | 2/5/14           | CGREEN       |
|            | NO2+NO3 as N in liquid               | 0.02 | <b>0.44</b>          | mg/L as N | EPA 353.2 REV 2     | 2/5/14           | CGREEN       |
|            | Phosphorus_total as P in liquid      | 0.02 | <b>0.14</b>          | mg/L as P | EPA 365.1 REV 2     | 2/5/14           | CGREEN       |
| <b>MET</b> |                                      |      |                      |           |                     |                  |              |
| 7440-22-4  | Ag by ICPMS                          | 1.0  | <b>1.0 U</b>         | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7429-90-5  | Al by ICP                            | 50   | <b>5800</b>          | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-36-0  | Antimony by ICPMS                    | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>13</b>            | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>170</b>           | ug/L      | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>210</b>           | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-41-7  | Be by ICP                            | 5.0  | <b>5.0 U</b>         | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>10</b>            | mg/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7440-48-4  | Cobalt by ICP                        | 50   | <b>50 U</b>          | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>19</b>            | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>3500</b>          | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1                             | 0.2  | <b>0.20 U</b>        | ug/L      | EPA 245.1           | 2/5/14           | ESTAFFORD1   |
| 7440-09-7  | K by ICP                             | 0.10 | <b>2.8</b>           | mg/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-93-2  | Li ICP                               | 25   | <b>25 U</b>          | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-95-4  | Mg by ICP                            | 0.10 | <b>3.7</b>           | mg/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-96-5  | Mn by ICP                            | 10   | <b>65</b>            | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-98-7  | Mo by ICPMS                          | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |

Laboratory Section>> 1623 Mail Service Center, Raleigh, NC 27699-1623 (919) 733-3908

For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>

*NC DWR Laboratory Section Results*

Location ID: **4P07QNC0003468ASHDAN**      Sample ID: **AC04607**      Collect Date: **02/03/2014**      Collect Time: **21:20**

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>  | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|----------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-23-5    | Na by ICP            | 0.10       | <b>7.1</b>                   | mg/L         | EPA 200.7                   | 2/6/14                   | ESTAFFORD1          |
| 7440-02-0    | Ni by ICPMS          | 2.0        | <b>8.9</b>                   | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7439-92-1    | Pb by ICPMS          | 2.0        | <b>7.9</b>                   | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7782-49-2    | Se by ICPMS          | 5.0        | <b>5.0 U</b>                 | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7440-31-5    | Sn by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7440-24-6    | Sr by ICPMS          | 10         | <b>130</b>                   | ug/L         | EPA 200.8                   | 2/7/14                   | ESTAFFORD1          |
| 7440-28-0    | Thallium (TI) ICPMS  | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7440-32-6    | Ti (Titanium) by ICP | 10         | <b>370 J2</b>                | ug/L         | EPA 200.7                   | 2/6/14                   | ESTAFFORD1          |
| 7440-62-2    | V by ICP             | 25         | <b>25</b>                    | ug/L         | EPA 200.7                   | 2/6/14                   | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP            | 10         | <b>29</b>                    | ug/L         | EPA 200.7                   | 2/6/14                   | ESTAFFORD1          |

Sample Comments

WET:FL-J2-estimated-ICAL STD 2 failed to meet established quality control limits

# EMER/COC

14w 12160

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : WS Regional Office  
 Other :  
 COLLECTOR(S) : Basinger/Knight/  
 Snider

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID  
02

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY 2

Lab Number : AC041665  
 Date Received : 2-5-2014  
 Time Received : 0800  
 Received By : MR  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_


Station Location: Va Line  
 Remarks: Downstream of release - Dan River

| Station #/Location Code            | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin  | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|------------------------------------|-----------------------|---------------------|-------------|----------|---------------------|----------------------|-------------------|-------------|
| <u>4P079:NC0003468 ASH<br/>DAN</u> | <u>14/02/04</u>       | <u>14/02/04</u>     | <u>3:30</u> |          |                     |                      |                   |             |

|   |   |  |
|---|---|--|
| <input type="checkbox"/> BOD 310 mg/L                           | <input type="checkbox"/> Chloride 940 mg/L                            | <input checked="" type="checkbox"/> NH3 as N 610 mg/L            |
| <input type="checkbox"/> COD High 340 mg/L                      | <input type="checkbox"/> Chlorophyll a EPA 445.0 modified option ug/L | <input checked="" type="checkbox"/> TKN an N 625 mg/L            |
| <input type="checkbox"/> COD Low 335 mg/L                       | <input type="checkbox"/> Color: True 80 c.u.                          | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630 mg/L   |
| <input type="checkbox"/> Coliform: MF Fecal 31616 /100ml        | <input type="checkbox"/> Color: (pH) 83 pH= c.u.                      | <input checked="" type="checkbox"/> P: Total as P 665 mg/L       |
| <input type="checkbox"/> Coliform: MF Total 31504 /100ml        | <input type="checkbox"/> Color: pH 7.6 82 c.u.                        | <input checked="" type="checkbox"/> PO4 as P 70507 mg/L          |
| <input type="checkbox"/> Coliform: tube Fecal 31615 /100ml      | <input type="checkbox"/> Cyanide 720 mg/L                             | <input checked="" type="checkbox"/> P: Dissolved as P 666 mg/L   |
| <input type="checkbox"/> Coliform: Fecal Strep 31673 /100ml     | <input type="checkbox"/> Fluoride 951 mg/L                            | <input checked="" type="checkbox"/> K-Potassium mg/L             |
| <input type="checkbox"/> Residue: Total 500 mg/L                | <input type="checkbox"/> Formaldehyde 71880 mg/L                      | <input checked="" type="checkbox"/> Cd- Cadmium 1027 ug/L        |
| <input type="checkbox"/> Volatile 505 mg/L                      | <input type="checkbox"/> Grease and Oils 556 mg/L                     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 ug/L |
| <input type="checkbox"/> Fixed 510 mg/L                         | <input type="checkbox"/> Hardness Total 900 mg/L                      | <input checked="" type="checkbox"/> Cu- Copper 1042 ug/L         |
| <input checked="" type="checkbox"/> Residue: Suspended 530 mg/L | <input type="checkbox"/> Specific Cond. 95 umhos/cm                   | <input checked="" type="checkbox"/> Ni-Nickel 1067 ug/L          |
| <input type="checkbox"/> Volatile 535 mg/L                      | <input type="checkbox"/> MBAS 38260 mg/L                              | <input checked="" type="checkbox"/> Pb- Lead 1051 ug/L           |
| <input type="checkbox"/> Fixed 540 mg/L                         | <input checked="" type="checkbox"/> Sulfate 945 mg/L                  | <input checked="" type="checkbox"/> Zn- Zinc 1092 ug/L           |
| <input type="checkbox"/> pH 403 units                           | <input type="checkbox"/> Sulfide 745 mg/L                             | <input checked="" type="checkbox"/> V-Vanadium ug/L              |
| <input type="checkbox"/> Acidity to pH 4.5 436 mg/L             | <input type="checkbox"/> Boron  | <input checked="" type="checkbox"/> Ag- Silver 1077 ug/L         |
| <input type="checkbox"/> Acidity to pH 8.3 435 mg/L             | <input type="checkbox"/> Tannin & Lignin ug/L                         | <input checked="" type="checkbox"/> Al- Aluminum 1105 ug/L       |
| <input type="checkbox"/> Alkalinity to pH 8.3 415 mg/L          | <input type="checkbox"/> Hexavalent Chromium ug/L                     | <input checked="" type="checkbox"/> Be- Beryllium 1012 ug/L      |
| <input type="checkbox"/> Alkalinity to pH 4.5 410 mg/L          | <input type="checkbox"/> Bicarbonate mg/L                             | <input checked="" type="checkbox"/> Ca- Calcium 916 mg/L         |
| <input type="checkbox"/> TOC 680 mg/L                           | <input type="checkbox"/> Carbonate mg/L                               | <input checked="" type="checkbox"/> Co- Cobalt 1037 ug/L         |
| <input type="checkbox"/> Turbidity 76 NTU                       | <input type="checkbox"/> Total Dissolved Solids mg/L                  | <input checked="" type="checkbox"/> Fe- Iron 1045 ug/L           |
| <input type="checkbox"/> Coliform Total Tube /100 ml            |   | <input checked="" type="checkbox"/> Mo-Molybdenum ug/L           |
|   |   | <input checked="" type="checkbox"/> Sb-Antimony ug/L             |
|   |   | <input checked="" type="checkbox"/> Sn-Tin ug/L                  |
|   |   | <input checked="" type="checkbox"/> Tl-Thallium ug/L             |
|   |   | <input checked="" type="checkbox"/> Ti-Titanium ug/L             |
|   |   | <input checked="" type="checkbox"/> Hg-1631 <u>2.514</u> ng/L    |
|   |   | Temperature on arrival (°C): <u>0.5</u>                          |

COMMENTS:



|   |                     |  |                    |                                 |
|---|---------------------|--|--------------------|---------------------------------|
| County:   | <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID:         | <b>AC04665</b>                  |
| River Basin:  | <b>ROA01</b>        |  | PO Number #        | <b>14W12160</b>                 |
| Report To:  | <b>WSROSP</b>       |  | Date Received:     | <b>02/05/2014</b>               |
| Collector:  | <b>S KNIGHT</b>     |  | Time Received:     | <b>08:00</b>                    |
| Region:   | <b>WSRO</b>         |  | Labworks LoginID   | <b>MSWIFT</b>                   |
| Sample Matrix:  | <b>SURFACEWATER</b> |  | Final Report Date: | <b>2/7/14</b>                   |
| Loc. Type:  | <b>STREAM</b>       |  | Report Print Date: | <b>02/07/2014</b>               |
| Emergency Yes/No  | <u>Yes</u>          |  | VisitID            | <input type="text" value="02"/> |
| COC Yes/No  | <u>Yes</u>          |  |                    |                                 |
| Loc. Descr.: <b>VA LINE DOWNSTREAM OF RELEASE DAN RIVER</b> |                     |  |                    |                                 |

|              |                             |               |                   |               |              |              |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|--------------|--|
| Location ID: | <b>4P079NC0003468ASHDAN</b> | Collect Date: | <b>02/04/2014</b> | Collect Time: | <b>15:30</b> | Sample Depth |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|--------------|--|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier          | Units     | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|-------------------------------|-----------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                               |           |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>0.5</b>                    | °C        |                     | 2/5/14           | MSWIFT       |
| <b>WET</b> |                                      |      |                               |           |                     |                  |              |
|            | Residue_Suspended in liquid          | 6.2  | <b>256</b>                    | mg/L      | SM 2540 D-1997      | 2/5/14           | CGREEN       |
|            | Ion Chromatography                   |      | <u>    </u><br><b>_TITLE_</b> | mg/L      | EPA 300.0 rev2.1    | 2/5/14           | CGREEN       |
|            | Chloride                             | 1.0  | <b>14</b>                     | mg/L      | EPA 300.0 rev2.1    | 2/5/14           | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U,J2</b>               | mg/L      | EPA 300.0 rev2.1    | 2/5/14           | CGREEN       |
|            | Sulfate                              | 2.0  | <b>4.7</b>                    | mg/L      | EPA 300.0 rev2.1    | 2/5/14           | CGREEN       |
| <b>NUT</b> |                                      |      |                               |           |                     |                  |              |
|            | Total Kjeldahl N as N in liquid      | 0.2  | <b>0.41</b>                   | mg/L as N | EPA 351.2 REV 2     | 2/6/14           | CGREEN       |
|            | NO2+NO3 as N in liquid               | 0.02 | <b>0.40</b>                   | mg/L as N | EPA 353.2 REV 2     | 2/5/14           | CGREEN       |
|            | Phosphorus_total as P in liquid      | 0.02 | <b>0.14</b>                   | mg/L as P | EPA 365.1 REV 2     | 2/5/14           | CGREEN       |
| <b>MET</b> |                                      |      |                               |           |                     |                  |              |
| 7440-22-4  | Ag by ICPMS                          | 1.0  | <b>1.0 U</b>                  | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7429-90-5  | Al by ICP                            | 50   | <b>4900</b>                   | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-36-0  | Antimony by ICPMS                    | 10   | <b>10 U</b>                   | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>10</b>                     | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>140</b>                    | ug/L      | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>170</b>                    | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-41-7  | Be by ICP                            | 5.0  | <b>5.0 U</b>                  | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>9.1</b>                    | mg/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>                 | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7440-48-4  | Cobalt by ICP                        | 50   | <b>50 U</b>                   | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>                   | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>16</b>                     | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>3400</b>                   | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1                             | 0.2  | <b>0.20 U</b>                 | ug/L      | EPA 245.1           | 2/5/14           | ESTAFFORD1   |
| 7440-09-7  | K by ICP                             | 0.10 | <b>2.5</b>                    | mg/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-93-2  | Li ICP                               | 25   | <b>25 U</b>                   | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-95-4  | Mg by ICP                            | 0.10 | <b>3.4</b>                    | mg/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-96-5  | Mn by ICP                            | 10   | <b>63</b>                     | ug/L      | EPA 200.7           | 2/6/14           | ESTAFFORD1   |
| 7439-98-7  | Mo by ICPMS                          | 10   | <b>10 U</b>                   | ug/L      | EPA 200.8           | 2/6/14           | ESTAFFORD1   |

Laboratory Section>> 1623 Mail Service Center, Raleigh, NC 27699-1623 (919) 733-3908

For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>

*NC DWR Laboratory Section Results*

Location ID: **4P079NC0003468ASHDAN**      Sample ID: **AC04665**      Collect Date: **02/04/2014**      Collect Time: **15:30**

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>  | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|----------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-23-5    | Na by ICP            | 0.10       | <b>7.0</b>                   | mg/L         | EPA 200.7                   | 2/6/14                   | ESTAFFORD1          |
| 7440-02-0    | Ni by ICPMS          | 2.0        | <b>8.4</b>                   | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7439-92-1    | Pb by ICPMS          | 2.0        | <b>6.5</b>                   | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7782-49-2    | Se by ICPMS          | 5.0        | <b>5.0 U</b>                 | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7440-31-5    | Sn by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7440-24-6    | Sr by ICPMS          | 10         | <b>110</b>                   | ug/L         | EPA 200.8                   | 2/7/14                   | ESTAFFORD1          |
| 7440-28-0    | Thallium (Tl) ICPMS  | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/6/14                   | ESTAFFORD1          |
| 7440-32-6    | Ti (Titanium) by ICP | 10         | <b>310</b>                   | ug/L         | EPA 200.7                   | 2/6/14                   | ESTAFFORD1          |
| 7440-62-2    | V by ICP             | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/6/14                   | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP            | 10         | <b>20</b>                    | ug/L         | EPA 200.7                   | 2/6/14                   | ESTAFFORD1          |

Sample Comments

WET:FL-J2-estimated-ICAL STD 2 failed to meet established quality control limits

# COC/EMER

14w 112169

## DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : WS Regional Office  
 Other :  
 COLLECTOR(S) : Lo Spidex / Berry / Wang  
 Estimated BOD Range: \_\_\_\_\_

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID 03

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY 2

Lab Number : AC04676  
 Date Received : 2-5-14  
 Time Received : 157  
 Received By : TR  
 Data Released : \_\_\_\_\_  
 Date Reported : \_\_\_\_\_

Station Location: DS - VA Line

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: \_\_\_\_\_

| Station #/Location Code    | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin  | Time End    | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|----------------------------|-----------------------|---------------------|-------------|-------------|---------------------|----------------------|-------------------|-------------|
| <u>4P079NC003468AshDam</u> | <u>02/05/14</u>       | <u>02/05/14</u>     | <u>1:15</u> | <u>1:30</u> |                     |                      |                   | <u>67</u>   |


|  |         |
|--|---------|
| <input type="checkbox"/> BOD 310                           | mg/L    |
| <input type="checkbox"/> COD High 340                      | mg/L    |
| <input type="checkbox"/> COD Low 335                       | mg/L    |
| <input type="checkbox"/> Coliform: MF Fecal 31616          | /100ml  |
| <input type="checkbox"/> Coliform: MF Total 31504          | /100ml  |
| <input type="checkbox"/> Coliform: tube Fecal 31615        | /100ml  |
| <input type="checkbox"/> Coliform: Fecal Strep 31673       | /100ml  |
| <input checked="" type="checkbox"/> Residue: Total 500     | mg/L    |
| Volatile 505   | mg/L    |
| Fixed 510  | mg/L    |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L    |
| Volatile 535   | mg/L    |
| Fixed 540  | mg/L    |
| <input type="checkbox"/> pH 403                            | units   |
| <input type="checkbox"/> Acidity to pH 4.5 436             | mg/L    |
| <input type="checkbox"/> Acidity to pH 8.3 435             | mg/L    |
| <input type="checkbox"/> Alkalinity to pH 8.3 415          | mg/L    |
| <input type="checkbox"/> Alkalinity to pH 4.5 410          | mg/L    |
| <input type="checkbox"/> TOC 680                           | mg/L    |
| <input checked="" type="checkbox"/> Turbidity 76           | NTU     |
| <input type="checkbox"/> Coliform Total Tube:              | /100 ml |

|  |          |
|--|----------|
| <input checked="" type="checkbox"/> Chloride 940                 | mg/L     |
| <input type="checkbox"/> Chlorophyll a EPA 445.0 modified option | ug/L     |
| <input type="checkbox"/> Color: True 80                          | c.u.     |
| <input type="checkbox"/> Color: (pH) 83 pH=                      | c.u.     |
| <input type="checkbox"/> Color: pH 7.6 82                        | c.u.     |
| <input type="checkbox"/> Cyanide 720                             | mg/L     |
| <input checked="" type="checkbox"/> Fluoride 951                 | mg/L     |
| <input type="checkbox"/> Formaldehyde 71880                      | mg/L     |
| <input type="checkbox"/> Grease and Oils 556                     | mg/L     |
| <input type="checkbox"/> Hardness Total 900                      | mg/L     |
| <input type="checkbox"/> Specific Cond. 95                       | umhos/cm |
| <input type="checkbox"/> MBAS 38260                              | mg/L     |
| <input type="checkbox"/> Phenols 32730                           | ug/L     |
| <input checked="" type="checkbox"/> Sulfate 945                  | mg/L     |
| <input type="checkbox"/> Sulfide 745                             | mg/L     |
| <input type="checkbox"/> Boron                                   |          |
| <input type="checkbox"/> Tannin & Lignin                         | ug/L     |
| <input type="checkbox"/> Hexavalent Chromium                     | ug/L     |
| <input type="checkbox"/> Bicarbonate                             | mg/L     |
| <input type="checkbox"/> Carbonate                               | mg/L     |
| <input type="checkbox"/> Total Dissolved Solids                  | mg/L     |

|   |      |
|---|------|
| <input checked="" type="checkbox"/> NH3 as N 610            | mg/L |
| <input checked="" type="checkbox"/> TKN an N 625            | mg/L |
| <input checked="" type="checkbox"/> NO2 plus NO3 as N 630   | mg/L |
| <input checked="" type="checkbox"/> P: Total as P 665       | mg/L |
| <input type="checkbox"/> PO4 as P 70507                     | mg/L |
| <input type="checkbox"/> P: Dissolved as P 666              | mg/L |
| <input checked="" type="checkbox"/> K-Potassium             | ug/L |
| <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L |
| <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L |
| <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L |
| <input checked="" type="checkbox"/> Ni-Nickel 1067          | ug/L |
| <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L |
| <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L |
| <input type="checkbox"/> V-Vanadium                         | ug/L |
| <input type="checkbox"/> Ag- Silver 1077                    | ug/L |
| <input checked="" type="checkbox"/> Al- Aluminum 1105       | ug/L |
| <input checked="" type="checkbox"/> Be- Beryllium 1012      | ug/L |
| <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L |
| <input type="checkbox"/> Co- Cobalt 1037                    | ug/L |
| <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L |
| <input type="checkbox"/> Mo-Molybdenum                      | ug/L |
| <input type="checkbox"/> Sb-Antimony                        | ug/L |
| <input type="checkbox"/> Sn-Tin                             | ug/L |
| <input type="checkbox"/> Tl-Thallium                        | ug/L |
| <input type="checkbox"/> Ti-Titanium                        | ug/L |
| <input type="checkbox"/> Hg-1631                            | ng/L |

|   |      |
|---|------|
| <input checked="" type="checkbox"/> Li-Lithium 1132               | ug/L |
| <input checked="" type="checkbox"/> Mg- Magnesium 927             | mg/L |
| <input checked="" type="checkbox"/> Mn-Manganese 1055             | ug/L |
| <input checked="" type="checkbox"/> Na- Sodium 929                | mg/L |
| <input checked="" type="checkbox"/> Arsenic: Total 1002           | ug/L |
| <input checked="" type="checkbox"/> Se- Selenium 1147             | ug/L |
| <input checked="" type="checkbox"/> Hg- Mercury 71900             | ug/L |
| <input type="checkbox"/> Ba-Barium                                | ug/L |
| <input type="checkbox"/> Organochlorine Pesticides                |      |
| <input type="checkbox"/> Organophosphorus Pesticides              |      |
| <input type="checkbox"/> Organonitrogen Pesticides                |      |
| <input type="checkbox"/> Acid Herbicides                          |      |
| <input type="checkbox"/> Base/Neutral & Acid Extractable Organics |      |
| <input type="checkbox"/> TPH Diesel Range                         |      |
| <input type="checkbox"/> Purgeable Organics (VOA bottle req'd)    |      |
| <input type="checkbox"/> TPH Gasoline Range                       |      |
| <input type="checkbox"/> TPH/BTEX Gasoline Range                  |      |
| <input type="checkbox"/> Phytoplankton                            |      |
| Temperature on arrival (°C): <u>1.2</u>                           |      |

COMMENTS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

|  |                     |  |                                 |                                 |
|--|---------------------|--|---------------------------------|---------------------------------|
| County:                                  | <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID:                      | <b>AC04676</b>                  |
| River Basin:                             | <b>ROANOKE</b>      |  | PO Number #                     | <b>14W12169</b>                 |
| Report To:                               | <b>WSROSP</b>       |  | Date Received:                  | <b>02/05/2014</b>               |
| Collector:                               | <b>S WANG</b>       |  | Time Received:                  | <b>15:51</b>                    |
| Region:                                  | <b>WSRO</b>         |  | Labworks LoginID                | <b>MSWIFT</b>                   |
| Sample Matrix:                           | <b>SURFACEWATER</b> |  | Final Report Date:              | 2/10/14                         |
| Loc. Type:                               | <b>STREAM</b>       |  | Report Print Date:              | 02/10/2014                      |
| Emergency Yes/No                         | <u>Yes</u>          |  | VisitID                         | <input type="text" value="03"/> |
| COC Yes/No                               | <u>Yes</u>          |  | Loc. Descr.:                    | <b>DS-VA LINE-DAN RIVER</b>     |
| Location ID: <b>4P079NC0003468ASHDAN</b> |                     |  | Collect Date: <b>02/05/2014</b> | Collect Time: <b>13:30</b>      |

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units     | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-----------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |           |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.2</b>           | °C        |                     | 2/5/14           | MSWIFT       |
| <b>MIC</b> |                                      |      |                      |           |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>45</b>            | NTU       | APHA2130B-20th      | 2/6/14           | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |           |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>150</b>           | mg/L      | SM 2540 B-1997      | 2/7/14           | CGREEN       |
|            | Residue_Suspended in liquid          | 6.2  | <b>66</b>            | mg/L      | SM 2540 D-1997      | 2/6/14           | CGREEN       |
|            | Ion Chromatography                   |      | <u>TITLE</u>         | mg/L      | EPA 300.0 rev2.1    | 2/6/14           | CGREEN       |
|            | Chloride                             | 1.0  | <b>12</b>            | mg/L      | EPA 300.0 rev2.1    | 2/6/14           | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L      | EPA 300.0 rev2.1    | 2/6/14           | CGREEN       |
|            | Sulfate                              | 2.0  | <b>3.6</b>           | mg/L      | EPA 300.0 rev2.1    | 2/6/14           | CGREEN       |
| <b>NUT</b> |                                      |      |                      |           |                     |                  |              |
|            | NH3 as N in liquid                   | 0.02 | <b>0.02</b>          | mg/L as N | EPA 350.1 REV 2     | 2/6/14           | CGREEN       |
|            | Total Kjeldahl N as N in liquid      | 0.2  | <b>0.34</b>          | mg/L as N | EPA 351.2 REV 2     | 2/6/14           | CGREEN       |
|            | NO2+NO3 as N in liquid               | 0.02 | <b>0.33</b>          | mg/L as N | EPA 353.2 REV 2     | 2/6/14           | CGREEN       |
|            | Phosphorus_total as P in liquid      | 0.02 | <b>0.07</b>          | mg/L as P | EPA 365.1 REV 2     | 2/7/14           | CGREEN       |
| <b>MET</b> |                                      |      |                      |           |                     |                  |              |
| 7440-22-4  | Ag by ICPMS                          | 1.0  | <b>1.0 U</b>         | ug/L      | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7429-90-5  | Al by ICP                            | 50   | <b>2000</b>          | ug/L      | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-36-0  | Antimony by ICPMS                    | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.6</b>           | ug/L      | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>90</b>            | ug/L      | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>67</b>            | ug/L      | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-41-7  | Be by ICP                            | 5.0  | <b>5.0 U</b>         | ug/L      | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>8.1</b>           | mg/L      | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L      | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-48-4  | Cobalt by ICP                        | 50   | <b>50 U</b>          | ug/L      | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>4.2</b>           | ug/L      | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>2400</b>          | ug/L      | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1                             | 0.2  | <b>0.20 U</b>        | ug/L      | EPA 245.1           | 2/7/14           | ESTAFFORD1   |
| 7440-09-7  | K by ICP                             | 0.10 | <b>2.1</b>           | mg/L      | EPA 200.7           | 2/7/14           | ESTAFFORD1   |

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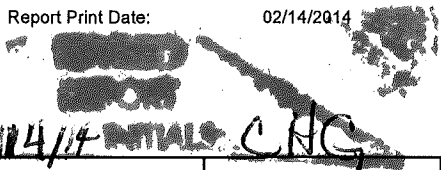
For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC04676 Collect Date: 02/05/2014 Collect Time: 13:30

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>  | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|----------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7439-93-2    | Li ICP               | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/7/14                   | ESTAFFORD1          |
| 7439-95-4    | Mg by ICP            | 0.10       | <b>3.2</b>                   | mg/L         | EPA 200.7                   | 2/7/14                   | ESTAFFORD1          |
| 7439-96-5    | Mn by ICP            | 10         | <b>55</b>                    | ug/L         | EPA 200.7                   | 2/8/14                   | ESTAFFORD1          |
| 7439-98-7    | Mo by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/7/14                   | ESTAFFORD1          |
| 7440-23-5    | Na by ICP            | 0.10       | <b>6.9</b>                   | mg/L         | EPA 200.7                   | 2/7/14                   | ESTAFFORD1          |
| 7440-02-0    | Ni by ICPMS          | 2.0        | <b>2.4</b>                   | ug/L         | EPA 200.8                   | 2/7/14                   | ESTAFFORD1          |
| 7439-92-1    | Pb by ICPMS          | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/7/14                   | ESTAFFORD1          |
| 7782-49-2    | Se by ICPMS          | 5.0        | <b>5.0 U</b>                 | ug/L         | EPA 200.8                   | 2/7/14                   | ESTAFFORD1          |
| 7440-31-5    | Sn by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/7/14                   | ESTAFFORD1          |
| 7440-24-6    | Sr by ICPMS          | 10         | <b>55</b>                    | ug/L         | EPA 200.8                   | 2/7/14                   | ESTAFFORD1          |
| 7440-28-0    | Thallium (Tl) ICPMS  | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/7/14                   | ESTAFFORD1          |
| 7440-32-6    | Ti (Titanium) by ICP | 10         | <b>98</b>                    | ug/L         | EPA 200.7                   | 2/10/14                  | ESTAFFORD1          |
| 7440-62-2    | V by ICP             | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/8/14                   | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP            | 10         | <b>16</b>                    | ug/L         | EPA 200.7                   | 2/8/14                   | ESTAFFORD1          |

|  |   |
|--|---|
| County: <b>ROCKINGHAM</b>                | Sample ID: <b>AC04677</b>   |
| River Basin: <b>ROANOKE</b>              | PO Number #: <b>14W12170</b>  |
| Report To: <b>WSROSP</b>                 | Date Received: <b>02/05/2014</b>  |
| Collector: <b>S WANG</b>                 | Time Received: <b>15:51</b>   |
| Region: <b>WSRO</b>                      | Labworks LoginID: <b>MSWIFT</b>   |
| Sample Matrix: <b>SURFACEWATER</b>       | Final Report Date: <b>2/14/14</b>   |
| Loc. Type: <b>STREAM</b>                 | Report Print Date: <b>02/14/2014</b>  |
| Emergency Yes/No: <b>Yes</b>             |    |
| COC Yes/No: <b>Yes</b>                   |   |
| VisitID: <b>03</b>                       |  |
| Loc. Descr.: <b>DS-VA Line</b>           | <b>DATE: 02/14/14 INITIALS: CNG</b>   |
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/05/2014</b>   |
| Collect Time: <b>13:30</b>               | Sample Depth  |

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | 1.2                  | °C    |                     | 2/5/14           | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | 2.0 U                | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-41-7  | Be-Beryllium Dissolved by ICP        | 5.0  | 5.0 U                | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | 7.4                  | mg/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | 0.50 U               | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | 10 U                 | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | 2.0 U                | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | 53                   | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | 1.8                  | mg/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | 2.8                  | mg/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | 10 U                 | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | 6.8                  | mg/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | 2.0 U                | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | 2.0 U                | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | 5.0 U                | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-22-4  | Ag-Dissolved Silver by ICPMS         | 1.0  | 1.0 U                | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | 50 U                 | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | 88                   | ug/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | 25                   | ug/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-48-4  | Cobalt Dissolved by ICP              | 50   | 50 U                 | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1 Dissolved                   | 0.2  | 0.20 U               | ug/L  | EPA 245.1           | 2/7/14           | ESTAFFORD1   |
| 7439-93-2  | Li DISSOLVED ICP                     | 25   | 25 U                 | ug/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7439-98-7  | Mo Dissolved by ICPMS                | 10   | 10 U                 | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-36-0  | Sb Dissolved by ICPMS                | 10   | 10 U                 | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-31-5  | Sn Dissolved by ICPMS                | 10   | 10 U                 | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | 45                   | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-28-0  | Thallium (TI) Dissolved by ICPMS     | 2.0  | 2.0 U                | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | 10 U                 | ug/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | 25 U                 | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC04677 Collect Date: 02/05/2014 Collect Time:: 13:30

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>      | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|--------------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-66-6    | Zn-Dissolved Zinc by ICP | 10         | 10 U                         | ug/L         | EPA 200.7                   | 2/8/14                   | ESTAFFORD1          |



County: **ROCKINGHAM**  
 River Basin: **ROANOKE**  
 Report To: **WSROSP**  
 Collector: **S WANG**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No: **Yes**  
 COC Yes/No: **Yes**

LC  
 3/10/14

# DWR

Division of Water Resources

## Final Report

VisitID

Sample ID: **AC04677**  
 PO Number #: **14W12170**  
 Date Received: **02/05/2014**  
 Time Received: **15:51**  
 Labworks LoginID: **MSWIFT**  
 Final Report Date: **2/10/14**  
 Report Print Date: **02/10/2014**

Loc. Descr.: **UPSTREAM DRAPER LANDING DAN RIVER**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/05/2014</b> | Collect Time: <b>13:30</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.2</b>           | °C    |                     | 2/5/14           | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-41-7  | Be-Beryllium Dissolved by ICP        | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>7.4</b>           | mg/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>53</b>            | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.8</b>           | mg/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.8</b>           | mg/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>6.8</b>           | mg/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-22-4  | Ag-Dissolved Silver by ICPMS         | 1.0  | <b>1.0 U</b>         | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>88</b>            | ug/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>25</b>            | ug/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7440-48-4  | Cobalt Dissolved by ICP              | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1 Dissolved                   | 0.2  | <b>0.20 U</b>        | ug/L  | EPA 245.1           | 2/7/14           | ESTAFFORD1   |
| 7439-93-2  | Li DISSOLVED ICP                     | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/7/14           | ESTAFFORD1   |
| 7439-98-7  | Mo Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-36-0  | Sb Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-31-5  | Sn Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>45</b>            | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/7/14           | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/8/14           | ESTAFFORD1   |

Laboratory Section>> 1623 Mail Service Center, Raleigh, NC 27699-1623 (919) 733-3908

For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#>

**From:** Wang, Shuying  
**Sent:** Wednesday, February 12, 2014 11:28 AM  
**To:** Byrd, Roy  
**Cc:** Basinger, Corey; Wiggins, Kent; Green, Cindy; Reid, Dianne; Snider, Lon  
**Subject:** RE: Request for clarification on station # AC04677

Hi Roy,  
Very sorry for the mistake. Please change the station description on the fieldsheet and report to DS – VA line or Downstream – VA line. The green tag is right. Thank you!

Shuying Wang, PG  
Hydrogeologist  
NC DENR Winston-Salem Regional Office  
Division of Water Resources, Water Quality Regional Operations Section  
585 Waughtown Street  
Winston-Salem, NC 27107  
Voice: (336) 771-5000  
FAX: (336) 771-4630  
[shuying.wang@ncdenr.gov](mailto:shuying.wang@ncdenr.gov)

<http://portal.ncdenr.org/web/wq/aps/gwp/rep>

\*\*\*\*\*

E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.

\*\*\*\*\*

**From:** Byrd, Roy  
**Sent:** Wednesday, February 12, 2014 11:10 AM  
**To:** Snider, Lon; Wang, Shuying  
**Cc:** Basinger, Corey; Wiggins, Kent; Green, Cindy; Reid, Dianne  
**Subject:** Request for clarification on station # AC04677

The station description on the sample tag does not match the field sheet. Please review the attachments and let us know which is correct, so we can have the correct one in LabWorks.

Thanks for all the hard work you guys are doing.  
Roy

Roy Byrd  
Microbiology & Inorganic Chemistry Branch Manager

NC DWR Laboratory Section      Website: [NCDENR – DWR Lab](http://ncdenr.gov)  
1623 Mail Service Center      Phone: (919) 733-3908 x222  
Raleigh, NC 27699-1623      Fax: (919) 733-6241

*E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.*

*AC04677-Tag*

Water Body Dan River

Location # DS - VA Line

Date 2/5/14

Collector L. Snider/Kerry/Ward

Analysis Dig. Metals

Preservative HNO<sub>3</sub>

LAB # AC04677

# COC/EMER

14W/12170

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : WS Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Other :  
 COLLECTOR(S) : E. Smider / [unclear] / [unclear]

VISIT ID : 03  
DS-VA line  
2-13-14

Lab Number : ACC04677  
 Date Received : 2-5-14  
 Time Received : 1:57  
 Received By : TR  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: US - DRAINAGE LOWWAY  
 Remarks: Dissolved Metals

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

| Station #/Location Code                  | Date Begin (yy/mm/dd) | Date End (yy/mm/dd)                     | Time Begin  | Time End                | Depth - DM, DB, DBM | Value Type - A, H, L                     | Composite-T, S, B | Sample Type    |
|--|-----------------------|---|-------------|-------------------------|---------------------|--|-------------------|----------------|
| <u>4P079 NC0003468</u><br><u>Ash Dam</u> | <u>2/5/14</u>         | <u>2/5/14</u>                           | <u>1:15</u> | <u>1:30</u>             |                     |  |                   | <u>07</u>      |
| BOD 310                                  | mg/L                  | Chloride 940                            | mg/L        | NH3 as N 610            | mg/L                | Li-Lithium 1132                          | ug/L              |                |
| COD High 340                             | mg/L                  |   |             | TKN as N 625            | mg/L                | Mg-Magnesium 927                         | mg/L              |                |
| COD Low 335                              | mg/L                  | Chlorophyll a EPA 445.0 modified option | ug/L        | NO2 plus NO3 as N 630   | mg/L                | Mn-Manganese 1055                        | ug/L              |                |
| Coliform: MF Fecal 31616                 | /100ml                |   |             | P: Total as P 665       | mg/L                | Na-Sodium 929                            | ug/L              | <u>Diluted</u> |
| Coliform: MF Total 31504                 | /100ml                | Color: True 80                          | c.u.        | PO4 as P 70507          | mg/L                | Arsenic: Total 1002                      | ug/L              |                |
| Coliform: tube Fecal 31615               | /100ml                | Color: pH 7.6 82                        | c.u.        | P: Dissolved as P 666   | mg/L                | Se-Selenium 1147                         | ug/L              |                |
| Coliform: Fecal Strep 31673              | /100ml                | Cyanide 720                             | mg/L        | K-Potassium             | mg/L                | Hg-Mercury 71900                         | ug/L              |                |
| Residue: Total 500                       | mg/L                  | Fluoride 951                            | mg/L        | Cd-Cadmium 1027         | ug/L                | Ba-Barium                                | ug/L              |                |
| Volatile 505                             | mg/L                  | Formaldehyde 71880                      | mg/L        | Cr-Chromium: Total 1034 | ug/L                | Organochlorine Pesticides                |                   |                |
| Fixed 510                                | mg/L                  | Grease and Oils 556                     | mg/L        | Cu-Copper 1042          | ug/L                | Organophosphorus Pesticides              |                   |                |
| Residue: Suspended 530                   | mg/L                  | Hardness Total 900                      | mg/L        | Ni-Nickel 1067          | ug/L                | Organonitrogen Pesticides                |                   |                |
| Volatile 535                             | mg/L                  | Specific Cond. 95                       | umhos/cm    | Pb-Lead 1051            | ug/L                | Acid Herbicides                          |                   |                |
| Fixed 540                                | mg/L                  | MBAS 38260                              | mg/L        | Zn-Zinc 1092            | ug/L                |  |                   |                |
| pH 403                                   | units                 | Phenols 32730                           | ug/L        | V-Vanadium              | ug/L                | Base/Neutral & Acid Extractable Organics |                   |                |
| Acidity to pH 4.5 436                    | mg/L                  | Sulfate 945                             | mg/L        | Ag-Silver 1077          | ug/L                | TPH Diesel Range                         |                   |                |
| Acidity to pH 8.3 435                    | mg/L                  | Sulfide 745                             | mg/L        | Al-Aluminum 1105        | ug/L                |  |                   |                |
| Alkalinity to pH 8.3 415                 | mg/L                  | Boron                                   |             | Be-Beryllium 1012       | ug/L                | Purgeable Organics (VOA bottle req'd)    |                   |                |
| Alkalinity to pH 4.5 410                 | mg/L                  | Tannin & Lignin                         | ug/L        | Ca-Calcium 916          | mg/L                | TPH Gasoline Range                       |                   |                |
| TOC 680                                  | mg/L                  | Hexavalent Chromium                     | ug/L        | Co-Cobalt 1037          | ug/L                | TPH/BTEX Gasoline Range                  |                   |                |
| Turbidity 76                             | NTU                   | Bicarbonate                             | mg/L        | Fe-Iron 1045            | ug/L                | Phytoplankton                            |                   |                |
| Coliform Total Tube                      | /100 ml               | Carbonate                               | mg/L        | Mo-Molybdenum           | ug/L                |  |                   |                |
|  |                       | Carbonate                               | mg/L        | Sb-Antimony             | ug/L                |  |                   |                |
|  |                       | Total Dissolved Solids                  | mg/L        | Sn-Tin                  | ug/L                |  |                   |                |
|  |                       |   |             | Tl-Thallium             | ug/L                |  |                   |                |
|  |                       |   |             | Ti-Titanium             | ug/L                |  |                   |                |
|  |                       |   |             | Hg-1631                 | ng/L                |  |                   |                |

COMMENTS :

# EMER/COC

DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

14W12222

COUNTY : Rockingham  
 RIVER BASIN : 20 Annotte  
 REPORT TO : WS Regional Office  
 Other :  
 COLLECTOR(S) : Snider / Iverson

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID  
04

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Lab Number AC04731  
 Date Received : 2-6-14  
 Time Received : 15:39  
 Received By : mys  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line

2 Sample

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: \_\_\_\_\_

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin  | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------------|-----------------------|---------------------|-------------|----------|---------------------|----------------------|-------------------|-------------|
| <u>4P079NC0002468 Ash Dam</u> | <u>02/6/14</u>        | <u>02/6/14</u>      | <u>1330</u> |          |                     |                      |                   | <u>5</u>    |

|   |   |   |   |
|---|---|---|---|
| <input type="checkbox"/> BOD 310 mg/L                           | <input checked="" type="checkbox"/> Chloride 940 mg/L                 | <input type="checkbox"/> NH3 as N 610 mg/L            | <input type="checkbox"/> Li-Lithium 1132 ug/L                     |
| <input type="checkbox"/> COD High 340 mg/L                      | <input type="checkbox"/> Chlorophyll a EPA 445.0 modified option ug/L | <input type="checkbox"/> TKN an N 625 mg/L            | <input type="checkbox"/> Mg- Magnesium 927 mg/L                   |
| <input type="checkbox"/> COD Low 335 mg/L                       | <input type="checkbox"/> Color: True 80 c.u.                          | <input type="checkbox"/> NO2 plus NO3 as N 630 mg/L   | <input type="checkbox"/> Mn-Manganese 1055 ug/L                   |
| <input type="checkbox"/> Coliform: MF Fecal 31616 /100ml        | <input type="checkbox"/> Color: (pH) 83 pH= c.u.                      | <input type="checkbox"/> P: Total as P 665 mg/L       | <input type="checkbox"/> Na- Sodium 929 mg/L                      |
| <input type="checkbox"/> Coliform: MF Total 31504 /100ml        | <input type="checkbox"/> Color: pH 7.6 82 c.u.                        | <input type="checkbox"/> PO4 as P 70507 mg/L          | <input type="checkbox"/> Arsenic: Total 1002 ug/L                 |
| <input type="checkbox"/> Coliform: tube Fecal 31615 /100ml      | <input type="checkbox"/> Cyanide 720 mg/L                             | <input type="checkbox"/> P: Dissolved as P 666 mg/L   | <input type="checkbox"/> Se- Selenium 1147 ug/L                   |
| <input type="checkbox"/> Coliform: Fecal Strep 31673 /100ml     | <input type="checkbox"/> Fluoride 951 mg/L                            | <input type="checkbox"/> K- Potassium mg/L            | <input type="checkbox"/> Hg- Mercury 71900 ug/L                   |
| <input checked="" type="checkbox"/> Residue: Total 500 mg/L     | <input type="checkbox"/> Formaldehyde 71880 mg/L                      | <input type="checkbox"/> Cd- Cadmium 1027 ug/L        | <input type="checkbox"/> Ba- Barium ug/L                          |
| <input type="checkbox"/> Volatile 505 mg/L                      | <input type="checkbox"/> Grease and Oils 556 mg/L                     | <input type="checkbox"/> Cr-Chromium: Total 1034 ug/L | <input type="checkbox"/> Organochlorine Pesticides                |
| <input type="checkbox"/> Fixed 510 mg/L                         | <input type="checkbox"/> Hardness Total 900 mg/L                      | <input type="checkbox"/> Cu- Copper 1042 ug/L         | <input type="checkbox"/> Organophosphorus Pesticides              |
| <input checked="" type="checkbox"/> Residue: Suspended 530 mg/L | <input type="checkbox"/> Specific Cond. 95 umhos/cm                   | <input type="checkbox"/> Ni- Nickel 1067 ug/L         | <input type="checkbox"/> Organonitrogen Pesticides                |
| <input type="checkbox"/> Volatile 535 mg/L                      | <input type="checkbox"/> MBAS 38260 mg/L                              | <input type="checkbox"/> Pb- Lead 1051 ug/L           | <input type="checkbox"/> Acid Herbicides                          |
| <input type="checkbox"/> Fixed 540 mg/L                         | <input type="checkbox"/> Phenols 32730 ug/L                           | <input type="checkbox"/> Zn- Zinc 1092 ug/L           |   |
| <input type="checkbox"/> pH 403 units                           | <input checked="" type="checkbox"/> Sulfate 945 mg/L                  | <input type="checkbox"/> V- Vanadium ug/L             | <input type="checkbox"/> Base/Neutral & Acid Extractable Organics |
| <input type="checkbox"/> Acidity to pH 4.5 436 mg/L             | <input type="checkbox"/> Sulfide 745 mg/L                             | <input type="checkbox"/> Ag- Silver 1077 ug/L         | <input type="checkbox"/> TPH Diesel Range                         |
| <input type="checkbox"/> Acidity to pH 8.3 435 mg/L             | <input type="checkbox"/> Boron  | <input type="checkbox"/> Al- Aluminum 1105 ug/L       |   |
| <input type="checkbox"/> Alkalinity to pH 8.3 415 mg/L          | <input type="checkbox"/> Tannin & Lignin ug/L                         | <input type="checkbox"/> Be- Beryllium 1012 ug/L      | <input type="checkbox"/> Purgeable Organics (VOA bottle req'd)    |
| <input type="checkbox"/> Alkalinity to pH 4.5 410 mg/L          | <input type="checkbox"/> Hexavalent Chromium ug/L                     | <input type="checkbox"/> Ca- Calcium 916 mg/L         | <input type="checkbox"/> TPH Gasoline Range                       |
| <input type="checkbox"/> TOC 680 mg/L                           | <input type="checkbox"/> Bicarbonate mg/L                             | <input type="checkbox"/> Co- Cobalt 1037 ug/L         | <input type="checkbox"/> TPH/BTEX Gasoline Range                  |
| <input checked="" type="checkbox"/> Turbidity 76 NTU            | <input type="checkbox"/> Carbonate mg/L                               | <input type="checkbox"/> Fe- Iron 1045 ug/L           | <input type="checkbox"/> Phytoplankton                            |
| <input type="checkbox"/> Coliform Total Tube /100 ml            | <input type="checkbox"/> Total Dissolved Solids mg/L                  | <input type="checkbox"/> Mo- Molybdenum ug/L          |   |
|   |   | <input type="checkbox"/> Sb- Antimony ug/L            |   |
|   |   | <input type="checkbox"/> Sn- Tin ug/L                 |   |
|   |   | <input type="checkbox"/> Tl- Thallium ug/L            |   |
|   |   | <input type="checkbox"/> Ti- Titanium ug/L            |   |
|   |   | <input type="checkbox"/> Hg-1631 ng/L                 | Temperature on arrival (°C): <u>2-3</u>                           |

COMMENTS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

|                  |                     |                    |                   |
|------------------|---------------------|--------------------|-------------------|
| County:          | <b>ROCKINGHAM</b>   | Sample ID:         | <b>AC04731</b>    |
| River Basin:     | <b>ROA01</b>        | PO Number #        | <b>14W12222</b>   |
| Report To:       | <b>WSROSP</b>       | Date Received:     | <b>02/06/2014</b> |
| Collector:       | <b>J IVERSON</b>    | Time Received:     | <b>15:39</b>      |
| Region:          | <b>WSRO</b>         | Labworks LoginID:  | <b>MSWIFT</b>     |
| Sample Matrix:   | <b>SURFACEWATER</b> | Final Report Date: | 2/11/14           |
| Loc. Type:       | <b>STREAM</b>       | Report Print Date: | 02/11/2014        |
| Emergency Yes/No | <u>Yes</u>          | VisitID            | 04                |
| COC Yes/No       | <u>Yes</u>          |                    |                   |

**Division of Water Resources**

**Final Report**

Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/06/2014</b> | Collect Time: <b>13:20</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units     | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-----------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |           |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>2.3</b>           | °C        |                     | 2/6/14           | MSWIFT       |
| <b>MIC</b> |                                      |      |                      |           |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>35</b>            | NTU       | APHA2130B-20th      | 2/7/14           | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |           |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>107</b>           | mg/L      | SM 2540 B-1997      | 2/7/14           | CGREEN       |
|            | Residue_Suspended in liquid          | 6.2  | <b>40</b>            | mg/L      | SM 2540 D-1997      | 2/7/14           | CGREEN       |
|            | Ion Chromatography                   |      | <u>  TITLE  </u>     | mg/L      | EPA 300.0 rev2.1    | 2/6/14           | CGREEN       |
|            | Chloride                             | 1.0  | <b>12</b>            | mg/L      | EPA 300.0 rev2.1    | 2/6/14           | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L      | EPA 300.0 rev2.1    | 2/6/14           | CGREEN       |
|            | Sulfate                              | 2.0  | <b>4.1</b>           | mg/L      | EPA 300.0 rev2.1    | 2/6/14           | CGREEN       |
| <b>NUT</b> |                                      |      |                      |           |                     |                  |              |
|            | NH3 as N in liquid                   | 0.02 | <b>0.03</b>          | mg/L as N | EPA 350.1 REV 2     | 2/7/14           | CGREEN       |
|            | Total Kjeldahl N as N in liquid      | 0.2  | <b>0.29</b>          | mg/L as N | EPA 351.2 REV 2     | 2/7/14           | CGREEN       |
|            | NO2+NO3 as N in liquid               | 0.02 | <b>0.34</b>          | mg/L as N | EPA 353.2 REV 2     | 2/7/14           | CGREEN       |
|            | Phosphorus_total as P in liquid      | 0.02 | <b>0.06</b>          | mg/L as P | EPA 365.1 REV 2     | 2/7/14           | CGREEN       |
| <b>MET</b> |                                      |      |                      |           |                     |                  |              |
| 7440-22-4  | Ag by ICPMS                          | 1.0  | <b>1.0 U</b>         | ug/L      | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7429-90-5  | Al by ICP                            | 50   | <b>1500</b>          | ug/L      | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7440-36-0  | Antimony by ICPMS                    | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>120</b>           | ug/L      | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>45</b>            | ug/L      | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-41-7  | Be by ICP                            | 5.0  | <b>5.0 U</b>         | ug/L      | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>7.4</b>           | mg/L      | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L      | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt by ICP                        | 50   | <b>50 U</b>          | ug/L      | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>3.2</b>           | ug/L      | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>1800</b>          | ug/L      | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1                             | 0.2  | <b>0.20 U</b>        | ug/L      | EPA 245.1           | 2/7/14           | ESTAFFORD1   |

Laboratory Section >> 1623 Mail Service Center, Raleigh, NC 27699-1623 (919) 733-3908

For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>

*NC DWR Laboratory Section Results*

Location ID: **4P079NC0003468ASHDAN**

Sample ID: **AC04731**

Collect Date: **02/06/2014**

Collect Time: **13:20**

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>  | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|----------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-09-7    | K by ICP             | 0.10       | <b>1.8</b>                   | mg/L         | EPA 200.7                   | 2/10/14                  | ESTAFFORD1          |
| 7439-93-2    | Li ICP               | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/10/14                  | ESTAFFORD1          |
| 7439-95-4    | Mg by ICP            | 0.10       | <b>2.8</b>                   | mg/L         | EPA 200.7                   | 2/10/14                  | ESTAFFORD1          |
| 7439-96-5    | Mn by ICP            | 10         | <b>34</b>                    | ug/L         | EPA 200.7                   | 2/11/14                  | ESTAFFORD1          |
| 7439-98-7    | Mo by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/10/14                  | ESTAFFORD1          |
| 7440-23-5    | Na by ICP            | 0.10       | <b>5.7</b>                   | mg/L         | EPA 200.7                   | 2/10/14                  | ESTAFFORD1          |
| 7440-02-0    | Ni by ICPMS          | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/10/14                  | ESTAFFORD1          |
| 7439-92-1    | Pb by ICPMS          | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/10/14                  | ESTAFFORD1          |
| 7782-49-2    | Se by ICPMS          | 5.0        | <b>5.0 U</b>                 | ug/L         | EPA 200.8                   | 2/10/14                  | ESTAFFORD1          |
| 7440-31-5    | Sn by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/10/14                  | ESTAFFORD1          |
| 7440-24-6    | Sr by ICPMS          | 10         | <b>52</b>                    | ug/L         | EPA 200.8                   | 2/10/14                  | ESTAFFORD1          |
| 7440-28-0    | Thallium (Tl) ICPMS  | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/10/14                  | ESTAFFORD1          |
| 7440-32-6    | Ti (Titanium) by ICP | 10         | <b>82</b>                    | ug/L         | EPA 200.7                   | 2/10/14                  | ESTAFFORD1          |
| 7440-62-2    | V by ICP             | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/11/14                  | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP            | 10         | <b>14</b>                    | ug/L         | EPA 200.7                   | 2/11/14                  | ESTAFFORD1          |



# EMER/LQC

14012224

## DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : WS Regional Office  
 Other :  
 COLLECTOR(S) : Sales / Iverson

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Lab Number AC04733  
 Date Received : 2.6.14  
 Time Received : 15:39  
 Received By : WJF  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Seed: \_\_\_\_\_

Chlorinated: \_\_\_\_\_

Station Location: DS-NA line  
 Remarks: Diss Metals

2 Sample

| Station #/Location Code        | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin  | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|--------------------------------|-----------------------|---------------------|-------------|----------|---------------------|----------------------|-------------------|-------------|
| <u>4100A NC0003468 Ash 2am</u> | <u>02/6/14</u>        | <u>02/6/14</u>      | <u>1330</u> |          |                     |                      |                   |             |

|                             |         |   |          |                         |      |  |            |
|-----------------------------|---------|---|----------|-------------------------|------|--|------------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610            | mg/L | Li-Lithium 1132                          | ug/L       |
| COD High 340                | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | TKN an N 625            | mg/L | Mg-Magnesium 927                         | mg/L       |
| COD Low 335                 | mg/L    | Color: True 80                          | c.u.     | NO2 plus NO3 as N 630   | mg/L | Mn-Manganese 1055                        | ug/L       |
| Coliform: MF Fecal 31616    | /100ml  | Color: (pH) 83                          | pH= c.u. | P: Total as P 665       | mg/L | Na- Sodium 929                           | mg/L       |
| Coliform: MF Total 31504    | /100ml  | Color: pH 7.6 82                        | c.u.     | PO4 as P 70507          | mg/L | Arsenic: Total 1002                      | ug/L       |
| Coliform: tube Fecal 31615  | /100ml  | Cyanide 720                             | mg/L     | P: Dissolved as P 666   | mg/L | Se- Selenium 1147                        | ug/L       |
| Coliform: Fecal Strep 31673 | /100ml  | Fluoride 951                            | mg/L     | K-Potassium             | mg/L | Hg- Mercury 71900                        | ug/L       |
| Residue: Total 500          | mg/L    | Formaldehyde 71880                      | mg/L     | Cd- Cadmium 1027        | ug/L | Ba-Barium                                | ug/L       |
| Volatile 505                | mg/L    | Grease and Oils 556                     | mg/L     | Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides                |            |
| Fixed 510                   | mg/L    | Hardness Total 900                      | mg/L     | Cu- Copper 1042         | ug/L | Organophosphorus Pesticides              |            |
| Residue: Suspended 530      | mg/L    | Specific Cond. 95                       | umhos/cm | Ni-Nickel 1067          | ug/L | Organonitrogen Pesticides                |            |
| Volatile 535                | mg/L    | MBAS 38260                              | mg/L     | Pb- Lead 1051           | ug/L | Acid Herbicides                          |            |
| Fixed 540                   | mg/L    | Phenols 32730                           | ug/L     | Zn- Zinc 1092           | ug/L |  |            |
| pH 403                      | units   | Sulfate 945                             | mg/L     | V-Vanadium              | ug/L | Base/Neutral & Acid Extractable Organics |            |
| Acidity to pH 4.5 436       | mg/L    | Sulfide 745                             | mg/L     | Ag- Silver 1077         | ug/L | TPH Diesel Range                         |            |
| Acidity to pH 8.3 435       | mg/L    | Boron                                   |          | Al- Aluminum 1105       | ug/L |  |            |
| Alkalinity to pH 8.3 415    | mg/L    | Tannin & Lignin                         | ug/L     | Be- Beryllium 1012      | ug/L | Purgeable Organics (VOA bottle req'd)    |            |
| Alkalinity to pH 4.5 410    | mg/L    | Hexavalent Chromium                     | ug/L     | Ca- Calcium 916         | mg/L | TPH Gasoline Range                       |            |
| TOC 680                     | mg/L    | Bicarbonate                             | mg/L     | Co- Cobalt 1037         | ug/L | TPH/BTEX Gasoline Range                  |            |
| Turbidity 76                | NTU     | Carbonate                               | mg/L     | Fe- Iron 1045           | ug/L | Phytoplankton                            |            |
| Coliform Total Tube         | /100 ml | Total Dissolved Solids                  | mg/L     | Mo-Molybdenum           | ug/L |  |            |
|                             |         |   |          | Sb-Antimony             | ug/L |  |            |
|                             |         |   |          | Sn-Tin                  | ug/L |  |            |
|                             |         |   |          | Tl-Thallium             | ug/L |  |            |
|                             |         |   |          | Ti-Titanium             | ug/L |  |            |
|                             |         |   |          | Hg-1631                 | ng/L | Temperature on arrival (°C)              | <u>2.3</u> |

COMMENTS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

|                  |                     |                    |                   |
|------------------|---------------------|--------------------|-------------------|
| County:          | <b>ROCKINGHAM</b>   | Sample ID:         | <b>AC04733</b>    |
| River Basin:     | <b>ROA01</b>        | PO Number #        | <b>14W12224</b>   |
| Report To:       | <b>WSROSP</b>       | Date Received:     | <b>02/06/2014</b> |
| Collector:       | <b>J IVERSON</b>    | Time Received:     | <b>15:39</b>      |
| Region:          | <b>WSRO</b>         | Labworks LoginID   | <b>MSWIFT</b>     |
| Sample Matrix:   | <b>SURFACEWATER</b> | Final Report Date: | 2/11/14           |
| Loc. Type:       | <b>STREAM</b>       | Report Print Date: | 02/11/2014        |
| Emergency Yes/No | <u>Yes</u>          | VisitID            |                   |
| COC Yes/No       | <u>Yes</u>          |                    |                   |

**DWR**  
Division of Water Resources  
**Final Report**

Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/06/2014</b> | Collect Time: <b>13:30</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>2.3</b>           | °C    |                     | 2/6/14           | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-41-7  | Be-Beryllium Dissolved by ICP        | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>7.1</b>           | mg/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>66</b>            | ug/L  | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.6</b>           | mg/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.7</b>           | mg/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>5.6</b>           | mg/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-22-4  | Ag-Dissolved Silver by ICPMS         | 1.0  | <b>1.0 U</b>         | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>110</b>           | ug/L  | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>23</b>            | ug/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt Dissolved by ICP              | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/11/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1 Dissolved                   | 0.2  | <b>0.20 U</b>        | ug/L  | EPA 245.1           | 2/7/14           | ESTAFFORD1   |
| 7439-93-2  | Li DISSOLVED ICP                     | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7439-98-7  | Mo Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-36-0  | Sb Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-31-5  | Sn Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>44</b>            | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/10/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/10/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/11/14          | ESTAFFORD1   |

Laboratory Section >> 1623 Mail Service Center, Raleigh, NC 27699-1623 (919) 733-3908

For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC04733

Collect Date: 02/06/2014

Collect Time: 13:30

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>      | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|--------------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-66-6    | Zn-Dissolved Zinc by ICP | 10         | 10 U                         | ug/L         | EPA 200.7                   | 2/11/14                  | ESTAFFORD1          |

# EMER/COC

## DIVISION OF WATER RESOURCES

### Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : Swick/Carter

PRIORITY  
 AMBIENT     QA  
 COMPLIANCE     CHAIN OF CUSTODY  
 EMERGENCY    VISIT ID  
←

SAMPLE TYPE  
 STREAM     EFFLUENT  
 LAKE     INFLUENT  
 ESTUARY  

2

14 W 12285

AC04811

Lab Number : AC04810 WMS 3/21/14  
 Date Received : 2.7.14  
 Time Received : 14:10  
 Received By : WJP

Data Released :  
 Date Reported :

Estimated BOD Range: \_\_\_\_\_ Station Location: DS - VA Line (Downstream at VA line)  
 Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: \_\_\_\_\_

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------------|-----------------------|---------------------|--------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ash Dam</u> | <u>4.02.07</u>        |                     | <u>11.35</u> |          |                     |                      |                   | G           |

|  |   |  |  |
|--|---|--|--|
| <input checked="" type="checkbox"/> BOD 310 mg/L                       | <input checked="" type="checkbox"/> Chloride 940 mg/L                 | <input checked="" type="checkbox"/> NH3 as N 610 mg/L            | <input checked="" type="checkbox"/> Li-Lithium 1132 ug/L         |
| <input type="checkbox"/> COD High 340 mg/L                             | <input type="checkbox"/>  | <input checked="" type="checkbox"/> TKN an N 625 mg/L            | <input checked="" type="checkbox"/> Mg- Magnesium 927 mg/L       |
| <input type="checkbox"/> COD Low 335 mg/L                              | <input type="checkbox"/> Chlorophyll a EPA 445.0 modified option ug/L | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630 mg/L   | <input checked="" type="checkbox"/> Mn-Manganese 1055 ug/L       |
| <input type="checkbox"/> Coliform: MF Fecal 31616 /100ml               | <input type="checkbox"/>  | <input checked="" type="checkbox"/> P: Total as P 665 mg/L       | <input checked="" type="checkbox"/> Na- Sodium 929 mg/L          |
| <input type="checkbox"/> Coliform: MF Total 31504 /100ml               | <input type="checkbox"/> Color: True 80 c.u.                          | <input checked="" type="checkbox"/> PO4 as P 70507 mg/L          | <input checked="" type="checkbox"/> Arsenic: Total 1002 ug/L     |
| <input type="checkbox"/> Coliform: tube Fecal 31615 /100ml             | <input type="checkbox"/> Color: (pH ) 83 pH= c.u.                     | <input checked="" type="checkbox"/> P: Dissolved as P 666 mg/L   | <input checked="" type="checkbox"/> Se- Selenium 1147 ug/L       |
| <input checked="" type="checkbox"/> Coliform: Fecal Strep 31673 /100ml | <input type="checkbox"/> Color: pH 7.6 82 c.u.                        | <input checked="" type="checkbox"/> K-Potassium mg/L             | <input checked="" type="checkbox"/> Hg- Mercury 71900 ug/L       |
| <input checked="" type="checkbox"/> Residue: Total 500 mg/L            | <input type="checkbox"/> Cyanide 720 mg/L                             | <input checked="" type="checkbox"/> Cd- Cadmium 1027 ug/L        | <input type="checkbox"/> Ba-Barium ug/L                          |
| <input type="checkbox"/> Volatile 505 mg/L                             | <input checked="" type="checkbox"/> Fluoride 951 mg/L                 | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 ug/L | <input type="checkbox"/> Organochlorine Pesticides               |
| <input type="checkbox"/> Fixed 510 mg/L                                | <input type="checkbox"/> Formaldehyde 71880 mg/L                      | <input checked="" type="checkbox"/> Cu- Copper 1042 ug/L         | <input type="checkbox"/> Organophosphorus Pesticides             |
| <input checked="" type="checkbox"/> Residue: Suspended 530 mg/L        | <input type="checkbox"/> Grease and Oils 556 mg/L                     | <input checked="" type="checkbox"/> Ni-Nickel 1067 ug/L          | <input type="checkbox"/> Organonitrogen Pesticides               |
| <input type="checkbox"/> Volatile 535 mg/L                             | <input type="checkbox"/> Hardness Total 900 mg/L                      | <input checked="" type="checkbox"/> Pb- Lead 1051 ug/L           | <input type="checkbox"/> Acid Herbicides                         |
| <input type="checkbox"/> Fixed 540 mg/L                                | <input type="checkbox"/> Specific Cond. 95 umhos/cm                   | <input checked="" type="checkbox"/> Zn- Zinc 1092 ug/L           |  |
| <input type="checkbox"/> pH 403 units                                  | <input type="checkbox"/> MBAS 38260 mg/L                              | <input type="checkbox"/> V-Vanadium ug/L                         | <input type="checkbox"/> Base/Neutral& Acid Extractable Organics |
| <input type="checkbox"/> Acidity to pH 4.5 436 mg/L                    | <input type="checkbox"/> Phenols 32730 ug/L                           | <input checked="" type="checkbox"/> Ag- Silver 1077 ug/L         | <input type="checkbox"/> TPH Diesel Range                        |
| <input type="checkbox"/> Acidity to pH 8.3 435 mg/L                    | <input checked="" type="checkbox"/> Sulfate 945 mg/L                  | <input checked="" type="checkbox"/> Al- Aluminum 1105 ug/L       |  |
| <input type="checkbox"/> Alkalinity to pH 8.3 415 mg/L                 | <input type="checkbox"/> Sulfide 745 mg/L                             | <input checked="" type="checkbox"/> Be- Beryllium 1012 ug/L      | <input type="checkbox"/> Purgeable Organics (VOA bottle req'd)   |
| <input type="checkbox"/> Alkalinity to pH 4.5 410 mg/L                 | <input type="checkbox"/> Boron  | <input checked="" type="checkbox"/> Ca- Calcium 916 mg/L         | <input type="checkbox"/> TPH Gasoline Range                      |
| <input type="checkbox"/> TOC 680 mg/L                                  | <input type="checkbox"/> Tannin & Lignin ug/L                         | <input checked="" type="checkbox"/> Co- Cobalt 1037 ug/L         | <input type="checkbox"/> TPH/BTEX Gasoline Range                 |
| <input checked="" type="checkbox"/> Turbidity 76 NTU                   | <input type="checkbox"/> Hexavalent Chromium ug/L                     | <input checked="" type="checkbox"/> Fe- Iron 1045 ug/L           | <input type="checkbox"/> Phytoplankton                           |
| <input type="checkbox"/> Coliform Total Tube /100 ml                   | <input type="checkbox"/> Bicarbonate mg/L                             | <input type="checkbox"/> Mo-Molybdenum ug/L                      |  |
|  | <input type="checkbox"/> Carbonate mg/L                               | <input type="checkbox"/> Sb-Antimony ug/L                        |  |
|  | <input type="checkbox"/> Total Dissolved Solids mg/L                  | <input type="checkbox"/> Sn-Tin ug/L                             |  |
|  |   | <input type="checkbox"/> Tl-Thallium ug/L                        |  |
|  |   | <input type="checkbox"/> Ti-Titanium ug/L                        |  |
|  |   | <input type="checkbox"/> Hg-1631 ng/L                            |  |

Temperature on arrival (°C): 10

COMMENTS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

|                   |                     |                    |                                |
|-------------------|---------------------|--------------------|--------------------------------|
| County:           | <b>ROCKINGHAM</b>   | Sample ID:         | <b>AC04811</b>                 |
| River Basin:      | <b>ROA01</b>        | PO Number #:       | <b>14W12285</b>                |
| Report To:        | <b>WSROSP</b>       | Date Received:     | <b>02/07/2014</b>              |
| Collector:        | <b>J CARTER</b>     | Time Received:     | <b>14:19</b>                   |
| Region:           | <b>WSRO</b>         | Labworks LoginID:  | <b>MSWIFT</b>                  |
| Sample Matrix:    | <b>SURFACEWATER</b> | Final Report Date: | <b>2/17/14</b>                 |
| Loc. Type:        | <b>STREAM</b>       | Report Print Date: | <b>02/17/2014</b>              |
| Emergency Yes/No: | <u>Yes</u>          | VisitID:           | <input type="text" value="5"/> |
| COC Yes/No:       | <u>Yes</u>          |                    |                                |

**DWR**  
Division of Water Resources  
**Final Report**

Loc. Desc.: **DS - VA LINE**

|              |                             |               |                   |               |              |               |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|
| Location ID: | <b>4P079NC0003468ASHDAN</b> | Collect Date: | <b>02/07/2014</b> | Collect Time: | <b>11:35</b> | Sample Depth: |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|

*If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.*

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units     | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-----------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |           |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.0</b>           | °C        |                     | 2/7/14           | MSWIFT       |
| <b>MIC</b> |                                      |      |                      |           |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>23</b>            | NTU       | APHA2130B-20th      | 2/7/14           | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |           |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>90</b>            | mg/L      | SM 2540 B-1997      | 2/10/14          | CGREEN       |
|            | Residue_Suspended in liquid          | 6.2  | <b>24</b>            | mg/L      | SM 2540 D-1997      | 2/10/14          | CGREEN       |
|            | Ion Chromatography                   |      | <b>_TITLE_</b>       | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>10</b>            | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>5.9</b>           | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
| <b>NUT</b> |                                      |      |                      |           |                     |                  |              |
|            | NH3 as N in liquid                   | 0.02 | <b>0.02</b>          | mg/L as N | EPA 350.1 REV 2     | 2/10/14          | CGREEN       |
|            | Total Kjeldahl N as N in liquid      | 0.2  | <b>0.20</b>          | mg/L as N | EPA 351.2 REV 2     | 2/11/14          | CGREEN       |
|            | NO2+NO3 as N in liquid               | 0.02 | <b>0.32</b>          | mg/L as N | EPA 353.2 REV 2     | 2/10/14          | CGREEN       |
|            | Phosphorus_total as P in liquid      | 0.02 | <b>0.04</b>          | mg/L as P | EPA 365.1 REV 2     | 2/10/14          | CGREEN       |
| <b>MET</b> |                                      |      |                      |           |                     |                  |              |
| 7440-22-4  | Ag by ICPMS                          | 1.0  | <b>1.0 U</b>         | ug/L      | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7429-90-5  | Al by ICP                            | 50   | <b>940</b>           | ug/L      | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-36-0  | Antimony by ICPMS                    | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/12/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>110</b>           | ug/L      | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>35</b>            | ug/L      | EPA 200.7           | 2/12/14          | ESTAFFORD1   |
| 7440-41-7  | Be by ICP                            | 5.0  | <b>5.0 U</b>         | ug/L      | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>7.7</b>           | mg/L      | EPA 200.7           | 2/12/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L      | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt by ICP                        | 50   | <b>50 U</b>          | ug/L      | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>1300</b>          | ug/L      | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1                             | 0.2  | <b>0.20 U</b>        | ug/L      | EPA 245.1           | 2/11/14          | ESTAFFORD1   |

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC04811

Collect Date: 02/07/2014

Collect Time: 11:35

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>  | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|----------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-09-7    | K by ICP             | 0.10       | 1.7                          | mg/L         | EPA 200.7                   | 2/12/14                  | ESTAFFORD1          |
| 7439-93-2    | Li ICP               | 25         | 25 U                         | ug/L         | EPA 200.7                   | 2/14/14                  | ESTAFFORD1          |
| 7439-95-4    | Mg by ICP            | 0.10       | 2.9                          | mg/L         | EPA 200.7                   | 2/12/14                  | ESTAFFORD1          |
| 7439-96-5    | Mn by ICP            | 10         | 29                           | ug/L         | EPA 200.7                   | 2/14/14                  | ESTAFFORD1          |
| 7439-98-7    | Mo by ICPMS          | 10         | 10 U                         | ug/L         | EPA 200.8                   | 2/12/14                  | ESTAFFORD1          |
| 7440-23-5    | Na by ICP            | 0.10       | 5.4                          | mg/L         | EPA 200.7                   | 2/12/14                  | ESTAFFORD1          |
| 7440-02-0    | Ni by ICPMS          | 2.0        | 2.0 U                        | ug/L         | EPA 200.8                   | 2/11/14                  | ESTAFFORD1          |
| 7439-92-1    | Pb by ICPMS          | 2.0        | 2.0 U                        | ug/L         | EPA 200.8                   | 2/11/14                  | ESTAFFORD1          |
| 7782-49-2    | Se by ICPMS          | 5.0        | 5.0 U                        | ug/L         | EPA 200.8                   | 2/11/14                  | ESTAFFORD1          |
| 7440-31-5    | Sn by ICPMS          | 10         | 10 U                         | ug/L         | EPA 200.8                   | 2/12/14                  | ESTAFFORD1          |
| 7440-24-6    | Sr by ICPMS          | 10         | 49                           | ug/L         | EPA 200.8                   | 2/12/14                  | ESTAFFORD1          |
| 7440-28-0    | Thallium (Tl) ICPMS  | 2.0        | 2.0 U                        | ug/L         | EPA 200.8                   | 2/12/14                  | ESTAFFORD1          |
| 7440-32-6    | Ti (Titanium) by ICP | 10         | 49                           | ug/L         | EPA 200.7                   | 2/14/14                  | ESTAFFORD1          |
| 7440-62-2    | V by ICP             | 25         | 25 U                         | ug/L         | EPA 200.7                   | 2/14/14                  | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP            | 10         | 10 U                         | ug/L         | EPA 200.7                   | 2/14/14                  | ESTAFFORD1          |

# EMERY/COC

## DIVISION OF WATER RESOURCES Surface Water Fieldsheet

Bottle Tag → Field Blank

1440/1228/10 AC04813  
AC04811  
AC04812  
AC04813  
AC04814  
AC04815

COUNTY: Rockingham  
RIVER BASIN: Roanoke  
REPORT TO: Winston-Salem Regional Office  
Other: \_\_\_\_\_  
COLLECTOR(S): ESM/CD/TP/DB

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

VISIT ID  
55

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Lab Number: \_\_\_\_\_  
Date Received: 2/7/14  
Time Received: 4:10  
Received By: ML  
Data Released: \_\_\_\_\_  
Date Reported: \_\_\_\_\_

Estimated BOD Range: \_\_\_\_\_ Station Location: DS - VA Line (Downstream at VA Line)  
Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: Dissolved Metals

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd)                     | Time Begin   | Time End               | Depth DM/DB/DBM | Value Type -A/H/L                        | Composite T/S/B | Sample Type |
|-------------------------------|-----------------------|---|--------------|------------------------|-----------------|--|-----------------|-------------|
| 4P079NC0003468 <u>Adm Dam</u> | <u>14/02/10</u>       |   | <u>11:35</u> |                        |                 |  |                 | G           |
| BOD 310                       | mg/L                  | Chloride 940                            | mg/L         | NH3 as N 610           | mg/L            | Li-Lithium 1132                          | ug/L            |             |
| COD High 340                  | mg/L                  |   |              | TKN as N 625           | mg/L            | Mg-Magnesium 927                         | mg/L            |             |
| COD Low 335                   | mg/L                  | Chlorophyll a EPA 445.0 modified option | ug/L         | NO2 plus NO3 as N 630  | mg/L            | Mn-Manganese 1055                        | ug/L            |             |
| Coliform MF Fecal 31616       | /100ml                |   |              | P Total as P 665       | mg/L            | Na-Sodium 929                            | mg/L            |             |
| Coliform MF Total 31504       | /100ml                | Color True 80                           | c.u.         | PO4 as P 70507         | mg/L            | Arsenic Total 1002                       | ug/L            |             |
| Coliform tube Fecal 31615     | /100ml                | Color (pH) 83 pH=                       | c.u.         | P Dissolved as P 666   | mg/L            | Se-Selenium 1147                         | ug/L            |             |
| Coliform Fecal Strep 31673    | /100ml                | Color pH 7.6-82                         | c.u.         | K Potassium            | mg/L            | Hg-Mercury 71900                         | ug/L            |             |
| Residue Total 500             | mg/L                  | Cyanide 720                             | mg/L         | Cd-Cadmium 1027        | ug/L            | Ba-Barium                                | ug/L            |             |
| Volatile 505                  | mg/L                  | Fluoride 951                            | mg/L         | Cr-Chromium Total 1034 | ug/L            | Organochlorine Pesticides                |                 |             |
| Fixed 510                     | mg/L                  | Formaldehyde 71880                      | mg/L         | Cu-Copper 1042         | ug/L            | Organophosphorus Pesticides              |                 |             |
| Residue Suspended 530         | mg/L                  | Grease and Oils 556                     | mg/L         | Ni-Nickel 1067         | ug/L            | Organonitrogen Pesticides                |                 |             |
| Volatile 535                  | mg/L                  | Hardness Total 900                      | mg/L         | Pb-Lead 1051           | ug/L            | Acid Herbicides                          |                 |             |
| Fixed 540                     | mg/L                  | Specific Cond. 95                       | umhos/cm     | Zn-Zinc 1092           | ug/L            |  |                 |             |
| pH 403                        | units                 | MBAS 38260                              | mg/L         | V-Vanadium             | ug/L            | Base/Neutral & Acid Extractable Organics |                 |             |
| Acidity to pH 4.5:436         | mg/L                  | Phenols 32730                           | ug/L         | Ag-Silver 1077         | ug/L            | TPH Diesel Range                         |                 |             |
| Acidity to pH 8.3:435         | mg/L                  | Sulfate 945                             | mg/L         | Al-Aluminum 1105       | ug/L            | Purgeable Organics (VOA bottle req'd)    |                 |             |
| Alkalinity to pH 8.3:415      | mg/L                  | Sulfide 745                             | mg/L         | Bc-Beryllium 1012      | ug/L            | TPH Gasoline Range                       |                 |             |
| Alkalinity to pH 4.5:410      | mg/L                  | Boron                                   | ug/L         | Ca-Calcium 916         | mg/L            | TPH/BTEX Gasoline Range                  |                 |             |
| TOC 680                       | mg/L                  | Tannin & Lignin                         | ug/L         | Co-Cobalt 1037         | ug/L            | Phytoplankton                            |                 |             |
| Turbidity 76                  | NTU                   | Hexavalent Chromium                     | ug/L         | Fe-Iron 1045           | ug/L            |  |                 |             |
| Coliform Total/Tube           | /100 ml               | Bicarbonate                             | mg/L         | Mo-Molybdenum          | ug/L            |  |                 |             |
|                               |                       | Carbonate                               | mg/L         | Sb-Antimony            | ug/L            |  |                 |             |
|                               |                       | Total Dissolved Solids                  | mg/L         | Sn-Tin                 | ug/L            |  |                 |             |
|                               |                       |   |              | Tl-Thallium            | ug/L            |  |                 |             |
|                               |                       |   |              | Ti-Titanium            | ug/L            |  |                 |             |
|                               |                       |   |              | Hg-1631                | ng/L            |  |                 |             |

COMMENTS: \_\_\_\_\_



# NC DWO Laboratory Section Results

County: **ROCKINGHAM**  
 River Basin: **ROA01**  
 Report To: **WSROSP**  
 Collector: **J CARTER**  
 Region: **WSRO**  
 Sample Matrix: **SURFACE WATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No: **Yes**  
 COC Yes/No: **Yes**



Sample ID: **AC04813**  
 PO Number #: **14W12287**  
 Date Received: **02/07/2014**  
 Time Received: **14:19**  
 Labworks LoginID: **MSWIFT**  
 Final Report Date: **3/17/14**  
 Report Print Date: **03/17/2014**

## Final Report

VisitID

Loc. Descr.: **DS-VA Line (Downstream at VA Line)**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/07/2014</b> | Collect Time: <b>11:35</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.0</b>           | °C    |                     | 2/7/14           | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7440-41-7  | Be-Beryllium Dissolved by ICP        | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>6.9</b>           | mg/L  | EPA 200.7           | 2/12/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>60</b>            | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.4</b>           | mg/L  | EPA 200.7           | 2/12/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.6</b>           | mg/L  | EPA 200.7           | 2/12/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>5.0</b>           | mg/L  | EPA 200.7           | 2/12/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7440-22-4  | Ag-Dissolved Silver by ICPMS         | 1.0  | <b>1.0 U</b>         | ug/L  | EPA 200.8           | 2/11/14          | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>94</b>            | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>20</b>            | ug/L  | EPA 200.7           | 2/12/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt Dissolved by ICP              | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1 Dissolved                   | 0.2  | <b>0.20 U</b>        | ug/L  | EPA 245.1           | 2/11/14          | ESTAFFORD1   |
| 7439-93-2  | Li DISSOLVED ICP                     | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7439-98-7  | Mo Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/12/14          | ESTAFFORD1   |
| 7440-36-0  | Sb Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/12/14          | ESTAFFORD1   |
| 7440-31-5  | Sn Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/12/14          | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>42</b>            | ug/L  | EPA 200.8           | 2/12/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/12/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/14/14          | ESTAFFORD1   |

Laboratory Section>> 1623 Mail Service Center, Raleigh, NC 27699-1623 (919) 733-3908

For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>

# EMERY/COC

## DIVISION OF WATER RESOURCES Surface Water Fieldsheet

Bottle Tag → Field Blank

1440122816 AC04813  
AC04811 97114

COUNTY: Rockingham  
RIVER BASIN: Roanoke  
REPORT TO: Winston-Salem Regional Office  
Other COLLECTOR(S): Reservoir/pond

PRIORITY  
 AMBIENT  OA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

VISIT ID  
5

Lab Number: 27074  
Date Received: 14/03/13  
Time Received: 14:00  
Received By: [Signature]  
Data Released:  
Date Reported:

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA Line)

Seed: \_\_\_\_\_

Chlorinated: \_\_\_\_\_

Remarks: Dissolved Metals

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd)                     | Time Begin   | Time End                                      | Depth DM, DB, DBM | Value Type - A, H, L                     | Composite T, S, B | Sample Type (G) |
|-------------------------------|-----------------------|---|--------------|---|-------------------|--|-------------------|-----------------|
| 4P079NC0003468 <u>Adh Dam</u> | <u>14/03/13</u>       |   | <u>11:35</u> |   |                   |  |                   |                 |
| BOD 310                       | mg/L                  | Chloride 940                            | mg/L         | NH <sub>3</sub> as N 610                      | mg/L              | Li-Lithium 1132                          | ug/L              |                 |
| COD High 340                  | mg/L                  |   |              | TKN as N 625                                  | mg/L              | Mg-Magnesium 927                         | mg/L              |                 |
| COD Low 335                   | mg/L                  | Chlorophyll a EPA 445.0 modified option | ug/L         | NO <sub>2</sub> plus NO <sub>3</sub> as N 630 | mg/L              | Mn-Manganese 1055                        | ug/L              |                 |
| Coliform MF Fecal 31616       | /100ml                |   |              | P Total as P 665                              | mg/L              | Na-Sodium 929                            | mg/L              |                 |
| Coliform MF Total 31504       | /100ml                | Color True 80                           | c.u.         | PO <sub>4</sub> as P 70507                    | mg/L              | Arsenic Total 1002                       | ug/L              |                 |
| Coliform Tube Fecal 31615     | /100ml                | Color pH 7.6-82                         | c.u.         | P Dissolved as P 666                          | mg/L              | Se-Selenium 1147                         | ug/L              |                 |
| Coliform Fecal Strep 31673    | /100ml                | Cyanide 720                             | mg/L         | K Potassium                                   | mg/L              | Hg-Mercury 71900                         | ug/L              |                 |
| Residue Total 500             | mg/L                  | Fluoride 951                            | mg/L         | Cd-Cadmium 1027                               | ug/L              | Ba-Barium                                | ug/L              |                 |
| Volatile 505                  | mg/L                  | Formaldehyde 71880                      | mg/L         | Cr-Chromium Total 1034                        | ug/L              | Organochlorine Pesticides                |                   |                 |
| Fixed 510                     | mg/L                  | Grease and Oils 556                     | mg/L         | Cu-Copper 1042                                | ug/L              | Organophosphorus Pesticides              |                   |                 |
| Residue Suspended 530         | mg/L                  | Hardness Total 900                      | mg/L         | Ni-Nickel 1067                                | ug/L              | Organonitrogen Pesticides                |                   |                 |
| Volatile 535                  | mg/L                  | Specific Cond. 95                       | umhos/cm     | Pb-Lead 1051                                  | ug/L              | Acid Herbicides                          |                   |                 |
| Fixed 540                     | mg/L                  | MBAS 38260                              | mg/L         | Zn-Zinc 1092                                  | ug/L              |  |                   |                 |
| pH 403                        | units                 | Phenols 32730                           | ug/L         | V-Vanadium                                    | ug/L              | Base/Neutral & Acid Extractable Organics |                   |                 |
| Acidity to pH 4.5:436         | mg/L                  | Sulfate 945                             | mg/L         | Ag-Silver 1077                                | ug/L              | TPH Diesel Range                         |                   |                 |
| Acidity to pH 8.3:435         | mg/L                  | Sulfide 745                             | mg/L         | Al-Aluminum 1105                              | ug/L              |  |                   |                 |
| Alkalinity to pH 8.3:415      | mg/L                  | Boron                                   |              | Be-Beryllium 1012                             | ug/L              | Purgeable Organics (VOA bottle req'd)    |                   |                 |
| Alkalinity to pH 4.5:410      | mg/L                  | Tannin & Lignin                         | ug/L         | Ca-Calcium 916                                | mg/L              | TPH Gasoline Range                       |                   |                 |
| TOC 680                       | mg/L                  | Hexavalent Chromium                     | ug/L         | Co-Cobalt 1037                                | ug/L              | TPH/BTEX Gasoline Range                  |                   |                 |
| Turbidity 76                  | NTU                   | Bicarbonate                             | mg/L         | Fe-Iron 1045                                  | ug/L              | Phytoplankton                            |                   |                 |
| Coliform Total Tube           | /100 ml               | Carbonate                               | mg/L         | Mo-Molybdenum                                 | ug/L              |  |                   |                 |
|                               |                       | Total Dissolved Solids                  | mg/L         | Sb-Antimony                                   | ug/L              |  |                   |                 |
|                               |                       |   |              | Sn-Tin  | ug/L              |  |                   |                 |
|                               |                       |   |              | Tl-Thallium                                   | ug/L              |  |                   |                 |
|                               |                       |   |              | Ti-Titanium                                   | ug/L              |  |                   |                 |
|                               |                       |   |              | Hg-1631                                       | ng/L              |  |                   |                 |

COMMENTS:

# EMER/COC

DIVISION OF WATER RESOURCES

## Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : Sunder / Carter

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

VISIT ID  
 5

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : AC04818  
 Date Received : 2-7-14  
 Time Received : 14:30  
 Received By : MR  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA Line)

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: 481 Hg 56 58

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/02/07              |                     | 11:25      |          |                     |                      |                   | G           |

|                             |         |   |          |                         |      |  |      |
|-----------------------------|---------|---|----------|-------------------------|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610            | mg/L | Li-Lithium 1132                        | ug/L |
| COD High 340                | mg/L    |   |          | TKN an N 625            | mg/L | Mg- Magnesium 927                      | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630   | mg/L | Mn-Manganese 1055                      | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665       | mg/L | Na- Sodium 929                         | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507          | mg/L | Arsenic: Total 1002                    | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: pH ) 83 pH=                      | c.u.     | P: Dissolved as P 666   | mg/L | Se- Selenium 1147                      | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | K-Potassium             | mg/L | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | Cd- Cadmium 1027        | ug/L | Ba-Barium                              | ug/L |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | Cu- Copper 1042         | ug/L | Organophosphorus Pesticides            |      |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | Ni-Nickel 1067          | ug/L | Organonitrogen Pesticides              |      |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | Pb- Lead 1051           | ug/L | Acid Herbicides                        |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | Zn- Zinc 1092           | ug/L |  |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | V-Vanadium              | ug/L | Base/Neutral&Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077         | ug/L | TPH Diesel Range                       |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | Al- Aluminum 1105       | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012      | ug/L | Purgeable Organics (VOA bottle req'd)  |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | Ca- Calcium 916         | mg/L | TPH Gasoline Range                     |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037         | ug/L | TPH/BTEX Gasoline Range                |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | Fe- Iron 1045           | ug/L | Phytoplankton                          |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo-Molybdenum           | ug/L |  |      |
|                             |         | Carbonate                               | mg/L     | Sb-Antimony             | ug/L |  |      |
|                             |         | Total Dissolved Solids                  | mg/L     | Sn-Tin                  | ug/L |  |      |
|                             |         |   |          | Tl-Thallium             | ug/L |  |      |
|                             |         |   |          | Ti-Titanium             | ug/L |  |      |
|                             |         |   |          | Hg-1631                 | ng/L | Temperature on arrival (°C):           |      |

COMMENTS :

County: **ROCKINGHAM**  
 River Basin: **ROA01**  
 Report To: **WSROSP**  
 Collector: **J CARTER**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No Yes  
 COC Yes/No Yes



Sample ID: **AC04818**  
 PO Number #: **14W12292**  
 Date Received: **02/07/2014**  
 Time Received: **14:30**  
 Labworks LoginID: **MSWIFT**  
 Final Report Date: **2/20/14**  
 Report Print Date: **02/20/2014**

**Final Report**VisitID Loc. Descr.: **DS - VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/07/2014</b> | Collect Time: <b>11:25</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>4.74</b>                  | ng/L         | EPA 1631E                   | 2/19/14                  | ESTAFFORD1          |

# EMER/COX

14W12311

## DIVISION OF WATER RESOURCES

### Surface Water Fieldsheet

COUNTY : Rockingham  
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :  
COLLECTOR(S) : Saideo/Mickey

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID  
6

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY 2

Lab Number: ACD4837  
Date Received: 2-8-14  
Time Received: 13:15  
Received By: mfp  
Date Released:  
Date Reported:

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA line)

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: \_\_\_\_\_

| Station #/Location Code      | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|------------------------------|-----------------------|---------------------|--------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ashdan</u> | <u>14/02/08</u>       |                     | <u>10:28</u> |          |                     |                      |                   | G           |

|  |         |  |          |   |      |   |      |
|--|---------|--|----------|---|------|---|------|
| <input checked="" type="checkbox"/> BOD 310                | mg/L    | <input checked="" type="checkbox"/> Chloride 940                 | mg/L     | <input checked="" type="checkbox"/> NH3 as N 610            | mg/L | <input checked="" type="checkbox"/> Li-Lithium 1132             | ug/L |
| <input type="checkbox"/> COD High 340                      | mg/L    | <input type="checkbox"/>   |          | <input checked="" type="checkbox"/> TKN an N 625            | mg/L | <input checked="" type="checkbox"/> Mg- Magnesium 927           | mg/L |
| <input type="checkbox"/> COD Low 335                       | mg/L    | <input type="checkbox"/> Chlorophyll a EPA 445.0 modified option | ug/L     | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630   | mg/L | <input checked="" type="checkbox"/> Mn-Manganese 1055           | ug/L |
| <input type="checkbox"/> Coliform: MF Fecal 31616          | /100ml  | <input type="checkbox"/>   |          | <input checked="" type="checkbox"/> P: Total as P 665       | mg/L | <input checked="" type="checkbox"/> Na- Sodium 929              | mg/L |
| <input type="checkbox"/> Coliform: MF Total 31504          | /100ml  | <input type="checkbox"/> Color: True 80                          | c.u.     | <input checked="" type="checkbox"/> PO4 as P 70507          | mg/L | <input checked="" type="checkbox"/> Arsenic: Total 1002         | ug/L |
| <input type="checkbox"/> Coliform: tube Fecal 31615        | /100ml  | <input type="checkbox"/> Color: (pH ) 83 pH=                     | c.u.     | <input checked="" type="checkbox"/> P: Dissolved as P 666   | mg/L | <input checked="" type="checkbox"/> Se- Selenium 1147           | ug/L |
| <input type="checkbox"/> Coliform: Fecal Strep 31673       | /100ml  | <input type="checkbox"/> Color: pH 7.6 82                        | c.u.     | <input checked="" type="checkbox"/> K- Potassium            | mg/L | <input checked="" type="checkbox"/> Hg- Mercury 71900           | ug/L |
| <input checked="" type="checkbox"/> Residue: Total 500     | mg/L    | <input type="checkbox"/> Cyanide 720                             | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L | <input type="checkbox"/> Ba-Barium                              | ug/L |
| <input type="checkbox"/> Volatile 505                      | mg/L    | <input checked="" type="checkbox"/> Fluoride 951                 | mg/L     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L | <input type="checkbox"/> Organochlorine Pesticides              |      |
| <input type="checkbox"/> Fixed 510                         | mg/L    | <input type="checkbox"/> Formaldehyde 71880                      | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L | <input type="checkbox"/> Organophosphorus Pesticides            |      |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L    | <input type="checkbox"/> Grease and Oils 556                     | mg/L     | <input checked="" type="checkbox"/> Ni-Nickel 1067          | ug/L | <input type="checkbox"/> Organonitrogen Pesticides              |      |
| <input type="checkbox"/> Volatile 535                      | mg/L    | <input type="checkbox"/> Hardness Total 900                      | mg/L     | <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L | <input type="checkbox"/> Acid Herbicides                        |      |
| <input type="checkbox"/> Fixed 540                         | mg/L    | <input type="checkbox"/> Specific Cond. 95                       | umhos/cm | <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L | <input type="checkbox"/>  |      |
| <input type="checkbox"/> pH 403                            | units   | <input type="checkbox"/> MBAS 38260                              | mg/L     | <input type="checkbox"/> V-Vanadium                         | ug/L | <input type="checkbox"/> Base/Neutral&Acid Extractable Organics |      |
| <input type="checkbox"/> Acidity to pH 4.5 436             | mg/L    | <input type="checkbox"/> Phenols 32730                           | ug/L     | <input type="checkbox"/> Ag- Silver 1077                    | ug/L | <input type="checkbox"/> TPH Diesel Range                       |      |
| <input type="checkbox"/> Acidity to pH 8.3 435             | mg/L    | <input checked="" type="checkbox"/> Sulfate 945                  | mg/L     | <input checked="" type="checkbox"/> Al- Aluminum 1105       | ug/L | <input type="checkbox"/>  |      |
| <input type="checkbox"/> Alkalinity to pH 8.3 415          | mg/L    | <input type="checkbox"/> Sulfide 745                             | mg/L     | <input checked="" type="checkbox"/> Be- Beryllium 1012      | ug/L | <input type="checkbox"/> Purgeable Organics (VOA bottle req'd)  |      |
| <input type="checkbox"/> Alkalinity to pH 4.5 410          | mg/L    | <input type="checkbox"/> Boron                                   |          | <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L | <input type="checkbox"/> TPH Gasoline Range                     |      |
| <input type="checkbox"/> TOC 680                           | mg/L    | <input type="checkbox"/> Tannin & Lignin                         | ug/L     | <input type="checkbox"/> Co- Cobalt 1037                    | ug/L | <input type="checkbox"/> TPH/BTEX Gasoline Range                |      |
| <input checked="" type="checkbox"/> Turbidity 76           | NTU     | <input type="checkbox"/> Hexavalent Chromium                     | ug/L     | <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L | <input type="checkbox"/> Phytoplankton                          |      |
| <input type="checkbox"/> Coliform Total Tube               | /100 ml | <input type="checkbox"/> Bicarbonate                             | mg/L     | <input type="checkbox"/> Mo-Molybdenum                      | ug/L | <input type="checkbox"/>  |      |
| <input type="checkbox"/>                                   |         | <input type="checkbox"/> Carbonate                               | mg/L     | <input type="checkbox"/> Sb-Antimony                        | ug/L | <input type="checkbox"/>  |      |
| <input type="checkbox"/>                                   |         | <input type="checkbox"/> Total Dissolved Solids                  | mg/L     | <input type="checkbox"/> Sn-Tin                             | ug/L | <input type="checkbox"/>  |      |
| <input type="checkbox"/>                                   |         | <input type="checkbox"/>   |          | <input type="checkbox"/> Tl-Thallium                        | ug/L | <input type="checkbox"/>  |      |
| <input type="checkbox"/>                                   |         | <input type="checkbox"/>   |          | <input type="checkbox"/> Ti-Titanium                        | ug/L | <input type="checkbox"/>  |      |
| <input type="checkbox"/>                                   |         | <input type="checkbox"/>   |          | <input type="checkbox"/> Hg-1631                            | ng/L | <input type="checkbox"/>  |      |
| <input type="checkbox"/>                                   |         | <input type="checkbox"/>   |          |   |      | Temperature on arrival (°C): <u>3.6</u>                         |      |

COMMENTS: \_\_\_\_\_

|                   |                     |  |                   |
|-------------------|---------------------|--|-------------------|
| County:           | <b>ROCKINGHAM</b>   | Sample ID:                             | <b>AC04837</b>    |
| River Basin:      | <b>ROA01</b>        | PO Number #:                           | <b>14W12311</b>   |
| Report To:        | <b>WSROSP</b>       | Date Received:                         | <b>02/08/2014</b> |
| Collector:        | <b>M MICKEY</b>     | Time Received:                         | <b>13:15</b>      |
| Region:           | <b>WSRO</b>         | Labworks LoginID:                      | <b>MSWIFT</b>     |
| Sample Matrix:    | <b>SURFACEWATER</b> | Final Report Date:                     | <b>2/25/14</b>    |
| Loc. Type:        | <b>STREAM</b>       | Report Print Date:                     | <b>02/26/2014</b> |
| Emergency Yes/No: | <u>Yes</u>          | VisitID <input type="text" value="6"/> |                   |
| COC Yes/No:       | <u>Yes</u>          | Loc. Descr.: <b>DS-VA LINE</b>         |                   |

|              |                             |               |                   |               |              |               |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|
| Location ID: | <b>4P079NC0003468ASHDAN</b> | Collect Date: | <b>02/08/2014</b> | Collect Time: | <b>10:28</b> | Sample Depth: |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units     | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-----------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |           |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>3.6</b>           | °C        |                     | 2/8/14           | TASCENZO     |
| <b>MIC</b> |                                      |      |                      |           |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>12</b>            | NTU       | APHA2130B-20th      | 2/10/14          | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |           |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>84</b>            | mg/L      | SM 2540 B-1997      | 2/10/14          | CGREEN       |
|            | Residue_Suspended in liquid          | 6.2  | <b>17</b>            | mg/L      | SM 2540 D-1997      | 2/10/14          | CGREEN       |
|            | Ion Chromatography                   |      | <u>TITLE</u>         | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>9.2</b>           | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>5.6</b>           | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
| <b>NUT</b> |                                      |      |                      |           |                     |                  |              |
|            | NH3 as N in liquid                   | 0.02 | <b>0.02</b>          | mg/L as N | EPA 350.1 REV 2     | 2/10/14          | CGREEN       |
|            | Total Kjeldahl N as N in liquid      | 0.2  | <b>0.20</b>          | mg/L as N | EPA 351.2 REV 2     | 2/11/14          | CGREEN       |
|            | NO2+NO3 as N in liquid               | 0.02 | <b>0.30</b>          | mg/L as N | EPA 353.2 REV 2     | 2/10/14          | CGREEN       |
|            | Phosphorus_total as P in liquid      | 0.02 | <b>0.04</b>          | mg/L as P | EPA 365.1 REV 2     | 2/10/14          | CGREEN       |
| <b>MET</b> |                                      |      |                      |           |                     |                  |              |
| 7440-22-4  | Ag by ICPMS                          | 1.0  | <b>1.0 U</b>         | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7429-90-5  | Al by ICP                            | 50   | <b>680</b>           | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-36-0  | Antimony by ICPMS                    | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>110</b>           | ug/L      | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>33</b>            | ug/L      | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-41-7  | Be by ICP                            | 5.0  | <b>5.0 U</b>         | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>7.8</b>           | mg/L      | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt by ICP                        | 50   | <b>50 U</b>          | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>1100</b>          | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1                             | 0.2  | <b>0.20 U</b>        | ug/L      | EPA 245.1           | 2/11/14          | ESTAFFORD1   |



*NC DWR Laboratory Section Results*

Location ID: **4P079NC0003468ASHDAN**      Sample ID: **AC04837**      Collect Date: **02/08/2014**      Collect Time: **10:28**

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>  | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|----------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-09-7    | K by ICP             | 0.10       | <b>1.7</b>                   | mg/L         | EPA 200.7                   | 2/17/14                  | ESTAFFORD1          |
| 7439-93-2    | Li ICP               | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |
| 7439-95-4    | Mg by ICP            | 0.10       | <b>3.0</b>                   | mg/L         | EPA 200.7                   | 2/17/14                  | ESTAFFORD1          |
| 7439-96-5    | Mn by ICP            | 10         | <b>28</b>                    | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |
| 7439-98-7    | Mo by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/22/14                  | ESTAFFORD1          |
| 7440-23-5    | Na by ICP            | 0.10       | <b>5.5</b>                   | mg/L         | EPA 200.7                   | 2/17/14                  | ESTAFFORD1          |
| 7440-02-0    | Ni by ICPMS          | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/17/14                  | ESTAFFORD1          |
| 7439-92-1    | Pb by ICPMS          | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/17/14                  | ESTAFFORD1          |
| 7782-49-2    | Se by ICPMS          | 5.0        | <b>5.0 U</b>                 | ug/L         | EPA 200.8                   | 2/17/14                  | ESTAFFORD1          |
| 7440-31-5    | Sn by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/22/14                  | ESTAFFORD1          |
| 7440-24-6    | Sr by ICPMS          | 10         | <b>47</b>                    | ug/L         | EPA 200.8                   | 2/22/14                  | ESTAFFORD1          |
| 7440-28-0    | Thallium (Tl) ICPMS  | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/22/14                  | ESTAFFORD1          |
| 7440-32-6    | Ti (Titanium) by ICP | 10         | <b>40</b>                    | ug/L         | EPA 200.7                   | 2/20/14                  | ESTAFFORD1          |
| 7440-62-2    | V by ICP             | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP            | 10         | <b>10</b>                    | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |



# EMER/COC

14W12312

## DIVISION OF WATER RESOURCES

### Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : Snyder/Midway

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID  
6

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY 2

Lab Number ACD4838  
 Date Received : 2-8-14  
 Time Received : 13:15  
 Received By : mfp  
 Data Released :  
 Date Reported :

Estimated BOD Range: \_\_\_\_\_ Station Location: DS - VA Line (Downstream at VA Line)  
 Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: Dissolved Metals

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------------|-----------------------|---------------------|--------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ash Dan</u> | <u>14/02/38</u>       |                     | <u>10:08</u> |          |                     |                      |                   | G           |

|                                    |  |   |  |
|------------------------------------|--|---|--|
| BOD 310 mg/L                       | Chloride 940 mg/L                            | NH3 as N 610 mg/L   | Li-Lithium 1132 ug/L   |
| COD High 340 mg/L                  |  | TKN an N 625 mg/L   | <input checked="" type="checkbox"/> Mg- Magnesium 927 mg/L   |
| COD Low 335 mg/L                   | Chlorophyll a EPA 445.0 modified option ug/L | NO2 plus NO3 as N 630 mg/L  | <input checked="" type="checkbox"/> Mn- Manganese 1055 ug/L  |
| Coliform: MF Fecal 31616 /100ml    |  | P: Total as P 665 mg/L  | <input checked="" type="checkbox"/> Na- Sodium 929 mg/L      |
| Coliform: MF Total 31504 /100ml    | Color: True 80 c.u.                          | PO4 as P 70507 mg/L   | <input checked="" type="checkbox"/> Arsenic: Total 1002 ug/L |
| Coliform: tube Fecal 31615 /100ml  | Color: (pH ) 83 pH= c.u.                     | P: Dissolved as P 666 mg/L  | <input checked="" type="checkbox"/> Se- Selenium 1147 ug/L   |
| Coliform: Fecal Strep 31673 /100ml | Color: pH 7.6 82 c.u.                        | <input checked="" type="checkbox"/> K- Potassium mg/L             | <input checked="" type="checkbox"/> Hg- Mercury 71900 ug/L   |
| Residue: Total 500 mg/L            | Cyanide 720 mg/L                             | <input checked="" type="checkbox"/> Cd- Cadmium 1027 ug/L         | Ba- Barium ug/L  |
| Volatile 505 mg/L                  | Fluoride 951 mg/L                            | <input checked="" type="checkbox"/> Cr- Chromium: Total 1034 ug/L | Organochlorine Pesticides                                    |
| Fixed 510 mg/L                     | Formaldehyde 71880 mg/L                      | <input checked="" type="checkbox"/> Cu- Copper 1042 ug/L          | Organophosphorus Pesticides                                  |
| Residue: Suspended 530 mg/L        | Grease and Oils 556 mg/L                     | <input checked="" type="checkbox"/> Ni- Nickel 1067 ug/L          | Organonitrogen Pesticides                                    |
| Volatile 535 mg/L                  | Hardness Total 900 mg/L                      | <input checked="" type="checkbox"/> Pb- Lead 1051 ug/L            | Acid Herbicides  |
| Fixed 540 mg/L                     | Specific Cond. 95 umhos/cm                   | <input checked="" type="checkbox"/> Zn- Zinc 1092 ug/L            |  |
| pH 403 units                       | MBAS 38260 mg/L                              | V- Vanadium ug/L  | Base/Neutral & Acid Extractable Organics                     |
| Acidity to pH 4.5 436 mg/L         | Phenols 32730 ug/L                           | Ag- Silver 1077 ug/L  | TPH Diesel Range   |
| Acidity to pH 8.3 435 mg/L         | Sulfate 945 mg/L                             | Al- Aluminum 1105 ug/L  |  |
| Alkalinity to pH 8.3 415 mg/L      | Sulfide 745 mg/L                             | Be- Beryllium 1012 ug/L   | Purgeable Organics (VOA bottle req'd)                        |
| Alkalinity to pH 4.5 410 mg/L      | Boron  | Ca- Calcium 916 mg/L  | TPH Gasoline Range   |
| TOC 680 mg/L                       | Tannin & Lignin ug/L                         | Co- Cobalt 1037 ug/L  | TPH/BTEX Gasoline Range                                      |
| Turbidity 76 NTU                   | Hexavalent Chromium ug/L                     | Fe- Iron 1045 ug/L  | Phytoplankton  |
| Coliform Total Tube /100 ml        | Bicarbonate mg/L                             | Mo- Molybdenum ug/L   |  |
|                                    | Carbonate mg/L                               | Sb- Antimony ug/L   |  |
|                                    | Total Dissolved Solids mg/L                  | Sn- Tin ug/L  |  |
|                                    |  | Tl- Thallium ug/L   |  |
|                                    |  | Ti- Titanium ug/L   |  |
|                                    |  | Hg-1631 ng/L  | Temperature on arrival (°C): <u>3.6</u>                      |

COMMENTS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

|                   |                     |                    |                                |
|-------------------|---------------------|--------------------|--------------------------------|
| County:           | <b>ROCKINGHAM</b>   | Sample ID:         | <b>AC04838</b>                 |
| River Basin:      | <b>ROA01</b>        | PO Number #:       | <b>14W12312</b>                |
| Report To:        | <b>WSROSP</b>       | Date Received:     | <b>02/08/2014</b>              |
| Collector:        | <b>M MICKEY</b>     | Time Received:     | <b>13:15</b>                   |
| Region:           | <b>WSRO</b>         | Labworks LoginID:  | <b>MSWIFT</b>                  |
| Sample Matrix:    | <b>SURFACEWATER</b> | Final Report Date: | <b>2/25/14</b>                 |
| Loc. Type:        | <b>STREAM</b>       | Report Print Date: | <b>02/26/2014</b>              |
| Emergency Yes/No: | <u>Yes</u>          | VisitID:           | <input type="text" value="6"/> |
| COC Yes/No:       | <u>Yes</u>          |                    |                                |

**Final Report**

Loc. Descr.: **DS-VA LINE**

|              |                             |               |                   |               |              |               |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|
| Location ID: | <b>4P079NC0003468ASHDAN</b> | Collect Date: | <b>02/08/2014</b> | Collect Time: | <b>10:28</b> | Sample Depth: |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>3.6</b>           | °C    |                     | 2/8/14           | TASCENZO     |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-41-7  | Be-Beryllium Dissolved by ICP        | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>7.2</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>92</b>            | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.5</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.7</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>10</b>            | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>5.2</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-22-4  | Ag-Dissolved Silver by ICPMS         | 1.0  | <b>1.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>98</b>            | ug/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>21</b>            | ug/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt Dissolved by ICP              | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1 Dissolved                   | 0.2  | <b>0.20 U</b>        | ug/L  | EPA 245.1           | 2/11/14          | ESTAFFORD1   |
| 7439-93-2  | Li DISSOLVED ICP                     | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-98-7  | Mo Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-36-0  | Sb Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-31-5  | Sn Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
|            | Strontium Dissolved by ICPMS         | 10   | <b>45</b>            | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC04838 Collect Date: 02/08/2014 Collect Time: 10:28

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>      | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|--------------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-66-6    | Zn-Dissolved Zinc by ICP | 10         | 10 U                         | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :  
 COLLECTOR(S) : Snider/Mickey

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

VISIT ID

6

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : AC04847  
 Date Received : 2-5-14  
 Time Received : 1400  
 Received By : MLH  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Seed: \_\_\_\_\_

Chlorinated: \_\_\_\_\_

Station Location: DS - VA Line (Downstream at VA line)

Remarks: 4B1H<sub>g</sub> 74

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/02/08              |                     | 1026       |          |                     |                      |                   | G           |

|                             |         |   |          |                         |      |  |      |
|-----------------------------|---------|---|----------|-------------------------|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610            | mg/L | Li-Lithium 1132                        | ug/L |
| COD High 340                | mg/L    |   |          | TKN an N 625            | mg/L | Mg- Magnesium 927                      | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630   | mg/L | Mn-Manganese 1055                      | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665       | mg/L | Na- Sodium 929                         | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507          | mg/L | Arsenic: Total 1002                    | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH) 83 pH=                      | c.u.     | P: Dissolved as P 666   | mg/L | Se- Selenium 1147                      | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | K-Potassium             | mg/L | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | Cd- Cadmium 1027        | ug/L | Ba-Barium                              | ug/L |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | Cu- Copper 1042         | ug/L | Organophosphorus Pesticides            |      |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | Ni-Nickel 1067          | ug/L | Organonitrogen Pesticides              |      |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | Pb- Lead 1051           | ug/L | Acid Herbicides                        |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | Zn- Zinc 1092           | ug/L |  |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | V-Vanadium              | ug/L | Base/Neutral&Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077         | ug/L | TPH Diesel Range                       |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | Al- Aluminum 1105       | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012      | ug/L | Purgeable Organics (VOA bottle req'd)  |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | Ca- Calcium 916         | mg/L | TPH Gasoline Range                     |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037         | ug/L | TPH/BTEX Gasoline Range                |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | Fe- Iron 1045           | ug/L | Phytoplankton                          |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo-Molybdenum           | ug/L |  |      |
|                             |         | Carbonate                               | mg/L     | Sb-Antimony             | ug/L |  |      |
|                             |         | Total Dissolved Solids                  | mg/L     | Sn-Tin                  | ug/L |  |      |
|                             |         |   |          | Tl-Thallium             | ug/L |  |      |
|                             |         |   |          | Ti-Titanium             | ug/L |  |      |
|                             |         |   |          | Hg-1631                 | ng/L | Temperature on arrival (°C):           |      |

COMMENTS : 7 EOLH<sub>g</sub> 12

County: **ROCKINGHAM**  
 River Basin: **ROA01**  
 Report To: **WSROSP**  
 Collector: **M MICKEY**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No Yes  
 COC Yes/No Yes



Sample ID: **AC04847**  
 PO Number #: **14W12321**  
 Date Received: **02/08/2014**  
 Time Received: **14:00**  
 Labworks LoginID: **MSWIFT**  
 Final Report Date: **2/20/14**  
 Report Print Date: **02/20/2014**

**Final Report**VisitID Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/08/2014</b> | Collect Time: <b>10:20</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>3.14</b>                  | ng/L         | EPA 1631E                   | 2/19/14                  | ESTAFFORD1          |

EMUL / COC

14w 123 28 28

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID 7

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY 2

Other :  
 COLLECTOR(S) : OTUEC300/SKNIWPT


Lab Number : AL04854  
 Date Received : 2-9-2011  
 Time Received : 1433  
 Received By : TA  
 Date Released :  
 Date Reported :

Estimated BOD Range: \_\_\_\_\_ Station Location: DS - VA Line (Downstream at VA line)  
 Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type G |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|---------------|
| 4P079NC0003468 Ashdan   | 14/2/11               |                     | 11:55      |          |                     |                      |                   |               |

|  |         |  |          |   |      |   |      |
|--|---------|--|----------|---|------|---|------|
| <input checked="" type="checkbox"/> BOD 310                | mg/L    | <input checked="" type="checkbox"/> Chloride 940                 | mg/L     | <input checked="" type="checkbox"/> NH3 as N 610            | mg/L | <input checked="" type="checkbox"/> Li-Lithium 1132               | ug/L |
| <input type="checkbox"/> COD High 340                      | mg/L    | <input type="checkbox"/>   |          | <input checked="" type="checkbox"/> TKN an N 625            | mg/L | <input checked="" type="checkbox"/> Mg- Magnesium 927             | mg/L |
| <input type="checkbox"/> COD Low 335                       | mg/L    | <input type="checkbox"/> Chlorophyll a EPA 445.0 modified option | ug/L     | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630   | mg/L | <input checked="" type="checkbox"/> Mn-Manganese 1055             | ug/L |
| <input type="checkbox"/> Coliform: MF Fecal 31616          | /100ml  | <input type="checkbox"/>   |          | <input checked="" type="checkbox"/> P: Total as P 665       | mg/L | <input checked="" type="checkbox"/> Na- Sodium 929                | mg/L |
| <input type="checkbox"/> Coliform: MF Total 31504          | /100ml  | <input type="checkbox"/> Color: True 80                          | c.u.     | <input type="checkbox"/> PO4 as P 70507                     | mg/L | <input checked="" type="checkbox"/> Arsenic: Total 1002           | ug/L |
| <input type="checkbox"/> Coliform: tube Fecal 31615        | /100ml  | <input type="checkbox"/> Color: pH ) 83 pH=                      | c.u.     | <input type="checkbox"/> P: Dissolved as P 666              | mg/L | <input checked="" type="checkbox"/> Se- Selenium 1147             | ug/L |
| <input type="checkbox"/> Coliform: Fecal Strep 31673       | /100ml  | <input type="checkbox"/> Color: pH 7.6 82                        | c.u.     | <input checked="" type="checkbox"/> K- Potassium            | mg/L | <input type="checkbox"/> Hg- Mercury 71900                        | ug/L |
| <input checked="" type="checkbox"/> Residue: Total 500     | mg/L    | <input type="checkbox"/> Cyanide 720                             | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L | <input type="checkbox"/> Ba-Barium                                | ug/L |
| <input type="checkbox"/> Volatile 505                      | mg/L    | <input checked="" type="checkbox"/> Fluoride 951                 | mg/L     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L | <input type="checkbox"/> Organochlorine Pesticides                |      |
| <input type="checkbox"/> Fixed 510                         | mg/L    | <input type="checkbox"/> Formaldehyde 71880                      | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L | <input type="checkbox"/> Organophosphorus Pesticides              |      |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L    | <input type="checkbox"/> Grease and Oils 556                     | mg/L     | <input checked="" type="checkbox"/> Ni-Nickel 1067          | ug/L | <input type="checkbox"/> Organonitrogen Pesticides                |      |
| <input type="checkbox"/> Volatile 535                      | mg/L    | <input type="checkbox"/> Hardness Total 900                      | mg/L     | <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L | <input type="checkbox"/> Acid Herbicides                          |      |
| <input type="checkbox"/> Fixed 540                         | mg/L    | <input type="checkbox"/> Specific Cond. 95                       | umhos/cm | <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L |   |      |
| <input type="checkbox"/> pH 403                            | units   | <input type="checkbox"/> MBAS 38260                              | mg/L     | <input type="checkbox"/> V-Vanadium                         | ug/L | <input type="checkbox"/> Base/Neutral & Acid Extractable Organics |      |
| <input type="checkbox"/> Acidity to pH 4.5 436             | mg/L    | <input type="checkbox"/> Phenols 32730                           | ug/L     | <input type="checkbox"/> Ag- Silver 1077                    | ug/L | <input type="checkbox"/> TPH Diesel Range                         |      |
| <input type="checkbox"/> Acidity to pH 8.3 435             | mg/L    | <input type="checkbox"/> Sulfate 945                             | mg/L     | <input type="checkbox"/> Al- Aluminum 1105                  | ug/L |   |      |
| <input type="checkbox"/> Alkalinity to pH 8.3 415          | mg/L    | <input checked="" type="checkbox"/> Sulfide 745                  | mg/L     | <input type="checkbox"/> Be- Beryllium 1012                 | ug/L | <input type="checkbox"/> Purgeable Organics (VOA bottle req'd)    |      |
| <input type="checkbox"/> Alkalinity to pH 4.5 410          | mg/L    | <input type="checkbox"/> Boron                                   |          | <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L | <input type="checkbox"/> TPH Gasoline Range                       |      |
| <input type="checkbox"/> TOC 680                           | mg/L    | <input type="checkbox"/> Tannin & Lignin                         | ug/L     | <input type="checkbox"/> Co- Cobalt 1037                    | ug/L | <input type="checkbox"/> TPH/BTEX Gasoline Range                  |      |
| <input checked="" type="checkbox"/> Turbidity 76           | NTU     | <input type="checkbox"/> Hexavalent Chromium                     | ug/L     | <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L | <input type="checkbox"/> Phytoplankton                            |      |
| <input type="checkbox"/> Coliform Total Tube               | /100 ml | <input type="checkbox"/> Bicarbonate                             | mg/L     | <input type="checkbox"/> Mo-Molybdenum                      | ug/L |   |      |
|  |         | <input type="checkbox"/> Carbonate                               | mg/L     | <input type="checkbox"/> Sb-Antimony                        | ug/L |   |      |
|  |         | <input type="checkbox"/> Total Dissolved Solids                  | mg/L     | <input type="checkbox"/> Sn-Tin                             | ug/L |   |      |
|  |         |  |          | <input type="checkbox"/> Tl-Thallium                        | ug/L |   |      |
|  |         |  |          | <input type="checkbox"/> Ti-Titanium                        | ug/L |   |      |
|  |         |  |          | <input type="checkbox"/> Hg-1631                            | ng/L |   |      |
|  |         |  |          |   |      | Temperature on arrival (°C): <u>0.8</u>                           |      |

COMMENTS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

|  |                     |  |                                 |                                |
|--|---------------------|--|---------------------------------|--------------------------------|
| County:                                  | <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID:                      | <b>AC04854</b>                 |
| River Basin:                             | <b>ROA1</b>         |  | PO Number #                     | <b>14W12328</b>                |
| Report To:                               | <b>WSROSP</b>       |  | Date Received:                  | <b>02/09/2014</b>              |
| Collector:                               | <b>J IVERSON</b>    |  | Time Received:                  | <b>14:33</b>                   |
| Region:                                  | <b>WSRO</b>         |  | Labworks LoginID                | <b>TASCENZO</b>                |
| Sample Matrix:                           | <b>SURFACEWATER</b> |  | Final Report Date:              | <b>2/25/14</b>                 |
| Loc. Type:                               | <b>STREAM</b>       |  | Report Print Date:              | <b>02/26/2014</b>              |
| Emergency Yes/No                         |                     |  | VisitID                         | <input type="text" value="7"/> |
| COC Yes/No                               | <b>Yes</b>          |  | Loc. Descr.:                    | <b>DS-VA LINE</b>              |
| Location ID: <b>4P079NC0003468ASHDAN</b> |                     |  | Collect Date: <b>02/09/2014</b> | Collect Time: <b>11:15</b>     |

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units     | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-----------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |           |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>0.8</b>           | °C        |                     | 2/10/14          | TASCENZO     |
| <b>MIC</b> |                                      |      |                      |           |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>8.8</b>           | NTU       | APHA2130B-20th      | 2/10/14          | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |           |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>78</b>            | mg/L      | SM 2540 B-1997      | 2/12/14          | CGREEN       |
|            | Residue_Suspended in liquid          | 6.2  | <b>11</b>            | mg/L      | SM 2540 D-1997      | 2/10/14          | CGREEN       |
|            | Ion Chromatography                   |      | <b>_TITLE_</b>       | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>10</b>            | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>5.8</b>           | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
| <b>NUT</b> |                                      |      |                      |           |                     |                  |              |
|            | NH3 as N in liquid                   | 0.02 | <b>0.02 U</b>        | mg/L as N | EPA 350.1 REV 2     | 2/10/14          | CGREEN       |
|            | Total Kjeldahl N as N in liquid      | 0.2  | <b>0.2 U</b>         | mg/L as N | EPA 351.2 REV 2     | 2/11/14          | CGREEN       |
|            | NO2+NO3 as N in liquid               | 0.02 | <b>0.31</b>          | mg/L as N | EPA 353.2 REV 2     | 2/10/14          | CGREEN       |
|            | Phosphorus_total as P in liquid      | 0.02 | <b>0.03</b>          | mg/L as P | EPA 365.1 REV 2     | 2/10/14          | CGREEN       |
| <b>MET</b> |                                      |      |                      |           |                     |                  |              |
| 7440-22-4  | Ag by ICPMS                          | 1.0  | <b>1.0 U</b>         | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7429-90-5  | Al by ICP                            | 50   | <b>470</b>           | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-36-0  | Antimony by ICPMS                    | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>140</b>           | ug/L      | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>30</b>            | ug/L      | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-41-7  | Be by ICP                            | 5.0  | <b>5.0 U</b>         | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>8.2</b>           | mg/L      | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt by ICP                        | 50   | <b>50 U</b>          | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>850</b>           | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1                             | 0.2  | <b>0.20 U</b>        | ug/L      | EPA 245.1           | 2/11/14          | ESTAFFORD1   |



NC DW/R Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC04854

Collect Date: 02/09/2014

Collect Time: 11:15

**MET**

| CAS #     | Analyte Name         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|-----------|----------------------|------|----------------------|-------|---------------------|------------------|--------------|
| 7440-09-7 | K by ICP             | 0.10 | <b>1.6</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7439-93-2 | Li ICP               | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-95-4 | Mg by ICP            | 0.10 | <b>3.0</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7439-96-5 | Mn by ICP            | 10   | <b>24</b>            | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-98-7 | Mo by ICPMS          | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-23-5 | Na by ICP            | 0.10 | <b>5.1</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-02-0 | Ni by ICPMS          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-92-1 | Pb by ICPMS          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7782-49-2 | Se by ICPMS          | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-31-5 | Sn by ICPMS          | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-24-6 | Sr by ICPMS          | 10   | <b>48</b>            | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-28-0 | Thallium (Tl) ICPMS  | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-32-6 | Ti (Titanium) by ICP | 10   | <b>40</b>            | ug/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-62-2 | V by ICP             | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-66-6 | Zn by ICP            | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |



# Emer/COC

14W 123 JT 29 TA

55 TA

### DIVISION OF WATER RESOURCES

#### Surface Water Fieldsheet

COUNTY : Rockingham  
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :  
COLLECTOR(S) : J. J. PERSON

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID: 7

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY  2

Lab Number: A204858 TA  
Date Received: 2-9-2014  
Time Received: 14:33  
Received By: TA  
Data Released:  
Date Reported:

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA Line)


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: Dissolved Metals SAMPLE

| Station #/Location Code      | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|------------------------------|-----------------------|---------------------|--------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ashdan</u> | <u>14/2/9</u>         |                     | <u>11:15</u> |          |                     |                      |                   | G           |

|                             |         |   |          |  |      |   |            |
|-----------------------------|---------|---|----------|--|------|---|------------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610   | mg/L | Li-Lithium 1132   | ug/L       |
| COD High 340                | mg/L    |   |          | TKN an N 625   | mg/L | Mg- Magnesium 927                                       | mg/L       |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630  | mg/L | <input checked="" type="checkbox"/> Mn-Manganese 1055   | ug/L       |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665  | mg/L | <input checked="" type="checkbox"/> Na- Sodium 929      | mg/L       |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507   | mg/L | <input checked="" type="checkbox"/> Arsenic: Total 1002 | ug/L       |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH ) 83 pH=                     | c.u.     | P: Dissolved as P 666  | mg/L | <input checked="" type="checkbox"/> Se- Selenium 1147   | ug/L       |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | <input checked="" type="checkbox"/> K- Potassium             | mg/L | Hg- Mercury 71900                                       | ug/L       |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027         | ug/L | Ba- Barium  | ug/L       |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | <input checked="" type="checkbox"/> Cr- Chromium: Total 1034 | ug/L | Organochlorine Pesticides                               |            |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042          | ug/L | Organophosphorus Pesticides                             |            |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | <input checked="" type="checkbox"/> Ni- Nickel 1067          | ug/L | Organonitrogen Pesticides                               |            |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | <input checked="" type="checkbox"/> Pb- Lead 1051            | ug/L | Acid Herbicides   |            |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | <input checked="" type="checkbox"/> Zn- Zinc 1092            | ug/L |   |            |
| pH 403                      | units   | MBAS 38260                              | mg/L     | V- Vanadium  | ug/L | Base/Neutral & Acid Extractable Organics                |            |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077  | ug/L | TPH Diesel Range  |            |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | Al- Aluminum 1105  | ug/L |   |            |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012   | ug/L | Purgeable Organics (VOA bottle req'd)                   |            |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | <input checked="" type="checkbox"/> Ca- Calcium 916          | mg/L | TPH Gasoline Range                                      |            |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037  | ug/L | TPH/BTEX Gasoline Range                                 |            |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | <input checked="" type="checkbox"/> Fe- Iron 1045            | ug/L | Phytoplankton   |            |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo- Molybdenum   | ug/L |   |            |
|                             |         | Carbonate                               | mg/L     | Sb- Antimony   | ug/L |   |            |
|                             |         | Total Dissolved Solids                  | mg/L     | Sn- Tin  | ug/L |   |            |
|                             |         |   |          | Tl- Thallium   | ug/L |   |            |
|                             |         |   |          | Ti- Titanium   | ug/L |   |            |
|                             |         |   |          | Hg-1631  | ng/L | Temperature on arrival (°C):                            | <u>0-8</u> |

COMMENTS : \_\_\_\_\_

|  |                     |   |                                |                   |
|--|---------------------|---|--------------------------------|-------------------|
| County:                                  | <b>ROCKINGHAM</b>   | <br><b>Division of Water Resources</b> | Sample ID:                     | <b>AC04855</b>    |
| River Basin:                             | <b>ROA1</b>         |   | PO Number #                    | <b>14W12329</b>   |
| Report To:                               | <b>WSROSP</b>       |   | Date Received:                 | <b>02/09/2014</b> |
| Collector:                               | <b>J IVERSON</b>    |   | Time Received:                 | <b>14:33</b>      |
| Region:                                  | <b>WSRO</b>         | Labworks LoginID  | <b>TASCENZO</b>                |                   |
| Sample Matrix:                           | <b>SURFACEWATER</b> | Final Report Date:  | <b>2/25/14</b>                 |                   |
| Loc. Type:                               | <b>STREAM</b>       | Report Print Date:  | <b>02/26/2014</b>              |                   |
| Emergency Yes/No                         |                     | VisitID   | <input type="text" value="7"/> |                   |
| COC Yes/No                               | <u>Yes</u>          | Loc. Descr.: <b>DS-VA LINE</b>  |                                |                   |
| Location ID: <b>4P079NC0003468ASHDAN</b> |                     | Collect Date: <b>02/09/2014</b>   | Collect Time: <b>11:15</b>     | Sample Depth      |

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>0.8</b>           | °C    |                     | 2/10/14          | TASCENZO     |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-41-7  | Be-Beryllium Dissolved by ICP        | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>8.0</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>54</b>            | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.6</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.9</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>12</b>            | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>5.1</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-22-4  | Ag-Dissolved Silver by ICPMS         | 1.0  | <b>1.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>130</b>           | ug/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>23</b>            | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt Dissolved by ICP              | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1 Dissolved                   | 0.2  | <b>0.20 U</b>        | ug/L  | EPA 245.1           | 2/11/14          | ESTAFFORD1   |
| 7439-93-2  | Li DISSOLVED ICP                     | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-98-7  | Mo Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-36-0  | Sb Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-31-5  | Sn Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>48</b>            | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC04855 Collect Date: 02/09/2014 Collect Time: 11:15

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>      | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|--------------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-66-6    | Zn-Dissolved Zinc by ICP | 10         | 10 U                         | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |

# Great Lake

14612332 <sup>wpb</sup> 2.10.14

## DIVISION OF WATER RESOURCES

### Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : J. J. J. / S. K. N. G. H. S.

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

VISIT ID  
 7

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : AC04867  
 Date Received : 2-9-2014  
 Time Received : 1435  
 Received By : ms  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Station Location: DS - VA Line (Downstream at VA line)

Remarks: 4(B) Hg 54 Hg Sample

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/2/9                |                     | 11:00      |          |                     |                      |                   | G           |

|                             |         |   |          |   |      |  |      |
|-----------------------------|---------|---|----------|---|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610                                | mg/L | Li-Lithium 1132                        | ug/L |
| COD High 340                | mg/L    |   |          | TKN as N 625                                | mg/L | Mg- Magnesium 927                      | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630                       | mg/L | Mn-Manganese 1055                      | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665                           | mg/L | Na- Sodium 929                         | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507                              | mg/L | Arsenic: Total 1002                    | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH) 83 pH=                      | c.u.     | P: Dissolved as P 666                       | mg/L | Se- Selenium 1147                      | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | K-Potassium                                 | mg/L | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | Cd- Cadmium 1027                            | ug/L | Ba-Barium                              | ug/L |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | Cr-Chromium: Total 1034                     | ug/L | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | Cu- Copper 1042                             | ug/L | Organophosphorus Pesticides            |      |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | Ni-Nickel 1067                              | ug/L | Organonitrogen Pesticides              |      |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | Pb- Lead 1051                               | ug/L | Acid Herbicides                        |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | Zn- Zinc 1092                               | ug/L |  |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | V-Vanadium                                  | ug/L | Base/Neutral&Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077                             | ug/L | TPH Diesel Range                       |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | Al- Aluminum 1105                           | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012                          | ug/L | Purgeable Organics (VOA bottle req'd)  |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | Ca- Calcium 916                             | mg/L | TPH Gasoline Range                     |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037                             | ug/L | TPH/BTEX Gasoline Range                |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | Fe- Iron 1045                               | ug/L | Phytoplankton                          |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo-Molybdenum                               | ug/L |  |      |
|                             |         | Carbonate                               | mg/L     | Sb-Antimony                                 | ug/L |  |      |
|                             |         | Total Dissolved Solids                  | mg/L     | Sn-Tin                                      | ug/L |  |      |
|                             |         |   |          | Tl-Thallium                                 | ug/L |  |      |
|                             |         |   |          | Ti-Titanium                                 | ug/L |  |      |
|                             |         |   |          | <input checked="" type="checkbox"/> Hg-1631 | ng/L |  |      |

Temperature on arrival (°C): 018.7

COMMENTS : 8609498

County: **ROCKINGHAM**  
 River Basin: **ROA1**  
 Report To: **WSROSP**  
 Collector: **J IVERSON**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No: **YES**  
 COC Yes/No: **Yes**



Sample ID: **AC04867**  
 PO Number #: **14W12341**  
 Date Received: **02/09/2014**  
 Time Received: **14:33**  
 Labworks LoginID: **TASCENZO**  
 Final Report Date: **2/20/14**  
 Report Print Date: **02/20/2014**

**Final Report**VisitID Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/09/2014</b> | Collect Time: <b>11:10</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>2.14</b>                  | ng/L         | EPA 1631E                   | 2/19/14                  | ESTAFFORD1          |

County: **ROCKINGHAM**  
 River Basin: **ROA1**  
 Report To: **WSROSP**  
 Collector: **J IVERSON**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No  
 COC Yes/No Yes



Sample ID: **AC04867**  
 PO Number #: **14W12341**  
 Date Received: **02/09/2014**  
 Time Received: **14:33**  
 Labworks LoginID: **TASCENZO**  
 Final Report Date: **2/20/14**  
 Report Print Date: **02/20/2014**

**Final Report**VisitID Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/09/2014</b> | Collect Time: <b>11:10</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>2.14</b>                  | ng/L         | EPA 1631E                   | 2/19/14                  | ESTAFFORD1          |

Cc 16real

14W12359

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
COLLECTOR(S) : S. Wang / S. Berry

PRIORITY
[ ] AMBIENT [ ] QA
[ ] COMPLIANCE [X] CHAIN OF CUSTODY
[X] EMERGENCY VISIT ID: 08

SAMPLE TYPE
[X] STREAM [ ] EFFLUENT
[ ] LAKE [ ] INFLUENT
[ ] ESTUARY
2

Lab Number A204880
Date Received: 2-16-14
Time Received: 1:15 PM
Received By: M
Data Released:
Date Reported:

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA line)

Seed: \_\_\_\_\_

Chlorinated: \_\_\_\_\_

Remarks: \_\_\_\_\_

Table with 8 columns: Station #/Location Code, Date Begin, Date End, Time Begin, Time End, Depth, Value Type, Composite, Sample Type. Row 1: 4P079NC0003468 Ashdan, 2/10/14, 2/10/14, 12:30, 1:20, 12.0, A, H, L, S, B, G

Table with 2 columns: Parameter, Unit. Rows include BOD 310, COD High/Low, Coliform, Residue, pH, Acidity, Alkalinity, Turbidity, Coliform Total Tube.


Table with 2 columns: Parameter, Unit. Rows include Chloride 940, Chlorophyll a, Color, Cyanide 720, Fluoride 951, Formaldehyde, Grease and Oils, Hardness, Specific Cond, MBAS, Phenols, Sulfate 945, Sulfide 745, Boron, Tannin & Lignin, Hexavalent Chromium, Bicarbonate, Carbonate, Total Dissolved Solids.

Table with 2 columns: Parameter, Unit. Rows include NH3 as N 610, TKN as N 625, NO2 plus NO3 as N 630, P: Total as P 665, PO4 as P 70507, P: Dissolved as P 666, K-Potassium, Cd- Cadmium 1027, Cr-Chromium: Total 1034, Cu- Copper 1042, Ni-Nickel 1067, Pb- Lead 1051, Zn- Zinc 1092, V-Vanadium, Ag- Silver 1077, Al- Aluminum 1105, Be- Beryllium 1012, Ca- Calcium 916, Co- Cobalt 1037, Fe- Iron 1045, Mo-Molybdenum, Sb-Antimony, Sn-Tin, Tl-Thallium, Ti-Titanium, Hg-1631.

Table with 2 columns: Parameter, Unit. Rows include Li-Lithium 1132, Mg- Magnesium 927, Mn-Manganese 1055, Na- Sodium 929, Arsenic: Total 1002, Se- Selenium 1147, Hg- Mercury 71900, Ba-Barium, Organochlorine Pesticides, Organophosphorus Pesticides, Organonitrogen Pesticides, Acid Herbicides, Base/Neutral & Acid Extractable Organics, TPH Diesel Range, Purgeable Organics (VOA bottle req'd), TPH Gasoline Range, TPH/BTEX Gasoline Range, Phytoplankton, Temperature on arrival (C): 06

COMMENTS:

|                   |                     |                    |                   |
|-------------------|---------------------|--------------------|-------------------|
| County:           | <b>ROCKINGHAM</b>   | Sample ID:         | <b>AC04880</b>    |
| River Basin:      | <b>ROA1</b>         | PO Number #:       | <b>14W12354</b>   |
| Report To:        | <b>WSROSP</b>       | Date Received:     | <b>02/10/2014</b> |
| Collector:        | <b>S WANG</b>       | Time Received:     | <b>17:15</b>      |
| Region:           | <b>WSRO</b>         | Labworks LoginID:  | <b>TASCENZO</b>   |
| Sample Matrix:    | <b>SURFACEWATER</b> | Final Report Date: | <b>2/25/14</b>    |
| Loc. Type:        | <b>STREAM</b>       | Report Print Date: | <b>02/26/2014</b> |
| Emergency Yes/No: |                     |                    |                   |
| COC Yes/No:       | <b>Yes</b>          |                    |                   |



**Final Report**

VisitID

Loc. Descr.: **DS-VA LINE**

|              |                             |               |                   |               |              |               |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|
| Location ID: | <b>4P079NC0003468ASHDAN</b> | Collect Date: | <b>02/10/2014</b> | Collect Time: | <b>12:20</b> | Sample Depth: |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units     | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-----------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |           |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>0.6</b>           | °C        |                     | 2/11/14          | MSWIFT       |
| <b>MIC</b> |                                      |      |                      |           |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>10</b>            | NTU       | APHA2130B-20th      | 2/11/14          | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |           |                     |                  |              |
|            | Residue_Suspended in liquid          | 6.2  | <b>12 U,P</b>        | mg/L      | SM 2540 D-1997      | 2/12/14          | CGREEN       |
|            | Ion Chromatography                   |      | <u>  _TITLE  </u>    | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>10</b>            | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>5.3</b>           | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Total Dissolved Solids in liquid     | 12   | <b>74</b>            | mg/L      | SM 2540 C-1997      | 2/12/14          | CGREEN       |
| <b>NUT</b> |                                      |      |                      |           |                     |                  |              |
|            | NH3 as N in liquid                   | 0.02 | <b>0.02 U</b>        | mg/L as N | EPA 350.1 REV 2     | 2/11/14          | CGREEN       |
|            | Total Kjeldahl N as N in liquid      | 0.2  | <b>0.20</b>          | mg/L as N | EPA 351.2 REV 2     | 2/11/14          | CGREEN       |
|            | NO2+NO3 as N in liquid               | 0.02 | <b>0.31</b>          | mg/L as N | EPA 353.2 REV 2     | 2/11/14          | CGREEN       |
|            | Phosphorus_total as P in liquid      | 0.02 | <b>0.02</b>          | mg/L as P | EPA 365.1 REV 2     | 2/11/14          | CGREEN       |
| <b>MET</b> |                                      |      |                      |           |                     |                  |              |
| 7440-22-4  | Ag by ICPMS                          | 1.0  | <b>1.0 U</b>         | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7429-90-5  | Al by ICP                            | 50   | <b>430</b>           | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-36-0  | Antimony by ICPMS                    | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>140</b>           | ug/L      | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>28</b>            | ug/L      | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-41-7  | Be by ICP                            | 5.0  | <b>5.0 U</b>         | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>8.2</b>           | mg/L      | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt by ICP                        | 50   | <b>50 U</b>          | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>810</b>           | ug/L      | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1                             | 0.2  | <b>0.20 U</b>        | ug/L      | EPA 245.1           | 2/19/14          | ESTAFFORD1   |



*NC DW/R Laboratory Section Results*

Location ID: **4P079NC0003468ASHDAN**      Sample ID: **AC04880**      Collect Date: **02/10/2014**      Collect Time: **12:20**

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>  | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|----------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-09-7    | K by ICP             | 0.10       | <b>1.5</b>                   | mg/L         | EPA 200.7                   | 2/17/14                  | ESTAFFORD1          |
| 7439-93-2    | Li ICP               | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |
| 7439-95-4    | Mg by ICP            | 0.10       | <b>3.0</b>                   | mg/L         | EPA 200.7                   | 2/17/14                  | ESTAFFORD1          |
| 7439-96-5    | Mn by ICP            | 10         | <b>30</b>                    | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |
| 7439-98-7    | Mo by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/22/14                  | ESTAFFORD1          |
| 7440-23-5    | Na by ICP            | 0.10       | <b>5.1</b>                   | mg/L         | EPA 200.7                   | 2/17/14                  | ESTAFFORD1          |
| 7440-02-0    | Ni by ICPMS          | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/17/14                  | ESTAFFORD1          |
| 7439-92-1    | Pb by ICPMS          | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/17/14                  | ESTAFFORD1          |
| 7782-49-2    | Se by ICPMS          | 5.0        | <b>5.0 U</b>                 | ug/L         | EPA 200.8                   | 2/17/14                  | ESTAFFORD1          |
| 7440-31-5    | Sn by ICPMS          | 10         | <b>10 U</b>                  | ug/L         | EPA 200.8                   | 2/22/14                  | ESTAFFORD1          |
| 7440-24-6    | Sr by ICPMS          | 10         | <b>49</b>                    | ug/L         | EPA 200.8                   | 2/22/14                  | ESTAFFORD1          |
| 7440-28-0    | Thallium (Tl) ICPMS  | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/22/14                  | ESTAFFORD1          |
| 7440-32-6    | Ti (Titanium) by ICP | 10         | <b>32</b>                    | ug/L         | EPA 200.7                   | 2/20/14                  | ESTAFFORD1          |
| 7440-62-2    | V by ICP             | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP            | 10         | <b>10 U</b>                  | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |

Sample Comments

REANALYZED: ELEVATED PQL DUE TO SAMPLE VOLUME LEFT

COC/EMCAL6

14W12355

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
COLLECTOR(S) : S. Wang/S. Berry

PRIORITY
[ ] AMBIENT [ ] QA
[ ] COMPLIANCE [X] CHAIN OF CUSTODY
[X] EMERGENCY VISIT ID 128

SAMPLE TYPE
[X] STREAM [ ] EFFLUENT
[ ] LAKE [ ] INFLUENT
[ ] ESTUARY
2

Lab Number A204881
Date Received : 2-16-14
Time Received : 1:35
Received By : MB
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA Line)

Seed: Chlorinated:


Remarks: Dissolved Metals

Table with 8 columns: Station #/Location Code, Date Begin, Date End, Time Begin, Time End, Depth, Value Type, Composite, Sample Type. Row 1: 4P079NC0003468Ashdam, 2/10/14, 2/17/14, 12:20, 12:50, Depth - DM, DB, DBM, Value Type - A, H, L, Composite-T, S, B, Sample Type G

Main data table with 4 columns of parameters and units. Includes BOD 310, COD High/Low, Coliform, Residue, pH, Acidity, Alkalinity, TOC, Turbidity, Chloride, Chlorophyll, Color, pH, Cyanide, Fluoride, Formaldehyde, Grease and Oils, Hardness, Specific Cond., MBAS, Phenols, Sulfate, Sulfide, Boron, Tannin & Lignin, Hexavalent Chromium, Bicarbonate, Carbonate, Total Dissolved Solids, NH3, TKN, NO2, P, PO4, K, Cd, Cr, Cu, Ni, Pb, Zn, V, Ag, Al, Be, Ca, Co, Fe, Mo, Sb, Sn, Ti, Hg-1631, Li-Lithium, Mg, Mn, Na, Arsenic, Se, Hg, Ba, Organochlorine Pesticides, Organophosphorus Pesticides, Organonitrogen Pesticides, Acid Herbicides, Base/Neutral & Acid Extractable Organics, TPH Diesel Range, Purgeable Organics, TPH Gasoline Range, TPH/BTEX Gasoline Range, Phytoplankton, Temperature on arrival (°C): 0.6

COMMENTS :

|                   |                     |                    |                   |
|-------------------|---------------------|--------------------|-------------------|
| County:           | <b>ROCKINGHAM</b>   | Sample ID:         | <b>AC04881</b>    |
| River Basin:      | <b>ROA1</b>         | PO Number #:       | <b>14W12355</b>   |
| Report To:        | <b>WSROSP</b>       | Date Received:     | <b>02/10/2014</b> |
| Collector:        | <b>S WANG</b>       | Time Received:     | <b>17:15</b>      |
| Region:           | <b>WSRO</b>         | Labworks LoginID:  | <b>TASCENZO</b>   |
| Sample Matrix:    | <b>SURFACEWATER</b> | Final Report Date: | <b>2/25/14</b>    |
| Loc. Type:        | <b>STREAM</b>       | Report Print Date: | <b>02/26/2014</b> |
| Emergency Yes/No: |                     |                    |                   |
| COC Yes/No:       | <b>Yes</b>          |                    |                   |



**Final Report**

VisitID

Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/10/2014</b> | Collect Time: <b>12:20</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>0.6</b>           | °C    |                     | 2/11/14          | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-41-7  | Be-Beryllium Dissolved by ICP        | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>7.9</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>77</b>            | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.5</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.9</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>14</b>            | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>5.0</b>           | mg/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7440-22-4  | Ag-Dissolved Silver by ICPMS         | 1.0  | <b>1.0 U</b>         | ug/L  | EPA 200.8           | 2/17/14          | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>130</b>           | ug/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>22</b>            | ug/L  | EPA 200.7           | 2/17/14          | ESTAFFORD1   |
| 7440-48-4  | Cobalt Dissolved by ICP              | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-97-6  | Hg 245.1 Dissolved                   | 0.2  | <b>0.20 U</b>        | ug/L  | EPA 245.1           | 2/19/14          | ESTAFFORD1   |
| 7439-93-2  | Li DISSOLVED ICP                     | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |
| 7439-98-7  | Mo Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-36-0  | Sb Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-31-5  | Sn Dissolved by ICPMS                | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
|            | Strontium Dissolved by ICPMS         | 10   | <b>49</b>            | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/22/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/18/14          | ESTAFFORD1   |

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC04881 Collect Date: 02/10/2014 Collect Time: 12:20

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>      | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|--------------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-66-6    | Zn-Dissolved Zinc by ICP | 10         | 10 U                         | ug/L         | EPA 200.7                   | 2/18/14                  | ESTAFFORD1          |

CC/Enr

14W1297

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
COLLECTOR(S) : S Wang / S Perry

PRIORITY
[ ] AMBIENT [ ] QA
[ ] COMPLIANCE [X] CHAIN OF CUSTODY
[X] EMERGENCY

VISIT ID
08

SAMPLE TYPE
[X] STREAM [ ] EFFLUENT
[ ] LAKE [ ] INFLUENT
[ ] ESTUARY

2

Lab Number : AC04926
Date Received : 2/19/14
Time Received : 8:22 AM
Received By : [Signature]
Data Released :
Date Reported :

Estimated BOD Range:

Seed: Chlorinated:

Station Location: DS - VA Line (Downstream at VA line)

Remarks: (4311978) Sample

Table with 7 columns: Station #/Location Code, Date Begin, Date End, Time Begin, Time End, Depth, Value Type, Composite-T, S, B, Sample Type

Table with 2 columns: Parameter, Unit. Includes BOD 310, COD High/Low, Coliform, Residue, pH, Acidity, Alkalinity, TOC, Turbidity, Coliform Total Tube.

Table with 2 columns: Parameter, Unit. Includes Chloride 940, Chlorophyll a, Color, pH, Cyanide, Fluoride, Formaldehyde, Grease and Oils, Hardness, Specific Cond., MBAS, Phenols, Sulfate, Sulfide, Boron, Tannin & Lignin, Hexavalent Chromium, Bicarbonate, Carbonate, Total Dissolved Solids.

Table with 2 columns: Parameter, Unit. Includes NH3 as N, TKN, NO2 plus NO3, P: Total, PO4, K-Potassium, Cd-Cadmium, Cr-Chromium, Cu-Copper, Ni-Nickel, Pb-Lead, Zn-Zinc, V-Vanadium, Ag-Silver, Al-Aluminum, Be-Beryllium, Ca-Calcium, Co-Cobalt, Fe-Iron, Mo-Molybdenum, Sb-Antimony, Sn-Tin, Tl-Thallium, Ti-Titanium, Hg-1631.

Table with 2 columns: Parameter, Unit. Includes Li-Lithium, Mg-Magnesium, Mn-Manganese, Na-Sodium, Arsenic, Se-Selenium, Hg-Mercury, Ba-Barium, Organochlorine Pesticides, Organophosphorus Pesticides, Organonitrogen Pesticides, Acid Herbicides, Base/Neutral&Acid Extractable Organics, TPH Diesel Range, Purgeable Organics, TPH Gasoline Range, TPH/BTEX Gasoline Range, Phytoplankton, Temperature on arrival.

COMMENTS : 7 E01174

County: **ROCKINGHAM**  
 River Basin: **ROA01**  
 Report To: **WSROSP**  
 Collector: **S WANG**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No Yes  
 COC Yes/No Yes



Sample ID: **AC04926**  
 PO Number #: **14W12397**  
 Date Received: **02/10/2014**  
 Time Received: **17:15**  
 Labworks LoginID: **MSWIFT**  
 Final Report Date: **2/20/14**  
 Report Print Date: **02/20/2014**

**Final Report**VisitID Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/10/2014</b> | Collect Time: <b>12:20</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>2.24</b>                  | ng/L         | EPA 1631E                   | 2/19/14                  | ESTAFFORD1          |

*ce/Emub*

*14W1244X<sup>3</sup>*

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : J. J. J. J. J.

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : ACD4972  
 Date Received : 2-12-14  
 Time Received : 08:26  
 Received By : nfo  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA line)


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type G |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|---------------|
| 4P079NC0003468AshDan    | 14/2/14               |                     | 3:5        |          |                     |                      |                   |               |

|  |         |  |          |   |      |   |            |
|--|---------|--|----------|---|------|---|------------|
| BOD 310  | mg/L    | <input checked="" type="checkbox"/> Chloride 940           | mg/L     | <input checked="" type="checkbox"/> NH3 as N 610            | mg/L | <input checked="" type="checkbox"/> Li-Lithium 1132     | ug/L       |
| COD High 340   | mg/L    |  |          | <input checked="" type="checkbox"/> TKN an N 625            | mg/L | <input checked="" type="checkbox"/> Mg- Magnesium 927   | mg/L       |
| COD Low 335  | mg/L    | Chlorophyll a EPA 445.0 modified option                    | ug/L     | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630   | mg/L | <input checked="" type="checkbox"/> Mn-Manganese 1055   | ug/L       |
| Coliform: MF Fecal 31616                                   | /100ml  | Color: True 80   | c.u.     | <input checked="" type="checkbox"/> P: Total as P 665       | mg/L | <input checked="" type="checkbox"/> Na- Sodium 929      | mg/L       |
| Coliform: MF Total 31504                                   | /100ml  | Color: (pH) 83 pH=   | c.u.     | <input checked="" type="checkbox"/> PO4 as P 70507          | mg/L | <input checked="" type="checkbox"/> Arsenic: Total 1002 | ug/L       |
| Coliform: tube Fecal 31615                                 | /100ml  | Color: pH 7.6 82   | c.u.     | <input checked="" type="checkbox"/> P: Dissolved as P 666   | mg/L | <input checked="" type="checkbox"/> Se- Selenium 1147   | ug/L       |
| Coliform: Fecal Strep 31673                                | /100ml  | Cyanide 720  | mg/L     | <input checked="" type="checkbox"/> K- Potassium            | mg/L | <input checked="" type="checkbox"/> Hg- Mercury 71900   | ug/L       |
| <input checked="" type="checkbox"/> Residue: Total 500     | mg/L    | <input checked="" type="checkbox"/> Fluoride 951           | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L | <input checked="" type="checkbox"/> Ba-Barium           | ug/L       |
| Volatile 505   | mg/L    | Formaldehyde 71880   | mg/L     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides                               |            |
| Fixed 510  | mg/L    | Grease and Oils 556  | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L | Organophosphorus Pesticides                             |            |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L    | Hardness Total 900   | mg/L     | <input checked="" type="checkbox"/> Ni- Nickel 1067         | ug/L | Organonitrogen Pesticides                               |            |
| Volatile 535   | mg/L    | Specific Cond. 95  | umhos/cm | <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L | Acid Herbicides   |            |
| Fixed 540  | mg/L    | MBAS 38260   | mg/L     | <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L |   |            |
| pH 403   | units   | Phenols 32730  | ug/L     | <input checked="" type="checkbox"/> V- Vanadium             | ug/L | Base/Neutral & Acid Extractable Organics                |            |
| Acidity to pH 4.5 436                                      | mg/L    | <input checked="" type="checkbox"/> Sulfate 945            | mg/L     | <input checked="" type="checkbox"/> Ag- Silver 1077         | ug/L | TPH Diesel Range  |            |
| Acidity to pH 8.3 435                                      | mg/L    | Sulfide 745  | mg/L     | <input checked="" type="checkbox"/> Al- Aluminum 1105       | ug/L |   |            |
| Alkalinity to pH 8.3 415                                   | mg/L    | Boron  |          | <input checked="" type="checkbox"/> Be- Beryllium 1012      | ug/L | Purgeable Organics (VOA bottle req'd)                   |            |
| Alkalinity to pH 4.5 410                                   | mg/L    | Tannin & Lignin  | ug/L     | <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L | TPH Gasoline Range                                      |            |
| TOC 680  | mg/L    | Hexavalent Chromium  | ug/L     | <input checked="" type="checkbox"/> Co- Cobalt 1037         | ug/L | TPH/BTEX Gasoline Range                                 |            |
| <input checked="" type="checkbox"/> Turbidity 76           | NTU     | Bicarbonate  | mg/L     | <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L | Phytoplankton   |            |
| Coliform Total Tube  | /100 ml | Carbonate  | mg/L     | <input checked="" type="checkbox"/> Mo- Molybdenum          | ug/L |   |            |
|  |         | <input checked="" type="checkbox"/> Total Dissolved Solids | mg/L     | <input checked="" type="checkbox"/> Sb- Antimony            | ug/L |   |            |
|  |         |  |          | <input checked="" type="checkbox"/> Sn- Tin                 | ug/L |   |            |
|  |         |  |          | <input checked="" type="checkbox"/> Tl- Thallium            | ug/L |   |            |
|  |         |  |          | <input checked="" type="checkbox"/> Ti- Titanium            | ug/L |   |            |
|  |         |  |          | Hg-1631   | ng/L | Temperature on arrival (°C):                            | <u>3.2</u> |

COMMENTS : \_\_\_\_\_



|  |  |                                      |  |                                 |                            |              |
|--|--|--------------------------------------|--|---------------------------------|----------------------------|--------------|
| County: <b>ROCKINGHAM</b>  | <br><b>Division of Water Resources</b><br><b>Final Report</b> | Sample ID: <b>AC04972</b>            |  |                                 |                            |              |
| River Basin: <b>ROA01</b>  |  | PO Number #: <b>14W12443</b>         |  |                                 |                            |              |
| Report To: <b>WSROSP</b>   |  | Date Received: <b>02/12/2014</b>     |  |                                 |                            |              |
| Collector: <b>J IVERSON</b>  |  | Time Received: <b>08:26</b>          |  |                                 |                            |              |
| Region: <b>WSRO</b>  |  | Labworks LoginID: <b>MSWIFT</b>      |  |                                 |                            |              |
| Sample Matrix: <b>SURFACEWATER</b>   |  | Final Report Date: <b>2/27/14</b>    |  |                                 |                            |              |
| Loc. Type: <b>STREAM</b>   |  | Report Print Date: <b>02/27/2014</b> |  |                                 |                            |              |
| Emergency Yes/No   |  | VisitID                              |  |                                 |                            |              |
| COC Yes/No   |  | Loc. Descr.: <b>DS-VA LINE</b>       |  |                                 |                            |              |
| <table border="1" style="width: 100%;"> <tr> <td>Location ID: <b>4P079NC0003468ASHDAN</b></td> <td>Collect Date: <b>02/11/2014</b></td> <td>Collect Time: <b>11:35</b></td> <td>Sample Depth</td> </tr> </table> |  |                                      | Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/11/2014</b> | Collect Time: <b>11:35</b> | Sample Depth |
| Location ID: <b>4P079NC0003468ASHDAN</b>   | Collect Date: <b>02/11/2014</b>  | Collect Time: <b>11:35</b>           | Sample Depth                             |                                 |                            |              |

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units     | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-----------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |           |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>3.2</b>           | °C        |                     | 2/12/14          | MSWIFT       |
| <b>MIC</b> |                                      |      |                      |           |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>11</b>            | NTU       | APHA2130B-20th      | 2/12/14          | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |           |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>80</b>            | mg/L      | SM 2540 B-1997      | 2/17/14          | CGREEN       |
|            | Residue_Suspended in liquid          | 6.2  | <b>11</b>            | mg/L      | SM 2540 D-1997      | 2/12/14          | CGREEN       |
|            | Ion Chromatography                   |      | <u>  TITLE  </u>     | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>8.3</b>           | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>5.3</b>           | mg/L      | EPA 300.0 rev2.1    | 2/11/14          | CGREEN       |
|            | Total Dissolved Solids in liquid     | 12   | <b>59</b>            | mg/L      | SM 2540 C-1997      | 2/17/14          | CGREEN       |
| <b>NUT</b> |                                      |      |                      |           |                     |                  |              |
|            | NH3 as N in liquid                   | 0.02 | <b>0.02 U</b>        | mg/L as N | EPA 350.1 REV 2     | 2/17/14          | CGREEN       |
|            | Total Kjeldahl N as N in liquid      | 0.2  | <b>0.24</b>          | mg/L as N | EPA 351.2 REV 2     | 2/18/14          | CGREEN       |
|            | NO2+NO3 as N in liquid               | 0.02 | <b>0.33</b>          | mg/L as N | EPA 353.2 REV 2     | 2/17/14          | CGREEN       |
|            | Phosphorus_total as P in liquid      | 0.02 | <b>0.03</b>          | mg/L as P | EPA 365.1 REV 2     | 2/17/14          | CGREEN       |
| <b>MET</b> |                                      |      |                      |           |                     |                  |              |
| 7429-90-5  | Al by ICP                            | 50   | <b>440</b>           | ug/L      | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>110</b>           | ug/L      | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>28</b>            | ug/L      | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>7.9</b>           | mg/L      | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L      | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L      | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>770</b>           | ug/L      | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-09-7  | K by ICP                             | 0.10 | <b>1.6</b>           | mg/L      | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7439-95-4  | Mg by ICP                            | 0.10 | <b>3.0</b>           | mg/L      | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7439-96-5  | Mn by ICP                            | 10   | <b>26</b>            | ug/L      | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-23-5  | Na by ICP                            | 0.10 | <b>5.6</b>           | mg/L      | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-02-0  | Ni by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L      | EPA 200.8           | 2/25/14          | ESTAFFORD1   |

Laboratory Section>> 1623 Mail Service Center, Raleigh, NC 27699-1623 (919) 733-3908

For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>



NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC04972 Collect Date: 02/11/2014 Collect Time: 11:35

**MET**

| <u>CAS #</u> | <u>Analyte Name</u>  | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|----------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7439-92-1    | Pb by ICPMS          | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/25/14                  | ESTAFFORD1          |
| 7782-49-2    | Se by ICPMS          | 5.0        | <b>5.0 U</b>                 | ug/L         | EPA 200.8                   | 2/25/14                  | ESTAFFORD1          |
| 7440-24-6    | Sr by ICPMS          | 10         | <b>44</b>                    | ug/L         | EPA 200.8                   | 2/25/14                  | ESTAFFORD1          |
| 7440-28-0    | Thallium (Tl) ICPMS  | 2.0        | <b>2.0 U</b>                 | ug/L         | EPA 200.8                   | 2/25/14                  | ESTAFFORD1          |
| 7440-32-6    | Ti (Titanium) by ICP | 10         | <b>21</b>                    | ug/L         | EPA 200.7                   | 2/20/14                  | ESTAFFORD1          |
| 7440-62-2    | V by ICP             | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/19/14                  | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP            | 10         | <b>10 U</b>                  | ug/L         | EPA 200.7                   | 2/19/14                  | ESTAFFORD1          |

*Cc/Eval*

*1460 1244 4/2 mb*

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :  
COLLECTOR(S) : [Signature]

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID [Signature]

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : ACC 4973  
Date Received : 2-12-14  
Time Received : 08:26  
Received By : mb  
Data Released :  
Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA Line)

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_


Remarks: Dissolved Metals

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------------|-----------------------|---------------------|--------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <i>Ash Dam</i> | <u>1/15/14</u>        |                     | <u>11:35</u> |          |                     |                      |                   | G           |

|                             |         |   |          |                                     |                         |                                     |                                     |  |      |
|-----------------------------|---------|---|----------|-------------------------------------|-------------------------|-------------------------------------|-------------------------------------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610                        | mg/L                    | <input checked="" type="checkbox"/> | Li-Lithium 1132                     | ug/L                                   |      |
| COD High 340                | mg/L    |   |          | TKN an N 625                        | mg/L                    | <input checked="" type="checkbox"/> | Mg- Magnesium 927                   | mg/L                                   |      |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630               | mg/L                    | <input checked="" type="checkbox"/> | Mn-Manganese 1055                   | ug/L                                   |      |
| Coliform: MF Fecal 31616    | /100ml  | Color: True 80                          | c.u.     | P: Total as P 665                   | mg/L                    | <input checked="" type="checkbox"/> | Na- Sodium 929                      | mg/L                                   |      |
| Coliform: MF Total 31504    | /100ml  | Color: (pH) 83 pH=                      | c.u.     | PO4 as P 70507                      | mg/L                    | <input checked="" type="checkbox"/> | Arsenic: Total 1002                 | ug/L                                   |      |
| Coliform: tube Fecal 31615  | /100ml  | Color: pH 7.6 82                        | c.u.     | P: Dissolved as P 666               | ug/L                    | <input checked="" type="checkbox"/> | Se- Selenium 1147                   | ug/L                                   |      |
| Coliform: Fecal Strep 31673 | /100ml  | Cyanide 720                             | mg/L     | <input checked="" type="checkbox"/> | K-Potassium             | mg/L                                | <input checked="" type="checkbox"/> | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Fluoride 951                            | mg/L     | <input checked="" type="checkbox"/> | Cd- Cadmium 1027        | ug/L                                | <input checked="" type="checkbox"/> | Ba-Barium                              | ug/L |
| Volatile 505                | mg/L    | Formaldehyde 71880                      | mg/L     | <input checked="" type="checkbox"/> | Cr-Chromium: Total 1034 | ug/L                                |                                     | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Grease and Oils 556                     | mg/L     | <input checked="" type="checkbox"/> | Cu- Copper 1042         | ug/L                                |                                     | Organophosphorus Pesticides            |      |
| Residue: Suspended 530      | mg/L    | Hardness Total 900                      | mg/L     | <input checked="" type="checkbox"/> | Ni-Nickel 1067          | ug/L                                |                                     | Organonitrogen Pesticides              |      |
| Volatile 535                | mg/L    | Specific Cond. 95                       | umhos/cm | <input checked="" type="checkbox"/> | Pb- Lead 1051           | ug/L                                |                                     | Acid Herbicides                        |      |
| Fixed 540                   | mg/L    | MBAS 38260                              | mg/L     | <input checked="" type="checkbox"/> | Zn- Zinc 1092           | ug/L                                |                                     | Base/Neutral&Acid Extractable Organics |      |
| pH 403                      | units   | Phenols 32730                           | ug/L     | <input checked="" type="checkbox"/> | V-Vanadium              | ug/L                                |                                     | TPH Diesel Range                       |      |
| Acidity to pH 4.5 436       | mg/L    | Sulfate 945                             | mg/L     | <input checked="" type="checkbox"/> | Ag- Silver 1077         | ug/L                                |                                     |  |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfide 745                             | mg/L     | <input checked="" type="checkbox"/> | Al- Aluminum 1105       | ug/L                                |                                     | Purgeable Organics (VOA bottle req'd)  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Boron                                   | ug/L     | <input checked="" type="checkbox"/> | Be- Beryllium 1012      | ug/L                                |                                     | TPH Gasoline Range                     |      |
| Alkalinity to pH 4.5 410    | mg/L    | Tannin & Lignin                         | ug/L     | <input checked="" type="checkbox"/> | Ca- Calcium 916         | mg/L                                |                                     | TPH/BTEX Gasoline Range                |      |
| TOC 680                     | mg/L    | Hexavalent Chromium                     | ug/L     | <input checked="" type="checkbox"/> | Co- Cobalt 1037         | ug/L                                |                                     | Phytoplankton                          |      |
| Turbidity 76                | NTU     | Bicarbonate                             | mg/L     | <input checked="" type="checkbox"/> | Fe- Iron 1045           | ug/L                                |                                     |  |      |
| Coliform Total Tube         | /100 ml | Carbonate                               | mg/L     | <input checked="" type="checkbox"/> | Mo-Molybdenum           | ug/L                                |                                     |  |      |
|                             |         | Total Dissolved Solids                  | mg/L     | <input checked="" type="checkbox"/> | Sb-Antimony             | ug/L                                |                                     |  |      |
|                             |         |   |          | <input checked="" type="checkbox"/> | Sn-Tin                  | ug/L                                |                                     |  |      |
|                             |         |   |          | <input checked="" type="checkbox"/> | Tl-Thallium             | ug/L                                |                                     |  |      |
|                             |         |   |          | <input checked="" type="checkbox"/> | Ti-Titanium             | ug/L                                |                                     |  |      |
|                             |         |   |          | <input checked="" type="checkbox"/> | Hg-1631                 | ng/L                                |                                     |  |      |

Temperature on arrival (°C): 37

COMMENTS :

|   |  |                                   |
|---|--|-----------------------------------|
| County: <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID: <b>AC04973</b>         |
| River Basin: <b>ROA01</b>   |  | PO Number #: <b>14W12444</b>      |
| Report To: <b>WSROSP</b>  |  | Date Received: <b>02/12/2014</b>  |
| Collector: <b>J IVERSON</b>   |  | Time Received: <b>08:26</b>       |
| Region: <b>WSRO</b>   |  | Labworks LoginID: <b>MSWIFT</b>   |
| Sample Matrix: <b>SURFACEWATER</b>  |  | Final Report Date: <b>2/27/14</b> |
| Loc. Type: <b>STREAM</b>  | Report Print Date: <b>02/27/2014</b>   |                                   |
| Emergency Yes/No  | VisitID  |                                   |
| COC Yes/No  |  |                                   |
| Loc. Descr.: <b>DS-VA LINE</b>  |  |                                   |
| Location ID: <b>4P079NC0003468ASHDAN</b>  | Collect Date: <b>02/11/2014</b>  | Collect Time: <b>11:35</b>        |
| Sample Depth  |  |                                   |
| <b>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</b> |  |                                   |

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>3.2</b>           | °C    |                     | 2/12/14          | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>8.0</b>           | mg/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>72</b>            | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.6</b>           | mg/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>3.0</b>           | mg/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>14</b>            | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>5.7</b>           | mg/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>120</b>           | ug/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>22</b>            | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>50</b>            | ug/L  | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/25/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/19/14          | ESTAFFORD1   |

DIVISION OF WATER RESOURCES  
Surface Water Fieldsheet

14W12521

COUNTY: Rockingham  
RIVER BASIN: ROANOKE  
REPORT TO: ESS  
SHIPPED BY: \_\_\_\_\_  
COLLECTOR(S): J. Smith

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

W SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Lab Number: A CD5053  
Date Received: 2-18-14  
Time Received: 8:35  
Received By: MAP  
Data Released: \_\_\_\_\_  
Date Reported: \_\_\_\_\_


Estimated BOD Range: \_\_\_\_\_

Station Location: Don River at NC/Va state line, Berry Hill Bridge

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: \_\_\_\_\_

| Station #/Location Code                                    | Date Begin (yy/mm/dd) | Date End (yy/mm/dd)                                    | Time Begin  | Time End | Depth - (DM, DB, DBM)  | Value Type - A, H, L | Composite - T, S, B   | Sample Type                            |
|--|-----------------------|--|-------------|----------|--|----------------------|---|--|
| <u>D1</u>  | <u>14/02/17</u>       |  | <u>9:45</u> |          | <u>0.15</u>  |                      |   | <u>G</u>                               |
| BOD 310  | mg/L                  | <input checked="" type="checkbox"/> Chloride 940       | mg/L        |          | NH3 as N 610   | mg/L                 | <input checked="" type="checkbox"/> Li- Lithium 1132        | ug/L                                   |
| COD High 340   | mg/L                  |  |             |          | TKN as N 625   | mg/L                 | <input checked="" type="checkbox"/> Mg- Magnesium 927       | mg/L                                   |
| COD Low 335  | mg/L                  | Chlorophyll a EPA 445.0 modified option                | ug/L        |          | NO2 plus NO3 as N 630  | mg/L                 | <input checked="" type="checkbox"/> Mn- Manganese 1055      | ug/L                                   |
| Coliform: MF Fecal 31616                                   | #/100 mls             |  |             |          | P: Total as P 665  | mg/L                 | <input checked="" type="checkbox"/> Na- Sodium 929          | mg/L                                   |
| Coliform: MF Total 31504                                   | #/100 mls             | Color: True 80   | c.u.        |          | PO4 as P 70507   | mg/L                 | <input checked="" type="checkbox"/> As- Arsenic: Total 1002 | ug/L                                   |
| Coliform: Tube Fecal 31615                                 | #/100 mls             | Color: (pH) 83 pH=                                     | c.u.        |          | P: Dissolved as P 666  | mg/L                 | <input checked="" type="checkbox"/> Se- Selenium 1147       | ug/L                                   |
| Coliform: Fecal Strep 31673                                | #/100 mls             | Color: pH 7.6 82                                       | c.u.        |          | K- Potassium   | mg/L                 | <input checked="" type="checkbox"/> Hg- Mercury 71900       | ug/L                                   |
| <input checked="" type="checkbox"/> Residue: Total 500     | mg/L                  | Cyanide 720  | mg/L        |          | <input checked="" type="checkbox"/> Cd- Cadmium 1027         | ug/L                 | <input checked="" type="checkbox"/> Ba- Barium              | ug/L                                   |
| Volatile 505   | mg/L                  | <input checked="" type="checkbox"/> Fluoride 951       | mg/L        |          | <input checked="" type="checkbox"/> Cr- Chromium: Total 1034 | ug/L                 |   | Organochlorine Pesticides              |
| Fixed 510  | mg/L                  | Formaldehyde 71880                                     | mg/L        |          | <input checked="" type="checkbox"/> Cu- Copper 1042          | ug/L                 |   | Organophosphorus Pesticides            |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L                  | Grease and Oils 556                                    | mg/L        |          | <input checked="" type="checkbox"/> Ni- Nickel 1067          | ug/L                 |   | Organonitrogen Pesticides              |
| Volatile 535   | mg/L                  | <input checked="" type="checkbox"/> Hardness Total 900 | mg/L        |          | <input checked="" type="checkbox"/> Pb- Lead 1051            | ug/L                 |   | Acid Herbicides                        |
| Fixed 540  | mg/L                  | Specific Cond. 95                                      | umhos/cm2   |          | <input checked="" type="checkbox"/> Zn- Zinc 1092            | ug/L                 |   |  |
| pH 403   | units                 | MBAS 38260   | mg/L        |          | <input checked="" type="checkbox"/> V- Vanadium              | ug/L                 |   | Base/Neutral&Acid Extractable Organics |
| Acidity to pH 4.5 436                                      | mg/L                  | Phenols 32730  | ug/L        |          | <input checked="" type="checkbox"/> Ag- Silver 1077          | ug/L                 |   | TPH Diesel Range                       |
| Acidity to pH 8.3 435                                      | mg/L                  | <input checked="" type="checkbox"/> Sulfate 945        | mg/L        |          | <input checked="" type="checkbox"/> Al- Aluminum 1105        | ug/L                 |   |  |
| Alkalinity to pH 8.3 415                                   | mg/L                  | Sulfide 745  | mg/L        |          | <input checked="" type="checkbox"/> Be- Beryllium 1012       | ug/L                 |   | Purgeable Organics (VOA bottle req'd)  |
| Alkalinity to pH 4.5 410                                   | mg/L                  | <input checked="" type="checkbox"/> Boron: Total 1022  | ug/L        |          | <input checked="" type="checkbox"/> Ca- Calcium 916          | mg/L                 |   | TPH Gasoline Range                     |
| TOC 680  | mg/L                  | Tannin & Lignin 32240                                  | ug/L        |          | <input checked="" type="checkbox"/> Co- Cobalt 1037          | ug/L                 |   | TPH/BTEX Gasoline Range                |
| Turbidity 82079  | NTU                   | Hexavalent Chromium 1032                               | ug/L        |          | Fe- Iron 1045  | ug/L                 |   | Phytoplankton                          |
| Coliform Total Tube 31508                                  | #/100 mls             | Bicarbonate  | mg/L        |          | <input checked="" type="checkbox"/> Mo- Molybdenum           | ug/L                 |   |  |
|  |                       | Carbonate  | mg/L        |          | Sb- Antimony   | ug/L                 | <input checked="" type="checkbox"/> Sr- STRONTIUM           |  |
| DOC - filtered   | mg/L                  | Total Dissolved Solids                                 | mg/L        |          | Sn- Tin  | ug/L                 |   |  |
|  |                       |  |             |          | <input checked="" type="checkbox"/> Tl- Thallium             | ug/L                 |   |  |
|  |                       |  |             |          | Ti- Titanium   | ug/L                 |   |  |
|  |                       |  |             |          | Hg- 1631   | ng/L                 |   |  |
|  |                       |  |             |          |  |                      | Temperature on arrival (°C): <u>1.3</u>                     |  |

COMMENTS: \_\_\_\_\_

|   |                     |  |                            |                          |
|---|---------------------|--|----------------------------|--------------------------|
| County:   | <b>ROCKINGHAM</b>   | <br><b>Division of Water Resources</b><br><b>Final Report</b> | Sample ID:                 | <b>AC05053</b>           |
| River Basin:  | <b>ROA01</b>        |  | PO Number #                | <b>14W12521</b>          |
| Report To:  | <b>ESS</b>          |  | Date Received:             | <b>02/18/2014</b>        |
| Collector:  | <b>J SMITH</b>      |  | Time Received:             | <b>08:05</b>             |
| Region:   | <b>WSRO</b>         |  | Labworks LoginID           | <b>MSWIFT</b>            |
| Sample Matrix:  | <b>SURFACEWATER</b> |  | Final Report Date:         | <b>2/27/14</b>           |
| Loc. Type:  | <b>RIVER/STREAM</b> |  | Report Print Date:         | <b>02/27/2014</b>        |
| Emergency Yes/No  | <b>Yes</b>          |  | VisitID                    |                          |
| COC Yes/No  | <b>Yes</b>          |  |                            |                          |
| Loc. Descr.: <b>DAN RIVER 8.6 MILES DOWNSTREAM OF VA STATE LINE</b>   |                     |  |                            |                          |
| Location ID: <b>D1</b>  |                     | Collect Date: <b>02/17/2014</b>  | Collect Time: <b>09:45</b> | Sample Depth <b>0.15</b> |
| <b>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</b> |                     |  |                            |                          |

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier          | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|-------------------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                               |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.3</b>                    | °C    |                     | 2/18/14          | RBYRD        |
| <b>WET</b> |                                      |      |                               |       |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>126</b>                    | mg/L  | SM 2540 B-1997      | 2/18/14          | CGREEN       |
|            | Residue_Suspended in liquid          | 6.2  | <b>52</b>                     | mg/L  | SM 2540 D-1997      | 2/18/14          | CGREEN       |
|            | Ion Chromatography                   |      | <u>    </u><br><b>_TITLE_</b> | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>14</b>                     | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>                  | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>4.4</b>                    | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
| <b>MET</b> |                                      |      |                               |       |                     |                  |              |
| 7429-90-5  | Al by ICP                            | 50   | <b>1700</b>                   | ug/L  | EPA 200.7           | 2/21/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>                  | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>92</b>                     | ug/L  | EPA 200.7           | 2/21/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>39</b>                     | ug/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>7.0</b>                    | mg/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>                 | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>                   | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>2.6</b>                    | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>2100</b>                   | ug/L  | EPA 200.7           | 2/21/14          | ESTAFFORD1   |
| 7440-09-7  | K by ICP                             | 0.10 | <b>2.1</b>                    | mg/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7439-95-4  | Mg by ICP                            | 0.10 | <b>2.9</b>                    | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7439-96-5  | Mn by ICP                            | 10   | <b>42</b>                     | ug/L  | EPA 200.7           | 2/21/14          | ESTAFFORD1   |
| 7440-23-5  | Na by ICP                            | 0.10 | <b>7.3</b>                    | mg/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-02-0  | Ni by ICPMS                          | 2.0  | <b>2.0 U</b>                  | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-92-1  | Pb by ICPMS                          | 2.0  | <b>2.0 U</b>                  | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7782-49-2  | Se by ICPMS                          | 5.0  | <b>5.0 U</b>                  | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-24-6  | Sr by ICPMS                          | 10   | <b>47</b>                     | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) ICPMS                  | 2.0  | <b>2.0 U</b>                  | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) by ICP                 | 10   | <b>74</b>                     | ug/L  | EPA 200.7           | 2/20/14          | ESTAFFORD1   |
| 7440-62-2  | V by ICP                             | 25   | <b>25 U</b>                   | ug/L  | EPA 200.7           | 2/21/14          | ESTAFFORD1   |
| 7440-66-6  | Zn by ICP                            | 10   | <b>10 U</b>                   | ug/L  | EPA 200.7           | 2/21/14          | ESTAFFORD1   |

HW 12536

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Other :  
 COLLECTOR(S) : S. Wang / S. Berry  
 Estimated BOD Range:

VISIT ID  
10

Lab Number : ACO 5068  
 Date Received : 2-18-14  
 Time Received : 8:15  
 Received By : MP  
 Data Released :  
 Date Reported :

2

Station Location: DS - VA Line (Downstream at VA line)


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/02/17              | 14/02/17            | 11:50      | 12:20    |                     |                      |                   | G           |

|  |         |  |          |   |      |   |      |
|--|---------|--|----------|---|------|---|------|
| <input type="checkbox"/> BOD 310                           | mg/L    | <input checked="" type="checkbox"/> Chloride 940                 | mg/L     | <input checked="" type="checkbox"/> NH3 as N 6f0            | mg/L | <input checked="" type="checkbox"/> Li-Lithium 1132             | ug/L |
| <input type="checkbox"/> COD High 340                      | mg/L    | <input type="checkbox"/> Chlorophyll a EPA 445.0 modified option | ug/L     | <input checked="" type="checkbox"/> K-Nan N 635             | mg/L | <input checked="" type="checkbox"/> Mg- Magnesium 927           | mg/L |
| <input type="checkbox"/> COD Low 335                       | mg/L    | <input type="checkbox"/> Color: True 80                          | c.u.     | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630   | mg/L | <input checked="" type="checkbox"/> Mn-Manganese 1055           | ug/L |
| <input type="checkbox"/> Coliform: MF Fecal 31616          | /100ml  | <input type="checkbox"/> Color: (pH) 83 pH=                      | c.u.     | <input checked="" type="checkbox"/> P: Total as P 665       | mg/L | <input checked="" type="checkbox"/> Na- Sodium 929              | mg/L |
| <input type="checkbox"/> Coliform: MF Total 31504          | /100ml  | <input type="checkbox"/> Color: pH 7.6 82                        | c.u.     | <input type="checkbox"/> PO4 as P 70507                     | mg/L | <input checked="" type="checkbox"/> Arsenic: Total 1002         | ug/L |
| <input type="checkbox"/> Coliform: tube Fecal 31615        | /100ml  | <input type="checkbox"/> Cyanide 720                             | mg/L     | <input type="checkbox"/> P: Dissolved as P 666              | mg/L | <input checked="" type="checkbox"/> Se- Selenium 1147           | ug/L |
| <input type="checkbox"/> Coliform: Fecal Strep 31673       | /100ml  | <input checked="" type="checkbox"/> Fluoride 951                 | mg/L     | <input checked="" type="checkbox"/> K-Potassium             | mg/L | <input type="checkbox"/> Hg- Mercury 71900                      | ug/L |
| <input checked="" type="checkbox"/> Residue: Total 500     | mg/L    | <input type="checkbox"/> Formaldehyde 71880                      | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L | <input checked="" type="checkbox"/> Ba-Barium                   | ug/L |
| <input type="checkbox"/> Volatile 505                      | mg/L    | <input type="checkbox"/> Grease and Oils 556                     | mg/L     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L | <input type="checkbox"/> Organochlorine Pesticides              |      |
| <input type="checkbox"/> Fixed 510                         | mg/L    | <input type="checkbox"/> Hardness Total 900                      | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L | <input type="checkbox"/> Organophosphorus Pesticides            |      |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L    | <input type="checkbox"/> Specific Cond. 95                       | umhos/cm | <input checked="" type="checkbox"/> Ni-Nickel 1067          | ug/L | <input type="checkbox"/> Organonitrogen Pesticides              |      |
| <input type="checkbox"/> Volatile 535                      | mg/L    | <input type="checkbox"/> MBAS 38260                              | mg/L     | <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L | <input type="checkbox"/> Acid Herbicides                        |      |
| <input type="checkbox"/> Fixed 540                         | mg/L    | <input type="checkbox"/> Phenols 32730                           | ug/L     | <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L | <input type="checkbox"/> Base/Neutral&Acid Extractable Organics |      |
| <input type="checkbox"/> pH 403                            | units   | <input checked="" type="checkbox"/> Sulfate 945                  | mg/L     | <input checked="" type="checkbox"/> V-Vanadium              | ug/L | <input type="checkbox"/> TPH Diesel Range                       |      |
| <input type="checkbox"/> Acidity to pH 4.5 436             | mg/L    | <input type="checkbox"/> Sulfide 745                             | mg/L     | <input checked="" type="checkbox"/> Ag- Silver 1077         | ug/L | <input type="checkbox"/> Purgeable Organics (VOA bottle req'd)  |      |
| <input type="checkbox"/> Acidity to pH 8.3 435             | mg/L    | <input type="checkbox"/> Boron                                   |          | <input checked="" type="checkbox"/> Al- Aluminum 1105       | ug/L | <input type="checkbox"/> TPH Gasoline Range                     |      |
| <input type="checkbox"/> Alkalinity to pH 8.3 415          | mg/L    | <input type="checkbox"/> Tannin & Lignin                         | ug/L     | <input checked="" type="checkbox"/> Be- Beryllium 1012      | ug/L | <input type="checkbox"/> TPH/BTEX Gasoline Range                |      |
| <input type="checkbox"/> Alkalinity to pH 4.5 410          | mg/L    | <input type="checkbox"/> Hexavalent Chromium                     | ug/L     | <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L | <input type="checkbox"/> Phytoplankton                          |      |
| <input type="checkbox"/> TOC 680                           | mg/L    | <input type="checkbox"/> Bicarbonate                             | mg/L     | <input checked="" type="checkbox"/> Co- Cobalt 1037         | ug/L |   |      |
| <input checked="" type="checkbox"/> Turbidity 76           | NTU     | <input type="checkbox"/> Carbonate                               | mg/L     | <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L |   |      |
| <input type="checkbox"/> Coliform Total Tube               | /100 ml | <input checked="" type="checkbox"/> Total Dissolved Solids       | mg/L     | <input checked="" type="checkbox"/> Mo-Molybdenum           | ug/L |   |      |
|  |         |  |          | <input checked="" type="checkbox"/> Sb-Antimony             | ug/L |   |      |
|  |         |  |          | <input checked="" type="checkbox"/> Sn-Tin                  | ug/L |   |      |
|  |         |  |          | <input checked="" type="checkbox"/> Tl-Thallium             | ug/L |   |      |
|  |         |  |          | <input checked="" type="checkbox"/> Ti-Titanium             | ug/L |   |      |
|  |         |  |          | <input type="checkbox"/> Hg-1631                            | ng/L |   |      |
|  |         |  |          |   |      | Temperature on arrival (°C):                                    | 11   |

COMMENTS : \_\_\_\_\_



|  |                     |  |                                 |                                 |
|--|---------------------|--|---------------------------------|---------------------------------|
| County:                                  | <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID:                      | <b>AC05068</b>                  |
| River Basin:                             | <b>ROA1</b>         |  | PO Number #                     | <b>14W12536</b>                 |
| Report To:                               | <b>WSROSP</b>       |  | Date Received:                  | <b>02/18/2014</b>               |
| Collector:                               | <b>S WANG</b>       |  | Time Received:                  | <b>08:15</b>                    |
| Region:                                  | <b>WSRO</b>         |  | Labworks LoginID                | <b>MSWIFT</b>                   |
| Sample Matrix:                           | <b>SURFACEWATER</b> |  | Final Report Date:              | <b>2/27/14</b>                  |
| Loc. Type:                               | <b>STREAM</b>       |  | Report Print Date:              | <b>02/27/2014</b>               |
| Emergency Yes/No                         | <u>Yes</u>          |  | VisitID                         | <input type="text" value="10"/> |
| COC Yes/No                               | <u>Yes</u>          |  | Loc. Descr.:                    | <b>DS-VA LINE</b>               |
| Location ID: <b>4P079NC0003468ASHDAN</b> |                     |  | Collect Date: <b>02/17/2014</b> | Collect Time: <b>12:20</b>      |

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.1</b>           | °C    |                     | 2/18/14          | MSWIFT       |
| <b>MIC</b> |                                      |      |                      |       |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>30</b>            | NTU   | APHA2130B-20th      | 2/18/14          | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |       |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>136</b>           | mg/L  | SM 2540 B-1997      | 2/19/14          | CGREEN       |
|            | Residue_Suspended in liquid          | 6.2  | <b>38</b>            | mg/L  | SM 2540 D-1997      | 2/18/14          | CGREEN       |
|            | Ion Chromatography                   |      | <u>  TITLE  </u>     | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>13</b>            | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>4.1</b>           | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Total Dissolved Solids in liquid     | 12   | <b>80</b>            | mg/L  | SM 2540 C-1997      | 2/19/14          | CGREEN       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7429-90-5  | Al by ICP                            | 50   | <b>2000</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>90</b>            | ug/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>42</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>7.1</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>2.3</b>           | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>2200</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-09-7  | K by ICP                             | 0.10 | <b>2.0</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7439-95-4  | Mg by ICP                            | 0.10 | <b>2.9</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7439-96-5  | Mn by ICP                            | 10   | <b>45</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-23-5  | Na by ICP                            | 0.10 | <b>7.2</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-02-0  | Ni by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-92-1  | Pb by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7782-49-2  | Se by ICPMS                          | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-24-6  | Sr by ICPMS                          | 10   | <b>47</b>            | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) ICPMS                  | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) by ICP                 | 10   | <b>79</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |

Laboratory Section >> 1623 Mail Service Center, Raleigh, NC 27699-1623 (919) 733-3908

For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC05068

Collect Date: 02/17/2014

Collect Time: 12:20

**MET**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-62-2    | V by ICP            | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/24/14                  | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP           | 10         | <b>10 U</b>                  | ug/L         | EPA 200.7                   | 2/24/14                  | ESTAFFORD1          |



14W 12532 mp 2/18/14

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID 17

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Other :  
 COLLECTOR(S) : S. W. Wang / S. B. Omy  
 Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA Line)

Lab Number : AC05069  
 Date Received : 2-18-14  
 Time Received : 8:15  
 Received By : mp  
 Data Released :  
 Date Reported :

2

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_


Remarks: Dissolved Metals

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End     | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------------|-----------------------|---------------------|--------------|--------------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ash Dan</u> | <u>1/24/14</u>        | <u>1/24/14</u>      | <u>11:50</u> | <u>12:30</u> |                     |                      |                   | G           |

|                             |         |   |          |   |      |   |      |
|-----------------------------|---------|---|----------|---|------|---|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610  | mg/L | <input checked="" type="checkbox"/> Li-Lithium 1132     | ug/L |
| COD High 340                | mg/L    |   |          | TKN an N 625  | mg/L | <input checked="" type="checkbox"/> Mg- Magnesium 927   | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630                                       | mg/L | <input checked="" type="checkbox"/> Mn-Manganese 1055   | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665   | mg/L | <input checked="" type="checkbox"/> Na- Sodium 929      | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507  | mg/L | <input checked="" type="checkbox"/> Arsenic: Total 1002 | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH ) 83 pH=                     | c.u.     | P: Dissolved as P 666                                       | mg/L | <input checked="" type="checkbox"/> Se- Selenium 1147   | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | <input checked="" type="checkbox"/> K-Potassium             | mg/L | <input checked="" type="checkbox"/> Hg- Mercury 71900   | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L | <input checked="" type="checkbox"/> Ba-Barium           | ug/L |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides                               |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L | Organophosphorus Pesticides                             |      |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | <input checked="" type="checkbox"/> Ni-Nickel 1067          | ug/L | Organonitrogen Pesticides                               |      |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L | Acid Herbicides   |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L |   |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | <input checked="" type="checkbox"/> V-Vanadium              | ug/L | Base/Neutral & Acid Extractable Organics                |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | <input checked="" type="checkbox"/> Ag- Silver 1077         | ug/L | TPH Diesel Range  |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | <input checked="" type="checkbox"/> Al- Aluminum 1105       | ug/L |   |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | <input checked="" type="checkbox"/> Be- Beryllium 1012      | ug/L | Purgeable Organics (VOA bottle req'd)                   |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L | TPH Gasoline Range                                      |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | <input checked="" type="checkbox"/> Co- Cobalt 1037         | ug/L | TPH/BTEX Gasoline Range                                 |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L | Phytoplankton   |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | <input checked="" type="checkbox"/> Mo-Molybdenum           | ug/L |   |      |
|                             |         | Carbonate                               | mg/L     | <input checked="" type="checkbox"/> Sb-Antimony             | ug/L |   |      |
|                             |         | Total Dissolved Solids                  | mg/L     | <input checked="" type="checkbox"/> Sn-Tin                  | ug/L |   |      |
|                             |         |   |          | <input checked="" type="checkbox"/> Tl-Thallium             | ug/L |   |      |
|                             |         |   |          | <input checked="" type="checkbox"/> Ti-Titanium             | ug/L |   |      |
|                             |         |   |          | Hg-1631   | ng/L |   |      |

Temperature on arrival (°C): 11

COMMENTS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

|                                    |  |  |
|------------------------------------|--|--|
| County: <b>ROCKINGHAM</b>          | <br><b>Final Report</b> | Sample ID: <b>AC05069</b>                |
| River Basin: <b>ROA1</b>           |  | PO Number #: <b>14W12537</b>             |
| Report To: <b>WSROSP</b>           |  | Date Received: <b>02/18/2014</b>         |
| Collector: <b>S WANG</b>           |  | Time Received: <b>08:15</b>              |
| Region: <b>WSRO</b>                |  | Labworks LoginID: <b>MSWIFT</b>          |
| Sample Matrix: <b>SURFACEWATER</b> |  | Final Report Date: <b>2/27/14</b>        |
| Loc. Type: <b>STREAM</b>           |  | Report Print Date: <b>02/27/2014</b>     |
| Emergency Yes/No: <b>Yes</b>       |  | VisitID: <input type="text" value="10"/> |
| COC Yes/No: <b>Yes</b>             |  |  |
| Loc. Descr.: <b>DS-VA LINE</b>     |  |  |

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/17/2014</b> | Collect Time: <b>12:20</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.1</b>           | °C    |                     | 2/18/14          | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>6.7</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>62</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.8</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.6</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>7.0</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>90</b>            | ug/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>22</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>45</b>            | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

14W12555 <sup>11/18/14</sup>  
14W12555

COUNTY : Rockingham  
RIVER BASIN : Roanoke  
REPORT TO : Winston-Salem Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Other :  
COLLECTOR(S) : S. Wang / S. Perry

VISIT ID  
10

2

Lab Number : A005096  
Date Received : 2-18-14  
Time Received : 8:15  
Received By : [Signature]  
Data Released :  
Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA line)

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: Mercury - 4314g96

| Station #/Location Code      | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin  | Time End     | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|------------------------------|-----------------------|---------------------|-------------|--------------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ashdan</u> | <u>14/02/17</u>       | <u>14/02/17</u>     | <u>7:50</u> | <u>12:20</u> |                     |                      |                   | G           |

|                             |         |   |          |   |      |  |      |
|-----------------------------|---------|---|----------|---|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610                                | mg/L | Li-Lithium 1132                          | ug/L |
| COD High 340                | mg/L    |   |          | TKN an N 625                                | mg/L | Mg- Magnesium 927                        | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630                       | mg/L | Mn-Manganese 1055                        | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665                           | mg/L | Na- Sodium 929                           | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507                              | mg/L | Arsenic: Total 1002                      | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH) 83 pH=                      | c.u.     | P: Dissolved as P 666                       | mg/L | Se- Selenium 1147                        | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | K-Potassium                                 | mg/L | Hg- Mercury 71900                        | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | Cd- Cadmium 1027                            | ug/L | Ba-Barium                                | ug/L |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | Cr-Chromium: Total 1034                     | ug/L | Organochlorine Pesticides                |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | Cu- Copper 1042                             | ug/L | Organophosphorus Pesticides              |      |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | Ni-Nickel 1067                              | ug/L | Organonitrogen Pesticides                |      |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | Pb- Lead 1051                               | ug/L | Acid Herbicides                          |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | Zn- Zinc 1092                               | ug/L |  |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | V-Vanadium                                  | ug/L | Base/Neutral & Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077                             | ug/L | TPH Diesel Range                         |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | Al- Aluminum 1105                           | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012                          | ug/L | Purgeable Organics (VOA bottle req'd)    |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | Ca- Calcium 916                             | mg/L | TPH Gasoline Range                       |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037                             | ug/L | TPH/BTEX Gasoline Range                  |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | Fe- Iron 1045                               | ug/L | Phytoplankton                            |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo-Molybdenum                               | ug/L |  |      |
|                             |         | Carbonate                               | mg/L     | Sb-Antimony                                 | ug/L |  |      |
|                             |         | Total Dissolved Solids                  | mg/L     | Sn-Tin                                      | ug/L |  |      |
|                             |         |   |          | Tl-Thallium                                 | ug/L |  |      |
|                             |         |   |          | Ti-Titanium                                 | ug/L |  |      |
|                             |         |   |          | <input checked="" type="checkbox"/> Hg-1631 | ng/L | Temperature on arrival (°C):             |      |

COMMENTS : 7E0117g24

County: **ROCKINGHAM**  
 River Basin: **ROA1**  
 Report To: **WSROSP**  
 Collector: **S WANG**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No: Yes  
 COC Yes/No: Yes

**Final Report**VisitID Loc. Descr.: **DS-VA LINE**

Sample ID: **AC05096**  
 PO Number #: **14W12555**  
 Date Received: **02/18/2014**  
 Time Received: **08:15**  
 Labworks LoginID: **MSWIFT**  
 Final Report Date: **3/3/14**  
 Report Print Date: **03/03/2014**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/17/2014</b> | Collect Time: <b>12:20</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>6.27</b>                  | ng/L         | EPA 1631E                   | 2/28/14                  | ESTAFFORD1          |

14W 125 75

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : Sunder Iverson

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

VISIT ID

2

Lab Number : AC05012  
 Date Received : 2-18-2014  
 Time Received : 11:15  
 Received By : AS (MS)  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA line)


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type G |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|---------------|
| 4P079NC0003468AshDan    | 14/02/18              |                     | 0500       |          |                     |                      |                   |               |

|  |         |  |          |   |      |   |  |
|--|---------|--|----------|---|------|---|--|
| <input type="checkbox"/> BOD 310                           | mg/L    | <input checked="" type="checkbox"/> Chloride 940                 | mg/L     | <input checked="" type="checkbox"/> NH2 as N 610            | mg/L | <input checked="" type="checkbox"/> Li-Lithium 1132     | ug/L                                     |
| <input type="checkbox"/> COD High 340                      | mg/L    | <input type="checkbox"/>   |          | <input checked="" type="checkbox"/> TKN as N 625            | mg/L | <input checked="" type="checkbox"/> Mg- Magnesium 927   | mg/L                                     |
| <input type="checkbox"/> COD Low 335                       | mg/L    | <input type="checkbox"/> Chlorophyll a EPA 445.0 modified option | ug/L     | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630   | mg/L | <input checked="" type="checkbox"/> Mn-Manganese 1055   | ug/L                                     |
| <input type="checkbox"/> Coliform: MF Fecal 31616          | /100ml  | <input type="checkbox"/>   |          | <input checked="" type="checkbox"/> P: Total as P 665       | mg/L | <input checked="" type="checkbox"/> Na- Sodium 929      | mg/L                                     |
| <input type="checkbox"/> Coliform: MF Total 31504          | /100ml  | <input type="checkbox"/> Color: True 80                          | c.u.     | <input type="checkbox"/> PO4 as P 70507                     | mg/L | <input checked="" type="checkbox"/> Arsenic: Total 1002 | ug/L                                     |
| <input type="checkbox"/> Coliform: tube Fecal 31615        | /100ml  | <input type="checkbox"/> Color: (pH) 83                          | pH= c.u. | <input type="checkbox"/> P: Dissolved as P 666              | mg/L | <input checked="" type="checkbox"/> Se- Selenium 1147   | ug/L                                     |
| <input type="checkbox"/> Coliform: Fecal Strep 31673       | /100ml  | <input type="checkbox"/> Color: pH 7.6 82                        | c.u.     | <input checked="" type="checkbox"/> K-Potassium             | mg/L | <input type="checkbox"/> Hg- Mercury 71900              | ug/L                                     |
| <input checked="" type="checkbox"/> Residue: Total 500     | mg/L    | <input type="checkbox"/> Cyanide 720                             | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L | <input checked="" type="checkbox"/> Ba-Barium           | ug/L                                     |
| <input type="checkbox"/> Volatile 505                      | mg/L    | <input checked="" type="checkbox"/> Fluoride 951                 | mg/L     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L | <input type="checkbox"/>                                | Organochlorine Pesticides                |
| <input type="checkbox"/> Fixed 510                         | mg/L    | <input type="checkbox"/> Formaldehyde 71880                      | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L | <input type="checkbox"/>                                | Organophosphorus Pesticides              |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L    | <input type="checkbox"/> Grease and Oils 556                     | mg/L     | <input checked="" type="checkbox"/> Ni-Nickel 1067          | ug/L | <input type="checkbox"/>                                | Organonitrogen Pesticides                |
| <input type="checkbox"/> Volatile 535                      | mg/L    | <input type="checkbox"/> Hardness Total 900                      | mg/L     | <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L | <input type="checkbox"/>                                | Acid Herbicides                          |
| <input type="checkbox"/> Fixed 540                         | mg/L    | <input type="checkbox"/> Specific Cond. 95                       | umhos/cm | <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L | <input type="checkbox"/>                                |  |
| <input type="checkbox"/> pH 403                            | units   | <input type="checkbox"/> MBAS 38260                              | mg/L     | <input checked="" type="checkbox"/> V-Vanadium              | ug/L | <input type="checkbox"/>                                | Base/Neutral & Acid Extractable Organics |
| <input type="checkbox"/> Acidity to pH 4.5 436             | mg/L    | <input type="checkbox"/> Phenols 32730                           | ug/L     | <input checked="" type="checkbox"/> Ag- Silver 1077         | ug/L | <input type="checkbox"/>                                | TPH Diesel Range                         |
| <input type="checkbox"/> Acidity to pH 8.3 435             | mg/L    | <input checked="" type="checkbox"/> Sulfate 945                  | mg/L     | <input checked="" type="checkbox"/> Al- Aluminum 1105       | ug/L | <input type="checkbox"/>                                |  |
| <input type="checkbox"/> Alkalinity to pH 8.3 415          | mg/L    | <input type="checkbox"/> Sulfide 745                             | mg/L     | <input checked="" type="checkbox"/> Be- Beryllium 1012      | ug/L | <input type="checkbox"/>                                | Purgeable Organics (VOA bottle req'd)    |
| <input type="checkbox"/> Alkalinity to pH 4.5 410          | mg/L    | <input type="checkbox"/> Boron                                   |          | <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L | <input type="checkbox"/>                                | TPH Gasoline Range                       |
| <input type="checkbox"/> TOC 680                           | mg/L    | <input type="checkbox"/> Tannin & Lignin                         | ug/L     | <input checked="" type="checkbox"/> Co- Cobalt 1037         | ug/L | <input type="checkbox"/>                                | TPH/BTEX Gasoline Range                  |
| <input checked="" type="checkbox"/> Turbidity 76           | NTU     | <input type="checkbox"/> Hexavalent Chromium                     | ug/L     | <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L | <input type="checkbox"/>                                | Phytoplankton                            |
| <input type="checkbox"/> Coliform Total Tube               | /100 ml | <input type="checkbox"/> Bicarbonate                             | mg/L     | <input checked="" type="checkbox"/> Mo-Molybdenum           | ug/L | <input type="checkbox"/>                                |  |
|  |         | <input type="checkbox"/> Carbonate                               | mg/L     | <input checked="" type="checkbox"/> Sb-Antimony             | ug/L | <input type="checkbox"/>                                |  |
|  |         | <input checked="" type="checkbox"/> Total Dissolved Solids       | mg/L     | <input checked="" type="checkbox"/> Sn-Tin                  | ug/L | <input type="checkbox"/>                                |  |
|  |         |  |          | <input checked="" type="checkbox"/> Tl-Thallium             | ug/L | <input type="checkbox"/>                                |  |
|  |         |  |          | <input checked="" type="checkbox"/> Ti-Titanium             | ug/L | <input type="checkbox"/>                                |  |
|  |         |  |          | <input type="checkbox"/> Hg-1631                            | ng/L | <input type="checkbox"/>                                | Temperature on arrival (°C): <u>29</u>   |

COMMENTS : \_\_\_\_\_

|                                  |                     |  |                    |                   |
|----------------------------------|---------------------|--|--------------------|-------------------|
| County:                          | <b>ROCKINGHAM</b>   | <br><b>Division of Water Resources</b><br><b>Final Report</b> | Sample ID:         | <b>AC05112</b>    |
| River Basin:                     | <b>ROA01</b>        |  | PO Number #        | <b>14W12575</b>   |
| Report To:                       | <b>WSROSP</b>       |  | Date Received:     | <b>02/18/2014</b> |
| Collector:                       | <b>J IVERSON</b>    |  | Time Received:     | <b>13:15</b>      |
| Region:                          | <b>WSRO</b>         |  | Labworks LoginID   | <b>MSWIFT</b>     |
| Sample Matrix:                   | <b>SURFACEWATER</b> |  | Final Report Date: | <b>2/27/14</b>    |
| Loc. Type:                       | <b>STREAM</b>       |  | Report Print Date: | <b>02/27/2014</b> |
| Emergency Yes/No                 | <b>Yes</b>          |  | VisitID            |                   |
| COC Yes/No                       | <b>Yes</b>          |  |                    |                   |
| Loc. Descr.: <b>DS - VA LINE</b> |                     |  |                    |                   |

|              |                             |               |                   |               |              |              |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|--------------|--|
| Location ID: | <b>4P079NC0003468ASHDAN</b> | Collect Date: | <b>02/18/2014</b> | Collect Time: | <b>10:56</b> | Sample Depth |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|--------------|--|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                     | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|----------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>MIC</b> |                                  |      |                      |       |                     |                  |              |
|            | Turbidity                        | 1.0  | <b>27</b>            | NTU   | APHA2130B-20th      | 2/18/14          | ESTAFFORD1   |
| <b>WET</b> |                                  |      |                      |       |                     |                  |              |
|            | Residue_Total in liquid          | 12   | <b>111</b>           | mg/L  | SM 2540 B-1997      | 2/19/14          | CGREEN       |
|            | Residue_Suspended in liquid      | 6.2  | <b>27</b>            | mg/L  | SM 2540 D-1997      | 2/19/14          | CGREEN       |
|            | Ion Chromatography               |      | <b>_TITLE_</b>       | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Chloride                         | 1.0  | <b>14</b>            | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Fluoride                         | 0.4  | <b>0.4 U</b>         | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Sulfate                          | 2.0  | <b>4.0</b>           | mg/L  | EPA 300.0 rev2.1    | 2/20/14          | CGREEN       |
|            | Total Dissolved Solids in liquid | 12   | <b>78</b>            | mg/L  | SM 2540 C-1997      | 2/20/14          | CGREEN       |
| <b>MET</b> |                                  |      |                      |       |                     |                  |              |
| 7429-90-5  | Al by ICP                        | 50   | <b>1500</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                      | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                         | 50   | <b>110</b>           | ug/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                        | 10   | <b>35</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                        | 0.10 | <b>7.2</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                      | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                      | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                        | 50   | <b>1800</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-09-7  | K by ICP                         | 0.10 | <b>1.9</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7439-95-4  | Mg by ICP                        | 0.10 | <b>2.9</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7439-96-5  | Mn by ICP                        | 10   | <b>32</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-23-5  | Na by ICP                        | 0.10 | <b>6.8</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-02-0  | Ni by ICPMS                      | 2.0  | <b>2.8</b>           | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-92-1  | Pb by ICPMS                      | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7782-49-2  | Se by ICPMS                      | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-24-6  | Sr by ICPMS                      | 10   | <b>44</b>            | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) ICPMS              | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) by ICP             | 10   | <b>57</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-62-2  | V by ICP                         | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-66-6  | Zn by ICP                        | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |

Laboratory Section>> 1623 Mail Service Center, Raleigh, NC 27699-1623 (919) 733-3908

For a detailed description of the qualifier codes refer to [http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data\\_Qualifier\\_Codes](http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes) <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>

14W/25 76

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office

Other :  
 COLLECTOR(S) : Snyder / Peterson

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number AC05113  
 Date Received : 7/8/21  
 Time Received : 1:15  
 Received By : AS (M)  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA Line)

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_


Remarks: Dissolved Metals

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------------|-----------------------|---------------------|--------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ash Dam</u> | <u>19/03/13</u>       |                     | <u>10:56</u> |          |                     |                      |                   | G           |

|                             |         |   |          |   |      |   |            |
|-----------------------------|---------|---|----------|---|------|---|------------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610  | mg/L | <input checked="" type="checkbox"/> Li-Lithium 1132     | ug/L       |
| COD High 340                | mg/L    |   |          | TKN an N 625  | mg/L | <input checked="" type="checkbox"/> Mg- Magnesium 927   | mg/L       |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630                                       | mg/L | <input checked="" type="checkbox"/> Mn-Manganese 1055   | ug/L       |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665   | mg/L | <input checked="" type="checkbox"/> Na- Sodium 929      | mg/L       |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507  | mg/L | <input checked="" type="checkbox"/> Arsenic: Total 1002 | ug/L       |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH) 83 pH=                      | c.u.     | P: Dissolved as P 666                                       | mg/L | <input checked="" type="checkbox"/> Se- Selenium 1147   | ug/L       |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | <input checked="" type="checkbox"/> K-Potassium             | mg/L | <input checked="" type="checkbox"/> Hg- Mercury 71900   | ug/L       |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L | <input checked="" type="checkbox"/> Ba-Barium           | ug/L       |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides                               |            |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L | Organophosphorus Pesticides                             |            |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | <input checked="" type="checkbox"/> Ni-Nickel 1067          | ug/L | Organonitrogen Pesticides                               |            |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L | Acid Herbicides   |            |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L | Base/Neutral & Acid Extractable Organics                |            |
| pH 403                      | units   | MBAS 38260                              | mg/L     | <input checked="" type="checkbox"/> V-Vanadium              | ug/L | TPH Diesel Range  |            |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | <input checked="" type="checkbox"/> Ag- Silver 1077         | ug/L | Purgeable Organics (VOA bottle req'd)                   |            |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | <input checked="" type="checkbox"/> Al- Aluminum 1105       | ug/L | TPH Gasoline Range                                      |            |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | <input checked="" type="checkbox"/> Be- Beryllium 1012      | ug/L | TPH/BTEX Gasoline Range                                 |            |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L | Phytoplankton   |            |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | <input checked="" type="checkbox"/> Co- Cobalt 1037         | ug/L |   |            |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L |   |            |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | <input checked="" type="checkbox"/> Mo-Molybdenum           | ug/L |   |            |
|                             |         | Carbonate                               | mg/L     | <input checked="" type="checkbox"/> Sb-Antimony             | ug/L |   |            |
|                             |         | Total Dissolved Solids                  | mg/L     | <input checked="" type="checkbox"/> Sn-Tin                  | ug/L |   |            |
|                             |         |   |          | <input checked="" type="checkbox"/> Tl-Thallium             | ug/L |   |            |
|                             |         |   |          | <input checked="" type="checkbox"/> Ti-Titanium             | ug/L |   |            |
|                             |         |   |          | Hg-1631   | ng/L | Temperature on arrival (°C):                            | <u>3.5</u> |

COMMENTS :



|                                    |  |                                      |
|------------------------------------|--|--------------------------------------|
| County: <b>ROCKINGHAM</b>          | <br><b>Final Report</b> | Sample ID: <b>AC05113</b>            |
| River Basin: <b>ROA01</b>          |  | PO Number #: <b>14W12576</b>         |
| Report To: <b>WSROSP</b>           |  | Date Received: <b>02/18/2014</b>     |
| Collector: <b>J IVERSON</b>        |  | Time Received: <b>13:15</b>          |
| Region: <b>WSRO</b>                |  | Labworks LoginID: <b>MSWIFT</b>      |
| Sample Matrix: <b>SURFACEWATER</b> |  | Final Report Date: <b>2/27/14</b>    |
| Loc. Type: <b>STREAM</b>           |  | Report Print Date: <b>02/27/2014</b> |
| Emergency Yes/No: <b>Yes</b>       |  | VisitID:                             |
| COC Yes/No: <b>Yes</b>             |  |                                      |
| Loc. Descr.: <b>DS - VA LINE</b>   |  |                                      |

|  |                                 |                            |               |
|--|---------------------------------|----------------------------|---------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/18/2014</b> | Collect Time: <b>10:56</b> | Sample Depth: |
|--|---------------------------------|----------------------------|---------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>3.9</b>           | °C    |                     | 2/18/14          | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>6.9</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>55</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.8</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.8</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>6.8</b>           | mg/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>100</b>           | ug/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>23</b>            | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>46</b>            | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 2/26/14          | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/24/14          | ESTAFFORD1   |



14K/2589

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : Snider, Nelson

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Lab Number : AC05122  
 Date Received : 2/15/13  
 Time Received : 1:15  
 Received By : [Signature]  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA line)

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: Mercury HBI Hg 116

| Station #/Location Code      | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|------------------------------|-----------------------|---------------------|--------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>AshDan</u> | <u>4/10/13</u>        |                     | <u>10:48</u> |          |                     |                      |                   | G           |

|                             |         |   |          |   |      |  |      |
|-----------------------------|---------|---|----------|---|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610                                | mg/L | Li-Lithium 1132                          | ug/L |
| COD High 340                | mg/L    |   |          | TKN an N 625                                | mg/L | Mg- Magnesium 927                        | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630                       | mg/L | Mn-Manganese 1055                        | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665                           | mg/L | Na- Sodium 929                           | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507                              | mg/L | Arsenic: Total 1002                      | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH ) 83 pH=                     | c.u.     | P: Dissolved as P 666                       | mg/L | Sc- Selenium 1147                        | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | K-Potassium                                 | mg/L | Hg- Mercury 71900                        | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | Cd- Cadmium 1027                            | ug/L | Ba-Barium                                | ug/L |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | Cr-Chromium: Total 1034                     | ug/L | Organochlorine Pesticides                |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | Cu- Copper 1042                             | ug/L | Organophosphorus Pesticides              |      |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | Ni-Nickel 1067                              | ug/L | Organonitrogen Pesticides                |      |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | Pb- Lead 1051                               | ug/L | Acid Herbicides                          |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | Zn- Zinc 1092                               | ug/L |  |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | V-Vanadium                                  | ug/L | Base/Neutral & Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077                             | ug/L | TPH Diesel Range                         |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | Al- Aluminum 1105                           | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012                          | ug/L | Purgeable Organics (VOA bottle req'd)    |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | Ca- Calcium 916                             | mg/L | TPH Gasoline Range                       |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037                             | ug/L | TPH/BTEX Gasoline Range                  |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | Fe- Iron 1045                               | ug/L | Phytoplankton                            |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo-Molybdenum                               | ug/L |  |      |
|                             |         | Carbonate                               | mg/L     | Sb-Antimony                                 | ug/L |  |      |
|                             |         | Total Dissolved Solids                  | mg/L     | Sn-Tin                                      | ug/L |  |      |
|                             |         |   |          | Tl-Thallium                                 | ug/L |  |      |
|                             |         |   |          | Ti-Titanium                                 | ug/L |  |      |
|                             |         |   |          | <input checked="" type="checkbox"/> Hg-1631 | ng/L |  |      |
|                             |         |   |          |   |      | Temperature on arrival (°C):             |      |

COMMENTS : 5E05H98

County: **ROCKINGHAM**  
 River Basin: **ROA01**  
 Report To: **WSROSP**  
 Collector: **J IVERSON**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No Yes  
 COC Yes/No Yes

**Final Report**

VisitID

Sample ID: **AC05122**  
 PO Number #: **14W12585**  
 Date Received: **02/18/2014**  
 Time Received: **13:15**  
 Labworks LoginID: **MSWIFT**  
 Final Report Date: **3/3/14**  
 Report Print Date: **03/03/2014**

Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/18/2014</b> | Collect Time: <b>10:48</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>4.04</b>                  | ng/L         | EPA 1631E                   | 2/28/14                  | ESTAFFORD1          |

# EMER/LOC

14W12677

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : J. JEVESO/J. GRAZMAK

PRIORITY

AMBIENT       QA  
 COMPLIANCE       CHAIN OF CUSTODY  
 EMERGENCY      VISIT ID

SAMPLE TYPE

STREAM       EFFLUENT  
 LAKE       INFLUENT  
 ESTUARY

2

Lab Number : AC05221  
 Date Received : 2-20-14  
 Time Received : 8:50  
 Received By : [Signature]  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA line)

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type G |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|---------------|
| 4P079NC0003468AshDan    | 4/2/19                |                     | 1520       |          |                     |                      |                   |               |

|  |         |  |          |   |      |   |  |
|--|---------|--|----------|---|------|---|--|
| BOD 310  | mg/L    | <input checked="" type="checkbox"/> Chloride 940           | mg/L     | <input checked="" type="checkbox"/> NH3 as N 610            | mg/L | <input checked="" type="checkbox"/> Li-Lithium 1132     | ug/L                                     |
| COD High 340   | mg/L    |  |          | <input checked="" type="checkbox"/> TKN as N 625            | mg/L | <input checked="" type="checkbox"/> Mg- Magnesium 927   | mg/L                                     |
| COD Low 335  | mg/L    | Chlorophyll a EPA 445.0 modified option                    | ug/L     | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630   | mg/L | <input checked="" type="checkbox"/> Mn-Manganese 1055   | ug/L                                     |
| Coliform: MF Fecal 31616                                   | /100ml  |  |          | <input checked="" type="checkbox"/> P: Total as P 665       | mg/L | <input checked="" type="checkbox"/> Na- Sodium 929      | mg/L                                     |
| Coliform: MF Total 31504                                   | /100ml  | Color: True 80   | c.u.     | <input checked="" type="checkbox"/> PO4 as P 70507          | mg/L | <input checked="" type="checkbox"/> Arsenic: Total 1002 | ug/L                                     |
| Coliform: tube Fecal 31615                                 | /100ml  | Color: (pH) 83    pH=                                      | c.u.     | <input checked="" type="checkbox"/> P: Dissolved as P 666   | mg/L | <input checked="" type="checkbox"/> Se- Selenium 1147   | ug/L                                     |
| Coliform: Fecal Strep 31673                                | /100ml  | Color: pH 7.6 82   | c.u.     | <input checked="" type="checkbox"/> K- Potassium            | mg/L | <input checked="" type="checkbox"/> Hg- Mercury 71900   | ug/L                                     |
| <input checked="" type="checkbox"/> Residue: Total 500     | mg/L    | Cyanide 720  | mg/L     | <input checked="" type="checkbox"/> Cd- Cadmium 1027        | ug/L | <input checked="" type="checkbox"/> Ba-Barium           | ug/L                                     |
| Volatile 505   | mg/L    | <input checked="" type="checkbox"/> Fluoride 951           | mg/L     | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 | ug/L | <input type="checkbox"/>                                | Organochlorine Pesticides                |
| Fixed 510  | mg/L    | Formaldehyde 71880   | mg/L     | <input checked="" type="checkbox"/> Cu- Copper 1042         | ug/L | <input type="checkbox"/>                                | Organophosphorus Pesticides              |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L    | Grease and Oils 556  | mg/L     | <input checked="" type="checkbox"/> Ni- Nickel 1067         | ug/L | <input type="checkbox"/>                                | Organonitrogen Pesticides                |
| Volatile 535   | mg/L    | Hardness Total 900   | mg/L     | <input checked="" type="checkbox"/> Pb- Lead 1051           | ug/L | <input type="checkbox"/>                                | Acid Herbicides                          |
| Fixed 540  | mg/L    | Specific Cond. 95  | umhos/cm | <input checked="" type="checkbox"/> Zn- Zinc 1092           | ug/L | <input type="checkbox"/>                                |  |
| pH 403   | units   | MBAS 38260   | mg/L     | <input checked="" type="checkbox"/> V- Vanadium             | ug/L | <input type="checkbox"/>                                | Base/Neutral & Acid Extractable Organics |
| Acidity to pH 4.5 436                                      | mg/L    | Phenols 32730  | ug/L     | <input checked="" type="checkbox"/> Ag- Silver 1077         | ug/L | <input type="checkbox"/>                                | TPH Diesel Range                         |
| Acidity to pH 8.3 435                                      | mg/L    | <input checked="" type="checkbox"/> Sulfate 945            | mg/L     | <input checked="" type="checkbox"/> Al- Aluminum 1105       | ug/L | <input type="checkbox"/>                                |  |
| Alkalinity to pH 8.3 415                                   | mg/L    | Sulfide 745  | mg/L     | <input checked="" type="checkbox"/> Be- Beryllium 1012      | ug/L | <input type="checkbox"/>                                | Purgeable Organics (VOA bottle req'd)    |
| Alkalinity to pH 4.5 410                                   | mg/L    | Boron  |          | <input checked="" type="checkbox"/> Ca- Calcium 916         | mg/L | <input type="checkbox"/>                                | TPH Gasoline Range                       |
| TOC 680  | mg/L    | Tannin & Lignin  | ug/L     | <input checked="" type="checkbox"/> Co- Cobalt 1037         | ug/L | <input type="checkbox"/>                                | TPH/BTEX Gasoline Range                  |
| <input checked="" type="checkbox"/> Turbidity 76           | NTU     | Hexavalent Chromium  | ug/L     | <input checked="" type="checkbox"/> Fe- Iron 1045           | ug/L | <input type="checkbox"/>                                | Phytoplankton                            |
| Coliform Total Tube  | /100 ml | Bicarbonate  | mg/L     | <input checked="" type="checkbox"/> Mo- Molybdenum          | ug/L | <input type="checkbox"/>                                |  |
|  |         | Carbonate  | mg/L     | <input checked="" type="checkbox"/> Sb- Antimony            | ug/L | <input type="checkbox"/>                                |  |
|  |         | <input checked="" type="checkbox"/> Total Dissolved Solids | mg/L     | <input checked="" type="checkbox"/> Sn- Tin                 | ug/L | <input type="checkbox"/>                                |  |
|  |         |  |          | <input checked="" type="checkbox"/> Tl- Thallium            | ug/L | <input type="checkbox"/>                                |  |
|  |         |  |          | <input checked="" type="checkbox"/> Ti- Titanium            | ug/L | <input type="checkbox"/>                                |  |
|  |         |  |          | Hg-1631   | ng/L | <input type="checkbox"/>                                | Temperature on arrival (°C): <u>0.9</u>  |

COMMENTS: \_\_\_\_\_

|                   |                     |                    |                   |
|-------------------|---------------------|--------------------|-------------------|
| County:           | <b>ROCKINGHAM</b>   | Sample ID:         | <b>AC05221</b>    |
| River Basin:      | <b>R0A1</b>         | PO Number #:       | <b>14W12677</b>   |
| Report To:        | <b>WSROSP</b>       | Date Received:     | <b>02/20/2014</b> |
| Collector:        | <b>J IVERSON</b>    | Time Received:     | <b>08:50</b>      |
| Region:           | <b>WSRO</b>         | Labworks LoginID:  | <b>MSWIFT</b>     |
| Sample Matrix:    | <b>SURFACEWATER</b> | Final Report Date: | <b>3/11/14</b>    |
| Loc. Type:        | <b>STREAM</b>       | Report Print Date: | <b>03/11/2014</b> |
| Emergency Yes/No: | <b>Yes</b>          | VisitID:           |                   |
| COC Yes/No:       | <b>Yes</b>          | Loc. Descr.:       | <b>DS-VA LINE</b> |

|              |                             |               |                   |               |              |               |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|
| Location ID: | <b>4P079NC0003468ASHDAN</b> | Collect Date: | <b>02/19/2014</b> | Collect Time: | <b>15:20</b> | Sample Depth: |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|

***If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.***

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>0.9</b>           | °C    |                     | 2/20/14          | MSWIFT       |
| <b>MIC</b> |                                      |      |                      |       |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>30</b>            | NTU   | APHA2130B-20th      | 2/20/14          | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |       |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>156</b>           | mg/L  | SM 2540 B-1997      | 2/21/14          | MOVERMAN     |
|            | Residue_Suspended in liquid          | 6.2  | <b>110</b>           | mg/L  | SM 2540 D-1997      | 2/20/14          | CGREEN       |
|            | Ion Chromatography                   |      | <b>_TITLE_</b>       | mg/L  | EPA 300.0 rev2.1    | 2/25/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>12</b>            | mg/L  | EPA 300.0 rev2.1    | 2/25/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L  | EPA 300.0 rev2.1    | 2/25/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>4.8</b>           | mg/L  | EPA 300.0 rev2.1    | 2/25/14          | CGREEN       |
|            | Total Dissolved Solids in liquid     | 12   | <b>77</b>            | mg/L  | SM 2540 C-1997      | 2/20/14          | CGREEN       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7429-90-5  | Al by ICP                            | 50   | <b>2000</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>74</b>            | ug/L  | EPA 200.7           | 2/26/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>62</b>            | ug/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>7.3</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>4.1</b>           | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>2600</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-09-7  | K by ICP                             | 0.10 | <b>2.0</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7439-95-4  | Mg by ICP                            | 0.10 | <b>3.1</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7439-96-5  | Mn by ICP                            | 10   | <b>67</b>            | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-23-5  | Na by ICP                            | 0.10 | <b>5.8</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-02-0  | Ni by ICPMS                          | 2.0  | <b>2.2</b>           | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7439-92-1  | Pb by ICPMS                          | 2.0  | <b>2.2</b>           | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7782-49-2  | Se by ICPMS                          | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-24-6  | Sr by ICPMS                          | 10   | <b>47</b>            | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) ICPMS                  | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) by ICP                 | 10   | <b>170</b>           | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |

*NC DWR, Laboratory Section Results*

Location ID: **4P079NC0003468ASHDAN**      Sample ID: **AC05221**      Collect Date: **02/19/2014**      Collect Time: **15:20**

**MET**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-62-2    | V by ICP            | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/27/14                  | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP           | 10         | <b>10 U</b>                  | ug/L         | EPA 200.7                   | 2/27/14                  | ESTAFFORD1          |

# EMER/CDC

DIVISION OF WATER RESOURCES  
Surface Water Fieldsheet

14W 12678

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : PERKINS / T. L. RACUM

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Lab Number : A C05227  
 Date Received : 2-20-14  
 Time Received : 8:50  
 Received By : MP  
 Date Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA Line)

2

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: Dissolved Metals

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin  | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------------|-----------------------|---------------------|-------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ash Dan</u> | <u>4/2/14</u>         |                     | <u>5:30</u> |          |                     |                      |                   | G           |

|                                    |  |  |  |
|------------------------------------|--|--|--|
| BOD 310 mg/L                       | Chloride 940 mg/L                            | NH3 as N 610 mg/L  | <input checked="" type="checkbox"/> Li-Lithium 1132 ug/L     |
| COD High 340 mg/L                  |  | TKN an N 625 mg/L  | <input checked="" type="checkbox"/> Mg- Magnesium 927 mg/L   |
| COD Low 335 mg/L                   | Chlorophyll a EPA 445.0 modified option ug/L | NO2 plus NO3 as N 630 mg/L                                       | <input checked="" type="checkbox"/> Mn-Manganese 1055 ug/L   |
| Coliform: MF Fecal 31616 /100ml    |  | P: Total as P 665 mg/L   | <input checked="" type="checkbox"/> Na- Sodium 929 mg/L      |
| Coliform: MF Total 31504 /100ml    | Color: True 80 c.u.                          | PO4 as P 70507 mg/L  | <input checked="" type="checkbox"/> Arsenic: Total 1002 ug/L |
| Coliform: tube Fecal 31615 /100ml  | Color: (pH ) 83 pH= c.u.                     | P: Dissolved as P 666 mg/L                                       | <input checked="" type="checkbox"/> Se- Selenium 1147 ug/L   |
| Coliform: Fecal Strep 31673 /100ml | Color: pH 7.6 82 c.u.                        | <input checked="" type="checkbox"/> K- Potassium mg/L            | <input checked="" type="checkbox"/> Hg- Mercury 71900 ug/L   |
| Residue: Total 500 mg/L            | Cyanide 720 mg/L                             | <input checked="" type="checkbox"/> Cd- Cadmium 1027 ug/L        | <input checked="" type="checkbox"/> Ba-Barium ug/L           |
| Volatile 505 mg/L                  | Fluoride 951 mg/L                            | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 ug/L | Organochlorine Pesticides                                    |
| Fixed 510 mg/L                     | Formaldehyde 71880 mg/L                      | <input checked="" type="checkbox"/> Cu- Copper 1042 ug/L         | Organophosphorus Pesticides                                  |
| Residue: Suspended 530 mg/L        | Grease and Oils 556 mg/L                     | <input checked="" type="checkbox"/> Ni-Nickel 1067 ug/L          | Organonitrogen Pesticides                                    |
| Volatile 535 mg/L                  | Hardness Total 900 mg/L                      | <input checked="" type="checkbox"/> Pb- Lead 1051 ug/L           | Acid Herbicides  |
| Fixed 540 mg/L                     | Specific Cond. 95 umhos/cm                   | <input checked="" type="checkbox"/> Zn- Zinc 1092 ug/L           |  |
| pH 403 units                       | MBAS 38260 mg/L                              | <input checked="" type="checkbox"/> V- Vanadium ug/L             | Base/Neutral & Acid Extractable Organics                     |
| Acidity to pH 4.5 436 mg/L         | Phenols 32730 ug/L                           | <input checked="" type="checkbox"/> Ag- Silver 1077 ug/L         | TPH Diesel Range   |
| Acidity to pH 8.3 435 mg/L         | Sulfate 945 mg/L                             | <input checked="" type="checkbox"/> Al- Aluminum 1105 ug/L       |  |
| Alkalinity to pH 8.3 415 mg/L      | Sulfide 745 mg/L                             | <input checked="" type="checkbox"/> Be- Beryllium 1012 ug/L      | Purgeable Organics (VOA bottle req'd)                        |
| Alkalinity to pH 4.5 410 mg/L      | Boron  | <input checked="" type="checkbox"/> Ca- Calcium 916 mg/L         | TPH Gasoline Range   |
| TOC 680 mg/L                       | Tannin & Lignin ug/L                         | <input checked="" type="checkbox"/> Co- Cobalt 1037 ug/L         | TPH/BTEX Gasoline Range                                      |
| Turbidity 76 NTU                   | Hexavalent Chromium ug/L                     | <input checked="" type="checkbox"/> Fe- Iron 1045 ug/L           | Phytoplankton  |
| Coliform Total Tube /100 ml        | Bicarbonate mg/L                             | <input checked="" type="checkbox"/> Mo- Molybdenum ug/L          |  |
|                                    | Carbonate mg/L                               | <input checked="" type="checkbox"/> Sb- Antimony ug/L            |  |
|                                    | Total Dissolved Solids mg/L                  | <input checked="" type="checkbox"/> Sn- Tin ug/L                 |  |
|                                    |  | <input checked="" type="checkbox"/> Tl- Thallium ug/L            |  |
|                                    |  | <input checked="" type="checkbox"/> Ti- Titanium ug/L            |  |
|                                    |  | Hg-1631 ng/L   | Temperature on arrival (°C): <u>0.9</u>                      |

COMMENTS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

|   |                             |                    |                   |
|---|-----------------------------|--------------------|-------------------|
| County:   | <b>ROCKINGHAM</b>           | Sample ID:         | <b>AC05222</b>    |
| River Basin:  | <b>R0A1</b>                 | PO Number #:       | <b>14W12678</b>   |
| Report To:  | <b>WSROSP</b>               | Date Received:     | <b>02/20/2014</b> |
| Collector:  | <b>J IVERSON</b>            | Time Received:     | <b>08:50</b>      |
| Region:   | <b>WSRO</b>                 | Labworks LoginID:  | <b>MSWIFT</b>     |
| Sample Matrix:  | <b>SURFACEWATER</b>         | Final Report Date: | <b>3/11/14</b>    |
| Loc. Type:  | <b>STREAM</b>               | Report Print Date: | <b>03/11/2014</b> |
| Emergency Yes/No:   | <u>Yes</u>                  | VisitID:           |                   |
| COC Yes/No:   | <u>Yes</u>                  |                    |                   |
| <b>Final Report</b>   |                             |                    |                   |
| Loc. Descr.: <b>DS-VA LINE</b>  |                             |                    |                   |
| Location ID:  | <b>4P079NC0003468ASHDAN</b> | Collect Date:      | <b>02/19/2014</b> |
|   |                             | Collect Time:      | <b>15:20</b>      |
|   |                             | Sample Depth:      |                   |
| <b>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</b> |                             |                    |                   |

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>0.9</b>           | °C    |                     | 2/20/14          | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>7.0</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.7</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.8</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>5.8</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>76</b>            | ug/L  | EPA 200.7           | 2/26/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>23</b>            | ug/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>46</b>            | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-28-0  | Thallium (TI) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |

Fig 12690

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Other :  
 COLLECTOR(S) : BAUERSON/STANLEY

Lab Number Acc 5238  
 Date Received: 2-20-14  
 Time Received: 8:50  
 Received By: mp  
 Data Released :  
 Date Reported :

Estimated BOD Range:  
 Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

4B117g 120

Station Location: DS - VA Line (Downstream at VA line)  
 Remarks: Mercury

| Station #/Location Code      | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|------------------------------|-----------------------|---------------------|--------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ashdan</u> | <u>1/4/14</u>         |                     | <u>15:15</u> |          |                     |                      |                   | G           |

|                             |         |   |          |   |      |  |      |
|-----------------------------|---------|---|----------|---|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610                                | mg/L | Li-Lithium 1132                        | ug/L |
| COD High 340                | mg/L    |   |          | TKN an N 625                                | mg/L | Mg- Magnesium 927                      | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630                       | mg/L | Mn-Manganese 1055                      | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665                           | mg/L | Na- Sodium 929                         | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507                              | mg/L | Arsenic: Total 1002                    | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH ) 83 pH=                     | c.u.     | P: Dissolved as P 666                       | mg/L | Se- Selenium 1147                      | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | K-Potassium                                 | mg/L | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | Cd- Cadmium 1027                            | ug/L | Ba-Barium                              | ug/L |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | Cr-Chromium: Total 1034                     | ug/L | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | Cu- Copper 1042                             | ug/L | Organophosphorus Pesticides            |      |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | Ni-Nickel 1067                              | ug/L | Organonitrogen Pesticides              |      |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | Pb- Lead 1051                               | ug/L | Acid Herbicides                        |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | Zn- Zinc 1092                               | ug/L |  |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | V-Vanadium                                  | ug/L | Base/Neutral&Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077                             | ug/L | TPH Diesel Range                       |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | Al- Aluminum 1105                           | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012                          | ug/L | Purgeable Organics (VOA bottle req'd)  |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | Ca- Calcium 916                             | mg/L | TPH Gasoline Range                     |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037                             | ug/L | TPH/BTEX Gasoline Range                |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | Fe- Iron 1045                               | ug/L | Phytoplankton                          |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo-Molybdenum                               | ug/L |  |      |
|                             |         | Carbonate                               | mg/L     | Sb-Antimony                                 | ug/L |  |      |
|                             |         | Total Dissolved Solids                  | mg/L     | Sn-Tin                                      | ug/L |  |      |
|                             |         |   |          | Tl-Thallium                                 | ug/L |  |      |
|                             |         |   |          | Ti-Titanium                                 | ug/L |  |      |
|                             |         |   |          | <input checked="" type="checkbox"/> Hg-1631 | ng/L |  |      |
|                             |         |   |          |   |      | Temperature on arrival (°C):           |      |

COMMENTS : 5 605139



County: **ROCKINGHAM**  
 River Basin: **ROA01**  
 Report To: **WSROSP**  
 Collector: **J IVERSON**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No: **YES**  
 COC Yes/No: **YES**

**Final Report**

VisitID

Sample ID: **AC05238**  
 PO Number #: **14W12690**  
 Date Received: **02/20/2014**  
 Time Received: **08:50**  
 Labworks LoginID: **TASCENZO**  
 Final Report Date: **3/6/14**  
 Report Print Date: **03/06/2014**

Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/19/2014</b> | Collect Time: <b>15:25</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>11.9</b>                  | ng/L         | EPA 1631E                   | 3/5/14                   | ESTAFFORD1          |

# EMER/KOC

DIVISION OF WATER RESOURCES  
Surface Water Fieldsheet

14W12711

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : Sander / Grawnak

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : AC05259  
 Date Received : 2-20-10  
 Time Received : 13:40  
 Received By : [Signature]  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA line)


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 4/02/20               |                     | 1047       |          |                     |                      |                   | G           |

|   |   |   |  |
|---|---|---|--|
| BOD 310 mg/L  | <input checked="" type="checkbox"/> Chloride 940 mg/L           | <input checked="" type="checkbox"/> NH3 as N 610 mg/L                 | <input type="checkbox"/> Li-Lithium 1132 ug/L                |
| COD High 340 mg/L   |   | <input checked="" type="checkbox"/> <del>TKN as N 625</del> mg/L      | <input checked="" type="checkbox"/> Mg- Magnesium 927 mg/L   |
| COD Low 335 mg/L  | Chlorophyll a EPA 445.0 modified option ug/L                    | <input checked="" type="checkbox"/> NO2 plus NO3 as N 630 mg/L        | <input checked="" type="checkbox"/> Mn-Manganese 1055 ug/L   |
| Coliform: MF Fecal 31616 /100ml                                 |   | <input checked="" type="checkbox"/> <del>P- Total as P 665</del> mg/L | <input checked="" type="checkbox"/> Na- Sodium 929 mg/L      |
| Coliform: MF Total 31504 /100ml                                 | Color: True 80 c.u.   | PO4 as P 70507 mg/L   | <input checked="" type="checkbox"/> Arsenic: Total 1002 ug/L |
| Coliform: tube Fecal 31615 /100ml                               | Color: (pH) 83 pH= c.u.   | P: Dissolved as P 666 mg/L  | <input checked="" type="checkbox"/> Se- Selenium 1147 ug/L   |
| Coliform: Fecal Strep 31673 /100ml                              | Color: pH 7.6 82 c.u.   | <input checked="" type="checkbox"/> K- Potassium mg/L                 | <input checked="" type="checkbox"/> Hg- Mercury 71900 ug/L   |
| <input checked="" type="checkbox"/> Residue: Total 500 mg/L     | Cyanide 720 mg/L  | <input checked="" type="checkbox"/> Cd- Cadmium 1027 ug/L             | <input checked="" type="checkbox"/> Ba-Barium ug/L           |
| Volatile 505 mg/L   | <input checked="" type="checkbox"/> Fluoride 951 mg/L           | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 ug/L      | Organochlorine Pesticides                                    |
| Fixed 510 mg/L  | Formaldehyde 71880 mg/L   | <input checked="" type="checkbox"/> Cu- Copper 1042 ug/L              | Organophosphorus Pesticides                                  |
| <input checked="" type="checkbox"/> Residue: Suspended 530 mg/L | Grease and Oils 556 mg/L  | <input checked="" type="checkbox"/> Ni- Nickel 1067 ug/L              | Organonitrogen Pesticides                                    |
| Volatile 535 mg/L   | Hardness Total 900 mg/L   | <input checked="" type="checkbox"/> Pb- Lead 1051 ug/L                | Acid Herbicides  |
| Fixed 540 mg/L  | Specific Cond. 95 umhos/cm                                      | <input checked="" type="checkbox"/> Zn- Zinc 1092 ug/L                |  |
| pH 403 units  | MBAS 38260 mg/L   | <input checked="" type="checkbox"/> V- Vanadium ug/L                  | Base/Neutral & Acid Extractable Organics                     |
| Acidity to pH 4.5 436 mg/L                                      | Phenols 32730 ug/L  | Ag- Silver 1077 ug/L  | TPH Diesel Range   |
| Acidity to pH 8.3 435 mg/L                                      | <input checked="" type="checkbox"/> Sulfate 945 mg/L            | <input checked="" type="checkbox"/> Al- Aluminum 1105 ug/L            |  |
| Alkalinity to pH 8.3 415 mg/L                                   | Sulfide 745 mg/L  | Be- Beryllium 1012 ug/L   | Purgeable Organics (VOA bottle req'd)                        |
| Alkalinity to pH 4.5 410 mg/L                                   | Boron   | <input checked="" type="checkbox"/> Ca- Calcium 916 mg/L              | TPH Gasoline Range   |
| TOC 680 mg/L  | Tannin & Lignin ug/L  | Co- Cobalt 1037 ug/L  | TPH/BTEX Gasoline Range                                      |
| <input checked="" type="checkbox"/> Turbidity 76 NTU            | Hexavalent Chromium ug/L  | <input checked="" type="checkbox"/> Fe- Iron 1045 ug/L                | Phytoplankton  |
| Coliform Total Tube /100 ml                                     | Bicarbonate mg/L  | Mo- Molybdenum ug/L   |  |
|   | Carbonate mg/L  | Sb- Antimony ug/L   |  |
|   | <input checked="" type="checkbox"/> Total Dissolved Solids mg/L | Sn- Tin ug/L  |  |
|   |   | <input checked="" type="checkbox"/> Tl- Thallium ug/L                 |  |
|   |   | <input checked="" type="checkbox"/> Ti- Titanium ug/L                 |  |
|   |   | Hg-1631 ng/L  | Temperature on arrival (°C): <u>2.7</u>                      |

COMMENTS : \_\_\_\_\_

|   |  |                                      |  |                                 |                            |              |
|---|--|--------------------------------------|--|---------------------------------|----------------------------|--------------|
| County: <b>ROCKINGHAM</b>   | <br><b>Division of Water Resources</b><br><b>Final Report</b> | Sample ID: <b>AC05259</b>            |  |                                 |                            |              |
| River Basin: <b>ROA01</b>   |  | PO Number #: <b>14W12711</b>         |  |                                 |                            |              |
| Report To: <b>WSROSP</b>  |  | Date Received: <b>02/20/2014</b>     |  |                                 |                            |              |
| Collector: <b>L SNIDER</b>  |  | Time Received: <b>13:44</b>          |  |                                 |                            |              |
| Region: <b>WSRO</b>   |  | Labworks LoginID: <b>MSWIFT</b>      |  |                                 |                            |              |
| Sample Matrix: <b>SURFACEWATER</b>  |  | Final Report Date: <b>3/11/14</b>    |  |                                 |                            |              |
| Loc. Type: <b>STREAM/RIVER</b>  |  | Report Print Date: <b>03/11/2014</b> |  |                                 |                            |              |
| Emergency Yes/No: <b>Yes</b>  |  | VisitID                              |  |                                 |                            |              |
| COC Yes/No: <b>Yes</b>  |  | Loc. Descr.: <b>DS-VA LINE</b>       |  |                                 |                            |              |
| <table border="1"> <tr> <td>Location ID: <b>4P079NC0003468ASHDAN</b></td> <td>Collect Date: <b>02/20/2014</b></td> <td>Collect Time: <b>10:47</b></td> <td>Sample Depth</td> </tr> </table> |  |                                      | Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/20/2014</b> | Collect Time: <b>10:47</b> | Sample Depth |
| Location ID: <b>4P079NC0003468ASHDAN</b>  | Collect Date: <b>02/20/2014</b>  | Collect Time: <b>10:47</b>           | Sample Depth                             |                                 |                            |              |

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>2.7</b>           | °C    |                     | 2/20/14          | MSWIFT       |
| <b>MIC</b> |                                      |      |                      |       |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>85</b>            | NTU   | APHA2130B-20th      | 2/20/14          | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |       |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>274</b>           | mg/L  | SM 2540 B-1997      | 2/21/14          | MOVERMAN     |
|            | Residue_Suspended in liquid          | 6.2  | <b>238</b>           | mg/L  | SM 2540 D-1997      | 2/21/14          | CGREEN       |
|            | Ion Chromatography                   |      | <b>_TITLE_</b>       | mg/L  | EPA 300.0 rev2.1    | 2/25/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>10</b>            | mg/L  | EPA 300.0 rev2.1    | 2/25/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L  | EPA 300.0 rev2.1    | 2/25/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>3.5</b>           | mg/L  | EPA 300.0 rev2.1    | 2/25/14          | CGREEN       |
|            | Total Dissolved Solids in liquid     | 12   | <b>69</b>            | mg/L  | SM 2540 C-1997      | 2/21/14          | CGREEN       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7429-90-5  | Al by ICP                            | 50   | <b>4700</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.9</b>           | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/26/14          | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>99</b>            | ug/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>6.3</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>7.3</b>           | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>6000</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-09-7  | K by ICP                             | 0.10 | <b>2.4</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7439-95-4  | Mg by ICP                            | 0.10 | <b>3.1</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7439-96-5  | Mn by ICP                            | 10   | <b>160</b>           | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-23-5  | Na by ICP                            | 0.10 | <b>4.8</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-02-0  | Ni by ICPMS                          | 2.0  | <b>4.2</b>           | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7439-92-1  | Pb by ICPMS                          | 2.0  | <b>5.1</b>           | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7782-49-2  | Se by ICPMS                          | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-24-6  | Sr by ICPMS                          | 10   | <b>44</b>            | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) ICPMS                  | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) by ICP                 | 10   | <b>400</b>           | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |

*NC DWR, Laboratory Section Results*

Location ID: **4P079NC0003468ASHDAN**      Sample ID: **AC05259**      Collect Date: **02/20/2014**      Collect Time: **10:47**

**MET**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-62-2    | V by ICP            | 25         | <b>25 U</b>                  | ug/L         | EPA 200.7                   | 2/27/14                  | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP           | 10         | <b>13</b>                    | ug/L         | EPA 200.7                   | 2/27/14                  | ESTAFFORD1          |

# EMER/COC

DIVISION OF WATER RESOURCES  
Surface Water Fieldsheet

14W/2712  
11/14/14

COUNTY : Rockingham  
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :  
COLLECTOR(S) : Smider / Gonzalez

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

VISIT ID  
                    

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : AC09260  
Date Received : 2-20-14  
Time Received : 13:45  
Received By : [Signature]  
  
Data Released :  
Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA Line)

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: Dissolved Metals

| Station #/Location Code       | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin   | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------------|-----------------------|---------------------|--------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ash Dan</u> | <u>14/02/20</u>       |                     | <u>10:47</u> |          |                     |                      |                   | G           |

|                                    |  |  |  |
|------------------------------------|--|--|--|
| BOD 310 mg/L                       | Chloride 940 mg/L                            | NH3 as N 610 mg/L  | Li-Lithium 1132 ug/L   |
| COD High 340 mg/L                  |  | TKN an N 625 mg/L  | <input checked="" type="checkbox"/> Mg- Magnesium 927 mg/L   |
| COD Low 335 mg/L                   | Chlorophyll a EPA 445.0 modified option ug/L | NO2 plus NO3 as N 630 mg/L                                       | <input checked="" type="checkbox"/> Mn-Manganese 1055 ug/L   |
| Coliform: MF Fecal 31616 /100ml    |  | P: Total as P 665 mg/L   | <input checked="" type="checkbox"/> Na- Sodium 929 mg/L      |
| Coliform: MF Total 31504 /100ml    | Color: True 80 c.u.                          | PO4 as P 70507 mg/L  | <input checked="" type="checkbox"/> Arsenic: Total 1002 ug/L |
| Coliform: tube Fecal 31615 /100ml  | Color: (pH ) 83 pH= c.u.                     | P: Dissolved as P 666 mg/L                                       | <input checked="" type="checkbox"/> Se- Selenium 1147 ug/L   |
| Coliform: Fecal Strep 31673 /100ml | Color: pH 7.6 82 c.u.                        | <input checked="" type="checkbox"/> K- Potassium mg/L            | Hg- Mercury 71900 ug/L                                       |
| Residue: Total 500 mg/L            | Cyanide 720 mg/L                             | <input checked="" type="checkbox"/> Cd- Cadmium 1027 ug/L        | <input checked="" type="checkbox"/> Ba-Barium ug/L           |
| Volatile 505 mg/L                  | Fluoride 951 mg/L                            | <input checked="" type="checkbox"/> Cr-Chromium: Total 1034 ug/L | Organochlorine Pesticides                                    |
| Fixed 510 mg/L                     | Formaldehyde 71880 mg/L                      | <input checked="" type="checkbox"/> Cu- Copper 1042 ug/L         | Organophosphorus Pesticides                                  |
| Residue: Suspended 530 mg/L        | Grease and Oils 556 mg/L                     | <input checked="" type="checkbox"/> Ni- Nickel 1067 ug/L         | Organonitrogen Pesticides                                    |
| Volatile 535 mg/L                  | Hardness Total 900 mg/L                      | <input checked="" type="checkbox"/> Pb- Lead 1051 ug/L           | Acid Herbicides  |
| Fixed 540 mg/L                     | Specific Cond. 95 umhos/cm                   | <input checked="" type="checkbox"/> Zn- Zinc 1092 ug/L           |  |
| pH 403 units                       | MBAS 38260 mg/L                              | <input checked="" type="checkbox"/> V- Vanadium ug/L             | Base/Neutral & Acid Extractable Organics                     |
| Acidity to pH 4.5 436 mg/L         | Phenols 32730 ug/L                           | Ag- Silver 1077 ug/L   | TPH Diesel Range   |
| Acidity to pH 8.3 435 mg/L         | Sulfate 945 mg/L                             | <input checked="" type="checkbox"/> Al- Aluminum 1105 ug/L       |  |
| Alkalinity to pH 8.3 415 mg/L      | Sulfide 745 mg/L                             | Be- Beryllium 1012 ug/L  | Purgeable Organics (VOA bottle req'd)                        |
| Alkalinity to pH 4.5 410 mg/L      | Boron  | <input checked="" type="checkbox"/> Ca- Calcium 916 mg/L         | TPH Gasoline Range   |
| TOC 680 mg/L                       | Tannin & Lignin ug/L                         | Co- Cobalt 1037 ug/L   | TPH/BTEX Gasoline Range                                      |
| Turbidity 76 NTU                   | Hexavalent Chromium ug/L                     | <input checked="" type="checkbox"/> Fe- Iron 1045 ug/L           | Phytoplankton  |
| Coliform Total Tube /100 ml        | Bicarbonate mg/L                             | Mo- Molybdenum ug/L  |  |
|                                    | Carbonate mg/L                               | Sb- Antimony ug/L  |  |
|                                    | Total Dissolved Solids mg/L                  | Sn- Tin ug/L   |  |
|                                    |  | <input checked="" type="checkbox"/> Tl- Thallium ug/L            |  |
|                                    |  | <input checked="" type="checkbox"/> Ti- Titanium ug/L            |  |
|                                    |  | Hg-1631 ng/L   |  |

Temperature on arrival (°C): 2.7

COMMENTS :

|                   |                     |                    |                   |
|-------------------|---------------------|--------------------|-------------------|
| County:           | <b>ROCKINGHAM</b>   | Sample ID:         | <b>AC05260</b>    |
| River Basin:      | <b>ROA01</b>        | PO Number #:       | <b>14W12712</b>   |
| Report To:        | <b>WSROSP</b>       | Date Received:     | <b>02/20/2014</b> |
| Collector:        | <b>L SNIDER</b>     | Time Received:     | <b>13:44</b>      |
| Region:           | <b>WSRO</b>         | Labworks LoginID:  | <b>MSWIFT</b>     |
| Sample Matrix:    | <b>SURFACEWATER</b> | Final Report Date: | <b>3/11/14</b>    |
| Loc. Type:        | <b>STREAM/RIVER</b> | Report Print Date: | <b>03/11/2014</b> |
| Emergency Yes/No: | <b>Yes</b>          | VisitID:           |                   |
| COC Yes/No:       | <b>Yes</b>          | Loc. Descr.:       | <b>DS-VA LINE</b> |

|              |                             |               |                   |               |              |               |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|
| Location ID: | <b>4P079NC0003468ASHDAN</b> | Collect Date: | <b>02/20/2014</b> | Collect Time: | <b>10:47</b> | Sample Depth: |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>2.7</b>           | °C    |                     | 2/20/14          | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>5.5</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>180</b>           | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.7</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.2</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>13</b>            | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>4.8</b>           | mg/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>180</b>           | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>54</b>            | ug/L  | EPA 200.7           | 2/26/14          | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>22</b>            | ug/L  | EPA 200.7           | 2/25/14          | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>36</b>            | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-28-0  | Thallium (TI) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/5/14           | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |

14672721

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : Snider / GRAZNAK

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Lab Number : AC05269  
 Date Received : 2-20-14  
 Time Received : 1344  
 Received By : [Signature]  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line (Downstream at VA line)

2

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: Mercury 431 Hg 108

| Station #/Location Code      | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin  | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|------------------------------|-----------------------|---------------------|-------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468 <u>Ashdan</u> | <u>4/20/20</u>        |                     | <u>1040</u> |          |                     |                      |                   | G           |

|                             |         |   |          |   |      |  |      |
|-----------------------------|---------|---|----------|---|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610                                | mg/L | Li-Lithium 1132                        | ug/L |
| COD High 340                | mg/L    |   |          | TKN an N 625                                | mg/L | Mg- Magnesium 927                      | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630                       | mg/L | Mn-Manganese 1055                      | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665                           | mg/L | Na- Sodium 929                         | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507                              | mg/L | Arsenic: Total 1002                    | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH ) 83 pH=                     | c.u.     | P: Dissolved as P 666                       | mg/L | Se- Selenium 1147                      | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | K-Potassium                                 | mg/L | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | Cd- Cadmium 1027                            | ug/L | Ba-Barium                              | ug/L |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | Cr-Chromium: Total 1034                     | ug/L | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | Cu- Copper 1042                             | ug/L | Organophosphorus Pesticides            |      |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | Ni-Nickel 1067                              | ug/L | Organonitrogen Pesticides              |      |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | Pb- Lead 1051                               | ug/L | Acid Herbicides                        |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | Zn- Zinc 1092                               | ug/L |  |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | V-Vanadium                                  | ug/L | Base/Neutral&Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077                             | ug/L | TPH Diesel Range                       |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | Al- Aluminum 1105                           | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012                          | ug/L | Purgeable Organics (VOA bottle req'd)  |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | Ca- Calcium 916                             | mg/L | TPH Gasoline Range                     |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037                             | ug/L | TPH/BTEX Gasoline Range                |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | Fe- Iron 1045                               | ug/L | Phytoplankton                          |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo-Molybdenum                               | ug/L |  |      |
|                             |         | Carbonate                               | mg/L     | Sb-Antimony                                 | ug/L |  |      |
|                             |         | Total Dissolved Solids                  | mg/L     | Sn-Tin                                      | ug/L |  |      |
|                             |         |   |          | Tl-Thallium                                 | ug/L |  |      |
|                             |         |   |          | Ti-Titanium                                 | ug/L |  |      |
|                             |         |   |          | <input checked="" type="checkbox"/> Hg-1631 | ng/L | Temperature on arrival (°C):           |      |

COMMENTS: 7E011734

County: **ROCKINGHAM**  
 River Basin: **ROA01**  
 Report To: **WSROSP**  
 Collector: **L SNIDER**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **STREAM**  
 Emergency Yes/No Yes  
 COC Yes/No Yes

**Final Report**

Sample ID: **AC05269**  
 PO Number #: **14W12721**  
 Date Received: **02/20/2014**  
 Time Received: **13:44**  
 Labworks LoginID: **MSWIFT**  
 Final Report Date: **3/6/14**  
 Report Print Date: **03/06/2014**

VisitID

Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/20/2014</b> | Collect Time: <b>10:40</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>21.3</b>                  | ng/L         | EPA 1631E                   | 3/5/14                   | ESTAFFORD1          |



Cc/Ench

14w (2799)

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : S. Wang & P. Mitchell

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

VISIT ID

14

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : A 005357  
 Date Received : 2-21-2017  
 Time Received : 1445  
 Received By : MX  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line

Seed: \_\_\_\_\_

Chlorinated: \_\_\_\_\_

Remarks: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/02/21              | 14/02/21            | 11:35      | 12:05    |                     |                      |                   | G           |

|                             |                          |         |   |                     |                        |                  |                         |                     |           |  |
|-----------------------------|--------------------------|---------|---|---------------------|------------------------|------------------|-------------------------|---------------------|-----------|--|
| BOD 310                     | mg/L                     | x       | Chloride 940                            | mg/L                | NH3 as N 610           | mg/L             | Li-Lithium 1132         | ug/L                |           |  |
| COD High 340                | mg/L                     |         |   |                     | TKN an N 625           | mg/L             | x                       | Mg- Magnesium 927   | mg/L      |  |
| COD Low 335                 | mg/L                     |         | Chlorophyll a EPA 445.0 modified option | ug/L                | NO2 plus NO3 as N 630  | mg/L             | x                       | Mn-Manganese 1055   | ug/L      |  |
| Coliform: MF Fecal 31616    | /100ml                   |         |   |                     | P: Total as P 665      | mg/L             | x                       | Na- Sodium 929      | mg/L      |  |
| Coliform: MF Total 31504    | /100ml                   |         | Color: True 80                          | c.u.                | PO4 as P 70507         | mg/L             | x                       | Arsenic: Total 1002 | ug/L      |  |
| Coliform: tube Fecal 31615  | /100ml                   |         | Color: (pH ) 83 pH=                     | c.u.                | P: Dissolved as P 666  | mg/L             | x                       | Se- Selenium 1147   | ug/L      |  |
| Coliform: Fecal Strep 31673 | /100ml                   |         | Color: pH 7.6 82                        | c.u.                | K- Potassium           | mg/L             | x                       | Hg- Mercury 71900   | ug/L      |  |
| x                           | Residue: Total 500       | mg/L    | Cyanide 720                             | mg/L                | x                      | Cd- Cadmium 1027 | ug/L                    | x                   | Ba-Barium | ug/L                                   |
|                             | Volatile 505             | mg/L    | x                                       | Fluoride 951        | mg/L                   | x                | Cr-Chromium: Total 1034 | ug/L                |           | Organochlorine Pesticides              |
|                             | Fixed 510                | mg/L    |   | Formaldehyde 71880  | mg/L                   | x                | Cu- Copper 1042         | ug/L                |           | Organophosphorus Pesticides            |
| x                           | Residue: Suspended 530   | mg/L    |   | Grease and Oils 556 | mg/L                   | x                | Ni-Nickel 1067          | ug/L                |           | Organonitrogen Pesticides              |
|                             | Volatile 535             | mg/L    |   | Hardness Total 900  | mg/L                   | x                | Pb- Lead 1051           | ug/L                |           | Acid Herbicides                        |
|                             | Fixed 540                | mg/L    |   | Specific Cond. 95   | umhos/cm               | x                | Zn- Zinc 1092           | ug/L                |           |  |
|                             | pH 403                   | units   |   | MBAS 38260          | mg/L                   | x                | V-Vanadium              | ug/L                |           | Base/Neutral&Acid Extractable Organics |
|                             | Acidity to pH 4.5 436    | mg/L    |   | Phenols 32730       | ug/L                   | x                | Ag- Silver 1077         | ug/L                |           | TPH Diesel Range                       |
|                             | Acidity to pH 8.3 435    | mg/L    | x                                       | Sulfate 945         | mg/L                   | x                | Al- Aluminum 1105       | ug/L                |           |  |
|                             | Alkalinity to pH 8.3 415 | mg/L    |   | Sulfide 745         | mg/L                   |                  | Be- Beryllium 1012      | ug/L                |           | Purgeable Organics (VOA bottle req'd)  |
|                             | Alkalinity to pH 4.5 410 | mg/L    |   | Boron               |                        | x                | Ca- Calcium 916         | mg/L                |           | TPH Gasoline Range                     |
|                             | TOC 680                  | mg/L    |   | Tannin & Lignin     | ug/L                   | x                | Co- Cobalt 1037         | ug/L                |           | TPH/BTEX Gasoline Range                |
| x                           | Turbidity 76             | NTU     |   | Hexavalent Chromium | ug/L                   | x                | Fe- Iron 1045           | ug/L                |           | Phytoplankton                          |
|                             | Coliform Total Tube      | /100 ml |   | Bicarbonate         | mg/L                   |                  | Mo-Molybdenum           | ug/L                |           |  |
|                             |                          |         |   | Carbonate           | mg/L                   |                  | Sb-Antimony             | ug/L                |           |  |
|                             |                          |         |   | x                   | Total Dissolved Solids | mg/L             | Sn-Tin                  | ug/L                |           |  |
|                             |                          |         |   |                     |                        |                  | Tl-Thallium             | ug/L                |           |  |
|                             |                          |         |   |                     |                        |                  | Ti-Titanium             | ug/L                |           |  |
|                             |                          |         |   |                     |                        |                  | Hg-1631                 | ng/L                |           |  |
|                             |                          |         |   |                     |                        |                  |                         |                     |           | Temperature on arrival (°C): <u>25</u> |

COMMENTS : \_\_\_\_\_

|                   |                     |                    |                   |
|-------------------|---------------------|--------------------|-------------------|
| County:           | <b>ROCKINGHAM</b>   | Sample ID:         | <b>AC05357</b>    |
| River Basin:      | <b>ROA01</b>        | PO Number #:       | <b>14W12799</b>   |
| Report To:        | <b>WSROSP</b>       | Date Received:     | <b>02/21/2014</b> |
| Collector:        | <b>S WANG</b>       | Time Received:     | <b>14:45</b>      |
| Region:           | <b>WSRO</b>         | Labworks LoginID:  | <b>MSWIFT</b>     |
| Sample Matrix:    | <b>SURFACEWATER</b> | Final Report Date: | <b>3/11/14</b>    |
| Loc. Type:        | <b>STREAM/RIVER</b> | Report Print Date: | <b>03/11/2014</b> |
| Emergency Yes/No: | <b>Yes</b>          | VisitID:           | <b>14</b>         |
| COC Yes/No:       | <b>Yes</b>          | Loc. Descr.:       | <b>DS-VA LINE</b> |

|              |                             |               |                   |               |              |               |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|
| Location ID: | <b>4P079NC0003468ASHDAN</b> | Collect Date: | <b>02/21/2014</b> | Collect Time: | <b>12:05</b> | Sample Depth: |  |
|--------------|-----------------------------|---------------|-------------------|---------------|--------------|---------------|--|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>2.5</b>           | °C    |                     | 2/21/14          | MSWIFT       |
| <b>MIC</b> |                                      |      |                      |       |                     |                  |              |
|            | Turbidity                            | 1.0  | <b>75</b>            | NTU   | APHA2130B-20th      | 2/21/14          | ESTAFFORD1   |
| <b>WET</b> |                                      |      |                      |       |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>164</b>           | mg/L  | SM 2540 B-1997      | 2/24/14          | MOVERMAN     |
|            | Residue_Suspended in liquid          | 6.2  | <b>98</b>            | mg/L  | SM 2540 D-1997      | 2/24/14          | MOVERMAN     |
|            | Ion Chromatography                   |      | <b>_TITLE_</b>       | mg/L  | EPA 300.0 rev2.1    | 2/27/14          | CGREEN       |
|            | Chloride                             | 1.0  | <b>6.9</b>           | mg/L  | EPA 300.0 rev2.1    | 2/27/14          | CGREEN       |
|            | Fluoride                             | 0.4  | <b>0.4 U</b>         | mg/L  | EPA 300.0 rev2.1    | 2/27/14          | CGREEN       |
|            | Sulfate                              | 2.0  | <b>7.2</b>           | mg/L  | EPA 300.0 rev2.1    | 2/27/14          | CGREEN       |
|            | Total Dissolved Solids in liquid     | 12   | <b>62</b>            | mg/L  | SM 2540 C-1997      | 2/27/14          | CGREEN       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7429-90-5  | Al by ICP                            | 50   | <b>3400</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 3/3/14           | ESTAFFORD1   |
| 7440-38-3  | Ba by ICP                            | 10   | <b>63</b>            | ug/L  | EPA 200.7           | 3/6/14           | ESTAFFORD1   |
| 7440-70-2  | Ca by ICP                            | 0.10 | <b>6.4</b>           | mg/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-47-3  | Cr by ICPMS                          | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>3.8</b>           | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>4700</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-09-7  | K by ICP                             | 0.10 | <b>2.7</b>           | mg/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7439-95-4  | Mg by ICP                            | 0.10 | <b>3.0</b>           | mg/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7439-96-5  | Mn by ICP                            | 10   | <b>100</b>           | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-23-5  | Na by ICP                            | 0.10 | <b>4.9</b>           | mg/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-02-0  | Ni by ICPMS                          | 2.0  | <b>2.5</b>           | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7439-92-1  | Pb by ICPMS                          | 2.0  | <b>2.7</b>           | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7782-49-2  | Se by ICPMS                          | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-24-6  | Sr by ICPMS                          | 10   | <b>36</b>            | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-28-0  | Thallium (Tl) ICPMS                  | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) by ICP                 | 10   | <b>190</b>           | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC05357 Collect Date: 02/21/2014 Collect Time: 12:05

**MET**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| 7440-62-2    | V by ICP            | 25         | 25 U                         | ug/L         | EPA 200.7                   | 2/28/14                  | ESTAFFORD1          |
| 7440-66-6    | Zn by ICP           | 10         | 17                           | ug/L         | EPA 200.7                   | 2/28/14                  | ESTAFFORD1          |

Cc/Anub

19w 1280D

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : S. Wang & P. Mitchell

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY  
 VISIT ID  
 14

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY  
 2

Lab Number : AC09358  
 Date Received : 2-27-2014  
 Time Received : 1445  
 Received By : MB  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: Dissolved Metals

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/02/21              | 14/02/21            | 11:35      | 12:05    |                     |                      |                   | G           |

|                             |         |   |          |                           |      |  |      |
|-----------------------------|---------|---|----------|---------------------------|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610              | mg/L | Li-Lithium 1132                        | ug/L |
| COD High 340                | mg/L    |   |          | TKN as N 625              | mg/L | x Mg- Magnesium 927                    | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630     | mg/L | x Mn-Manganese 1055                    | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665         | mg/L | x Na- Sodium 929                       | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507            | mg/L | x Arsenic: Total 1002                  | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH ) 83 pH=                     | c.u.     | P: Dissolved as P 666     | mg/L | x Se- Selenium 1147                    | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | x K- Potassium            | mg/L | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | x Cd- Cadmium 1027        | ug/L | x Ba-Barium                            | ug/L |
| Volatle 505                 | mg/L    | Fluoride 951                            | mg/L     | x Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | x Cu- Copper 1042         | ug/L | Organophosphorus Pesticides            |      |
| Residue: Suspended 530      | mg/L    | Grease and Oils 556                     | mg/L     | x Ni-Nickel 1067          | ug/L | Organonitrogen Pesticides              |      |
| Volatle 535                 | mg/L    | Hardness Total 900                      | mg/L     | x Pb- Lead 1051           | ug/L | Acid Herbicides                        |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | x Zn- Zinc 1092           | ug/L |  |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | x V-Vanadium              | ug/L | Base/Neutral&Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077           | ug/L | TPH Diesel Range                       |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | x Al- Aluminum 1105       | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012        | ug/L | Purgeable Organics (VOA bottle req'd)  |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | x Ca- Calcium 916         | mg/L | TPH Gasoline Range                     |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037           | ug/L | TPH/BTEX Gasoline Range                |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | x Fe- Iron 1045           | ug/L | Phytoplankton                          |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo-Molybdenum             | ug/L |  |      |
|                             |         | Carbonate                               | mg/L     | Sb-Antimony               | ug/L |  |      |
|                             |         | x Total Dissolved Solids                | mg/L     | Sn-Tin                    | ug/L |  |      |
|                             |         |   |          | x Tl-Thallium             | ug/L |  |      |
|                             |         |   |          | x Ti-Titanium             | ug/L |  |      |
|                             |         |   |          | Hg-1631                   | ng/L | Temperature on arrival (°C):           | 25   |

COMMENTS : \_\_\_\_\_

|  |  |  |  |                                 |                            |              |
|--|--|--|--|---------------------------------|----------------------------|--------------|
| County: <b>ROCKINGHAM</b>  | <br><b>Division of Water Resources</b><br><b>Final Report</b> | Sample ID: <b>AC05358</b>                |  |                                 |                            |              |
| River Basin: <b>ROA01</b>  |  | PO Number #: <b>14W12800</b>             |  |                                 |                            |              |
| Report To: <b>WSROSP</b>   |  | Date Received: <b>02/21/2014</b>         |  |                                 |                            |              |
| Collector: <b>S WANG</b>   |  | Time Received: <b>14:45</b>              |  |                                 |                            |              |
| Region: <b>WSRO</b>  |  | Labworks LoginID: <b>MSWIFT</b>          |  |                                 |                            |              |
| Sample Matrix: <b>SURFACEWATER</b>   |  | Final Report Date: <b>3/11/14</b>        |  |                                 |                            |              |
| Loc. Type: <b>STREAM/RIVER</b>   |  | Report Print Date: <b>03/11/2014</b>     |  |                                 |                            |              |
| Emergency Yes/No: <b>Yes</b>   |  | VisitID: <input type="text" value="14"/> |  |                                 |                            |              |
| COC Yes/No: <b>Yes</b>   |  | Loc. Descr.: <b>DS-VA LINE</b>           |  |                                 |                            |              |
| <table border="1" style="width: 100%;"> <tr> <td>Location ID: <b>4P079NC0003468ASHDAN</b></td> <td>Collect Date: <b>02/21/2014</b></td> <td>Collect Time: <b>12:05</b></td> <td>Sample Depth</td> </tr> </table> |  |  | Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/21/2014</b> | Collect Time: <b>12:05</b> | Sample Depth |
| Location ID: <b>4P079NC0003468ASHDAN</b>   | Collect Date: <b>02/21/2014</b>  | Collect Time: <b>12:05</b>               | Sample Depth                             |                                 |                            |              |

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>2.5</b>           | °C    |                     | 2/21/14          | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-70-2  | Ca-Dissolved Calcium by ICP          | 0.10 | <b>5.7</b>           | mg/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-47-3  | Cr- Dissolved Chromium by ICPMS      | 10   | <b>10 U</b>          | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>97</b>            | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-09-7  | K-Dissolved Potassium by ICP         | 0.10 | <b>1.9</b>           | mg/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7439-95-4  | Mg- Dissolved Magnesium by ICP       | 0.10 | <b>2.3</b>           | mg/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7439-96-5  | Dissolved Mn by ICP                  | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-23-5  | Na-Dissolved Sodium by ICP           | 0.10 | <b>4.5</b>           | mg/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7439-92-1  | Pb-Dissolved Lead by ICPMS           | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7782-49-2  | Se-Dissolved Selenium by ICPMS       | 5.0  | <b>5.0 U</b>         | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>65</b>            | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7429-90-5  | B by ICP                             | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 3/3/14           | ESTAFFORD1   |
| 7440-38-3  | Ba- Dissolved Barium by ICP          | 10   | <b>21</b>            | ug/L  | EPA 200.7           | 3/6/14           | ESTAFFORD1   |
|            | Stronium Dissolved by ICPMS          | 10   | <b>37</b>            | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-28-0  | Thallium (TI) Dissolved by ICPMS     | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/6/14           | ESTAFFORD1   |
| 7440-32-6  | Ti (Titanium) Dissolved by ICP       | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/27/14          | ESTAFFORD1   |
| 7440-62-2  | V Dissolved by ICP                   | 25   | <b>25 U</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |

Cc / E-mail

14612809

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
RIVER BASIN : Roanoke
REPORT TO : Winston-Salem Regional Office
Other :
COLLECTOR(S) : S. Wang & P. Mitchell

PRIORITY
[ ] AMBIENT [ ] QA
[ ] COMPLIANCE [X] CHAIN OF CUSTODY
[X] EMERGENCY
VISIT ID: 14

SAMPLE TYPE
[X] STREAM [ ] EFFLUENT
[ ] LAKE [ ] INFLUENT
[ ] ESTUARY
2

Lab Number : AC 05367
Date Received : 2-21-14
Time Received : 14:28
Received By :
Data Released :
Date Reported :

Estimated BOD Range:
Seed: Chlorinated:
Station Location: DS - VA Line
Remarks: (9B)Hg(12) Mercury

Table with 8 columns: Station #/Location Code, Date Begin (yy/mm/dd), Date End (yy/mm/dd), Time Begin, Time End, Depth - DM, DB, DBM, Value Type - A, H, L, Composite-T, S, B, Sample Type. Row 1: 4P079NC0003468AshDan, 14/02/21, 14/02/21, 11:25, 12:05, Depth - DM, DB, DBM, Value Type - A, H, L, Composite-T, S, B, G

Table with 2 columns: Parameter, Unit. Rows include BOD 310, COD High 340, COD Low 335, Coliform: MF Fecal 31616, Coliform: MF Total 31504, Coliform: tube Fecal 31615, Coliform: Fecal Strep 31673, Residue: Total 500, Volatile 505, Fixed 510, Residue: Suspended 530, Volatile 535, Fixed 540, pH 403, Acidity to pH 4.5 436, Acidity to pH 8.3 435, Alkalinity to pH 8.3 415, Alkalinity to pH 4.5 410, TOC 680, Turbidity 76, Coliform Total Tube /100 ml

Table with 2 columns: Parameter, Unit. Rows include Chloride 940, Chlorophyll a EPA 445.0 modified option, Color: True 80, Color: pH ) 83 pH=, Color: pH 7.6 82, Cyanide 720, Fluoride 951, Formaldehyde 71880, Grease and Oils 556, Hardness Total 900, Specific Cond. 95, MBAS 38260, Phenols 32730, Sulfate 945, Sulfide 745, Boron, Tannin & Lignin, Hexavalent Chromium, Bicarbonate, Carbonate, Total Dissolved Solids

Table with 2 columns: Parameter, Unit. Rows include NH3 as N 610, TKN as N 625, NO2 plus NO3 as N 630, P: Total as P 665, PO4 as P 70507, P: Dissolved as P 666, K-Potassium, Cd- Cadmium 1027, Cr-Chromium:Total 1034, Cu- Copper 1042, Ni-Nickel 1067, Pb- Lead 1051, Zn- Zinc 1092, V-Vanadium, Ag- Silver 1077, Al- Aluminum 1105, Be- Beryllium 1012, Ca- Calcium 916, Co- Cobalt 1037, Fe- Iron 1045, Mo-Molybdenum, Sb-Antimony, Sn-Tin, Tl-Thallium, Ti-Titanium, Hg-1631

Table with 2 columns: Parameter, Unit. Rows include Li-Lithium 1132, Mg- Magnesium 927, Mn-Manganese 1055, Na- Sodium 929, Arsenic:Total 1002, Se- Selenium 1147, Hg- Mercury 71900, Ba-Barium, Organochlorine Pesticides, Organophosphorus Pesticides, Organonitrogen Pesticides, Acid Herbicides, Base/Neutral&Acid Extractable Organics, TPH Diesel Range, Purgeable Organics (VOA bottle req'd), TPH Gasoline Range, TPH/BTEX Gasoline Range, Phytoplankton, Temperature on arrival (°C):

COMMENTS : 7 E011727

County: **ROCKINGHAM**  
 River Basin: **ROAO1**  
 Report To: **WSROSP**  
 Collector: **S WANG**  
 Region: **WSRO**  
 Sample Matrix: **SURFACEWATER**  
 Loc. Type: **RIVER/STREAM**  
 Emergency Yes/No: Yes  
 COC Yes/No: Yes



Sample ID: **AC05367**  
 PO Number #: **14W12809**  
 Date Received: **02/21/2014**  
 Time Received: **14:45**  
 Labworks LoginID: **MSWIFT**  
 Final Report Date: **3/6/14**  
 Report Print Date: **03/06/2014**

**Final Report**VisitID Loc. Descr.: **DS-VA LINE**

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>02/21/2014</b> | Collect Time: <b>12:05</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/<br/>Qualifier</u> | <u>Units</u> | <u>Method<br/>Reference</u> | <u>Analysis<br/>Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|------------------------------|--------------|-----------------------------|--------------------------|---------------------|
| <b>MET</b>   |                     |            |                              |              |                             |                          |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>9.56</b>                  | ng/L         | EPA 1631E                   | 3/5/14                   | ESTAFFORD1          |

Coc / End

14w 12089  
2/27/90

DIVISION OF WATER QUALITY  
Chemistry Laboratory Report / Water Quality

COUNTY : ROCKWELL HAVEN  
RIVER BASIN : ROANOKE  
REPORT TO : WSRO Regional Office  
Other :  
COLLECTOR(S) : LSMIDY / R BOONE

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY  
VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY  **2**

Lab Number : AC05504  
Date Received : 2-27-90  
Time Received : 750  
Received By : JN  
Data Released :  
Date Reported :

Estimated BOD Range:

Station Location:

Remarks: DAW R. COAL ASH SPILL

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin  | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|-------------|----------|---------------------|----------------------|-------------------|-------------|
| <u>DS VA LINE</u>       | <u>1/2/90</u>         |                     | <u>1125</u> |          |                     |                      |                   |             |

|  |         |
|--|---------|
| BOD 310  | mg/L    |
| COD High 340   | mg/L    |
| COD Low 335  | mg/L    |
| Coliform: MF Fecal 31616                                   | /100ml  |
| Coliform: MF Total 31504                                   | /100ml  |
| Coliform: tube Fecal 31615                                 | /100ml  |
| Coliform: Fecal Strep 31673                                | /100ml  |
| <input checked="" type="checkbox"/> Residue: Total 500     | mg/L    |
| Volatile 505   | mg/L    |
| Fixed 510  | mg/L    |
| <input checked="" type="checkbox"/> Residue: Suspended 530 | mg/L    |
| Volatile 535   | mg/L    |
| Fixed 540  | mg/L    |
| pH 403   | units   |
| Acidity to pH 4.5 436                                      | mg/L    |
| Acidity to pH 8.3 435                                      | mg/L    |
| Alkalinity to pH 8.3 415                                   | mg/L    |
| Alkalinity to pH 4.5 410                                   | mg/L    |
| TOC 680  | mg/L    |
| Turbidity 76   | NTU     |
| Coliform Total Tube  | /100 ml |

|   |          |
|---|----------|
| Chloride 940                            | mg/L     |
| Chlorophyll a EPA 445.0 modified option | ug/L     |
| Color: True 80                          | c.u.     |
| Color: (pH) 83 pH=                      | c.u.     |
| Color: pH 7.6 82                        | c.u.     |
| Cyanide 720                             | mg/L     |
| Fluoride 951                            | mg/L     |
| Formaldehyde 71880                      | mg/L     |
| Grease and Oils 556                     | mg/L     |
| Hardness Total 900                      | mg/L     |
| Specific Cond. 95                       | umhos/cm |
| MBAS 38260                              | mg/L     |
| Phenols 32730                           | ug/L     |
| Sulfate 945                             | mg/L     |
| Sulfide 745                             | mg/L     |
| Boron                                   |          |
| Tannin & Lignin                         | ug/L     |
| Hexavalent Chromium                     | ug/L     |
| Bicarbonate                             | mg/L     |
| Carbonate                               | mg/L     |
| Total Dissolved Solids                  | mg/L     |

|   |      |
|---|------|
| NH3 as N 610  | mg/L |
| TKN as N 625  | mg/L |
| NO2 plus NO3 as N 630                                 | mg/L |
| P: Total as P 665                                     | mg/L |
| PO4 as P 70507  | mg/L |
| P: Dissolved as P 666                                 | mg/L |
| K-Potassium   | mg/L |
| <input checked="" type="checkbox"/> Cd- Cadmium 1027  | ug/L |
| Cr-Chromium: Total 1034                               | ug/L |
| <input checked="" type="checkbox"/> Cu- Copper 1042   | ug/L |
| <input checked="" type="checkbox"/> Ni-Nickel 1067    | ug/L |
| Pb- Lead 1051   | ug/L |
| <input checked="" type="checkbox"/> Zn- Zinc 1092     | ug/L |
| V-Vanadium  | ug/L |
| Ag- Silver 1077                                       | ug/L |
| <input checked="" type="checkbox"/> Al- Aluminum 1105 | ug/L |
| Be- Beryllium 1012                                    | ug/L |
| Ca- Calcium 916                                       | mg/L |
| Co- Cobalt 1037                                       | ug/L |
| <input checked="" type="checkbox"/> Fe- Iron 1045     | ug/L |
| Mo-Molybdenum   | ug/L |
| Sb-Antimony   | ug/L |
| Sn-Tin  | ug/L |
| Tl-Thallium   | ug/L |
| Ti-Titanium   | ug/L |
| Hg-1631   | ng/L |

|   |           |
|---|-----------|
| Li-Lithium 1132   | ug/L      |
| Mg- Magnesium 927                                       | mg/L      |
| Mn-Manganese 1055                                       | ug/L      |
| Na- Sodium 929  | mg/L      |
| <input checked="" type="checkbox"/> Arsenic: Total 1002 | ug/L      |
| Se- Selenium 1147                                       | ug/L      |
| Hg- Mercury 71900                                       | ug/L      |
| Ba-Barium   | ug/L      |
| Organochlorine Pesticides                               |           |
| Organophosphorus Pesticides                             |           |
| Organonitrogen Pesticides                               |           |
| Acid Herbicides   |           |
| Base/Neutral & Acid Extractable Organics                |           |
| TPH Diesel Range  |           |
| Purgeable Organics (VOA bottle req'd)                   |           |
| TPH Gasoline Range                                      |           |
| TPH/BTEX Gasoline Range                                 |           |
| Phytoplankton   |           |
| Temperature on arrival (°C):                            | <u>22</u> |

COMMENTS:

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|   |  |                                  |
|---|--|----------------------------------|
| County: <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID: <b>AC05568</b>        |
| River Basin: <b>ROA01</b>   |  | PO Number #: <b>14W12990</b>     |
| Report To: <b>WSROSP</b>  |  | Date Received: <b>02/27/2014</b> |
| Collector: <b>L SNIDER</b>  |  | Time Received: <b>07:50</b>      |
| Region: <b>WSRO</b>   |  | Labworks LoginID: <b>MSWIFT</b>  |
| Sample Matrix: <b>SURFACEWATER</b>  |  | Final Report Date: <b>3/4/14</b> |
| Loc. Type: <b>RIVER/STREAM</b>  | Report Print Date: <b>03/04/2014</b>   |                                  |
| Emergency Yes/No: <b>Yes</b>  | VisitID  |                                  |
| COC Yes/No: <b>Yes</b>  |  |                                  |
| Loc. Descr.: <b>DAN R. COAL ASH SPILL</b>   |  |                                  |
| Location ID: <b>DS_VA_LINE</b>  | Collect Date: <b>02/26/2014</b>  | Collect Time: <b>11:25</b>       |
| Sample Depth  |  |                                  |
| <b>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</b> |  |                                  |

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>2.2</b>           | °C    |                     | 2/27/14          | MSWIFT       |
| <b>WET</b> |                                      |      |                      |       |                     |                  |              |
|            | Residue_Total in liquid              | 12   | <b>78</b>            | mg/L  | SM 2540 B-1997      | 2/28/14          | CGREEN       |
|            | Residue_Suspended in liquid          | 6.2  | <b>17</b>            | mg/L  | SM 2540 D-1997      | 2/27/14          | MOVERMAN     |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7429-90-5  | Al by ICP                            | 50   | <b>880</b>           | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/4/14           | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/4/14           | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/4/14           | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>1200</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-02-0  | Ni by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/4/14           | ESTAFFORD1   |
| 7440-66-6  | Zn by ICP                            | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |

*Coal/Emuls*

*14w 12098  
2/27/14*

**DIVISION OF WATER QUALITY**  
Chemistry Laboratory Report / Water Quality

COUNTY : ROCKINGHAM  
RIVER BASIN : ROANOKE  
REPORT TO : WSPRO Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY 2

Lab Number : AC05569  
Date Received : 2-27-21  
Time Received : 7:50  
Received By : TK  
Date Released :  
Date Reported :

Other :  
COLLECTOR(S) : LSWIDEE / E BOONE

Estimated BOD Range: \* DISSOLVED METAL SAMPLE

Station Location: \_\_\_\_\_  
Remarks: DAN R COAL ASH SPILL

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin  | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|-------------|----------|---------------------|----------------------|-------------------|-------------|
| <u>DS VIA LINE</u>      |                       |                     | <u>1125</u> |          |                     |                      |                   |             |


|                             |         |
|-----------------------------|---------|
| BOD 310                     | mg/L    |
| COD High 340                | mg/L    |
| COD Low 335                 | mg/L    |
| Coliform: MF Fecal 31616    | /100ml  |
| Coliform: MF Total 31504    | /100ml  |
| Coliform: tube Fecal 31615  | /100ml  |
| Coliform: Fecal Strep 31673 | /100ml  |
| Residue: Total 500          | mg/L    |
| Volatile 505                | mg/L    |
| Fixed 510                   | mg/L    |
| Residue: Suspended 530      | mg/L    |
| Volatile 535                | mg/L    |
| Fixed 540                   | mg/L    |
| pH 403                      | units   |
| Acidity to pH 4.5 436       | mg/L    |
| Acidity to pH 8.3 435       | mg/L    |
| Alkalinity to pH 8.3 415    | mg/L    |
| Alkalinity to pH 4.5 410    | mg/L    |
| TOC 680                     | mg/L    |
| Turbidity 76                | NTU     |
| Coliform Total Tube         | /100 ml |

|   |          |
|---|----------|
| Chloride 940                            | mg/L     |
| Chlorophyll a EPA 445.0 modified option | ug/L     |
| Color: True 80                          | c.u.     |
| Color: (pH) 83 pH=                      | c.u.     |
| Color: pH 7.6 82                        | c.u.     |
| Cyanide 720                             | mg/L     |
| Fluoride 951                            | mg/L     |
| Formaldehyde 71880                      | mg/L     |
| Grease and Oils 556                     | mg/L     |
| Hardness Total 900                      | mg/L     |
| Specific Cond. 95                       | umhos/cm |
| MBAS 38260                              | mg/L     |
| Phenols 32730                           | ug/L     |
| Sulfate 945                             | mg/L     |
| Sulfide 745                             | mg/L     |
| Boron                                   |          |
| Tannin & Lignin                         | ug/L     |
| Hexavalent Chromium                     | ug/L     |
| Bicarbonate                             | mg/L     |
| Carbonate                               | mg/L     |
| Total Dissolved Solids                  | mg/L     |

|   |      |
|---|------|
| NH3 as N 610  | mg/L |
| TKN as N 625  | mg/L |
| NO2 plus NO3 as N 630                                 | mg/L |
| P: Total as P 665                                     | mg/L |
| PO4 as P 70507  | mg/L |
| P: Dissolved as P 666                                 | mg/L |
| K-Potassium   | mg/L |
| <input checked="" type="checkbox"/> Cd- Cadmium 1027  | ug/L |
| Cr-Chromium: Total 1034                               | ug/L |
| <input checked="" type="checkbox"/> Cu- Copper 1042   | ug/L |
| <input checked="" type="checkbox"/> Ni-Nickel 1067    | ug/L |
| Pb- Lead 1051   | ug/L |
| Zn- Zinc 1092   | ug/L |
| V-Vanadium  | ug/L |
| Ag- Silver 1077                                       | ug/L |
| <input checked="" type="checkbox"/> Al- Aluminum 1105 | ug/L |
| Be- Beryllium 1012                                    | ug/L |
| Ca- Calcium 916                                       | mg/L |
| Co- Cobalt 1037                                       | ug/L |
| <input checked="" type="checkbox"/> Fe- Iron 1045     | ug/L |
| Mo-Molybdenum   | ug/L |
| Sb-Antimony   | ug/L |
| Sn-Tin  | ug/L |
| Tl-Thallium   | ug/L |
| Ti-Titanium   | ug/L |
| Hg-1631   | ng/L |

|   |           |
|---|-----------|
| Li-Lithium 1132   | ug/L      |
| Mg- Magnesium 927                                       | mg/L      |
| Mn-Manganese 1055                                       | ug/L      |
| Na- Sodium 929  | mg/L      |
| <input checked="" type="checkbox"/> Arsenic: Total 1002 | ug/L      |
| Se- Selenium 1147                                       | ug/L      |
| Hg- Mercury 71900                                       | ug/L      |
| Ba-Barium   | ug/L      |
| Organochlorine Pesticides                               |           |
| Organophosphorus Pesticides                             |           |
| Organonitrogen Pesticides                               |           |
| Acid Herbicides   |           |
| Base/Neutral & Acid Extractable Organics                |           |
| TPH Diesel Range  |           |
| Purgeable Organics (VOA bottle req'd)                   |           |
| TPH Gasoline Range                                      |           |
| TPH/BTEX Gasoline Range                                 |           |
| Phytoplankton   |           |
| Temperature on arrival (°C):                            | <u>22</u> |

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

|   |  |                                  |
|---|--|----------------------------------|
| County: <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID: <b>AC05569</b>        |
| River Basin: <b>ROA01</b>   |  | PO Number #: <b>14W12991</b>     |
| Report To: <b>WSROSP</b>  |  | Date Received: <b>02/27/2014</b> |
| Collector: <b>L SNIDER</b>  |  | Time Received: <b>07:50</b>      |
| Region: <b>WSRO</b>   |  | Labworks LoginID: <b>MSWIFT</b>  |
| Sample Matrix: <b>SURFACEWATER</b>  |  | Final Report Date: <b>3/4/14</b> |
| Loc. Type: <b>RIVER/STREAM</b>  | Report Print Date: <b>03/04/2014</b>   |                                  |
| Emergency Yes/No: <u>Yes</u>  | VisitID  |                                  |
| COC Yes/No: <u>Yes</u>  |  |                                  |
| Loc. Descr.: <b>DAN R. COAL ASH SPILL</b>   |  |                                  |
| Location ID: <b>DS_VA_LINE</b>  | Collect Date: <b>02/26/2014</b>  | Collect Time: <b>11:25</b>       |
| Sample Depth  |  |                                  |
| <b>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</b> |  |                                  |

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>2.2</b>           | °C    |                     | 2/27/14          | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/4/14           | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/4/14           | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/4/14           | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/4/14           | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 2/28/14          | ESTAFFORD1   |

# EMER/COC

14W 7/31/66

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : Saunders/Boone

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : AC05798  
 Date Received : 3-6-14  
 Time Received : 7:56  
 Received By : mp  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/3/5                |                     | 11:35      |          |                     |                      |                   | G           |

|                             |         |   |          |                         |      |  |      |
|-----------------------------|---------|---|----------|-------------------------|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610            | mg/L | Li-Lithium 1132                        | ug/L |
| COD High 340                | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | TKN an N 625            | mg/L | Mg- Magnesium 927                      | mg/L |
| COD Low 335                 | mg/L    | Color: True 80                          | c.u.     | NO2 plus NO3 as N 630   | mg/L | Mn-Manganese 1055                      | ug/L |
| Coliform: MF Fecal 31616    | /100ml  | Color: (pH) 83 pH=                      | c.u.     | P: Total as P 665       | mg/L | Na- Sodium 929                         | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: pH 7.6 82                        | c.u.     | PO4 as P 70507          | mg/L | x Arsenic: Total 1002                  | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Cyanide 720                             | mg/L     | P: Dissolved as P 666   | mg/L | Se- Selenium 1147                      | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Fluoride 951                            | mg/L     | K-Potassium             | mg/L | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Formaldehyde 71880                      | mg/L     | x Cd- Cadmium 1027      | ug/L | Ba-Barium                              | ug/L |
| Volatile 505                | mg/L    | Grease and Oils 556                     | mg/L     | Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Hardness Total 900                      | mg/L     | x Cu- Copper 1042       | ug/L | Organophosphorus Pesticides            |      |
| x Residue: Suspended 530    | mg/L    | Specific Cond. 95                       | umhos/cm | x Ni-Nickel 1067        | ug/L | Organonitrogen Pesticides              |      |
| Volatile 535                | mg/L    | MBAS 38260                              | mg/L     | Pb- Lead 1051           | ug/L | Acid Herbicides                        |      |
| Fixed. 540                  | mg/L    | Phenols 32730                           | ug/L     | x Zn- Zinc 1092         | ug/L | Base/Neutral&Acid Extractable Organics |      |
| pH 403                      | units   | Sulfate 945                             | mg/L     | V-Vanadium              | ug/L | TPH Diesel Range                       |      |
| Acidity to pH 4.5 436       | mg/L    | Sulfide 745                             | mg/L     | Ag- Silver 1077         | ug/L | Purgeable Organics (VOA bottle req'd)  |      |
| Acidity to pH 8.3 435       | mg/L    | Boron                                   |          | x Al- Aluminum 1105     | ug/L | TPH Gasoline Range                     |      |
| Alkalinity to pH 8.3 415    | mg/L    | Tannin & Lignin                         | ug/L     | Be- Beryllium 1012      | ug/L | TPH/BTEX Gasoline Range                |      |
| Alkalinity to pH 4.5 410    | mg/L    | Hexavalent Chromium                     | ug/L     | Ca- Calcium 916         | mg/L | Phytoplankton                          |      |
| TOC 680                     | mg/L    | Bicarbonate                             | mg/L     | Co- Cobalt 1037         | ug/L |  |      |
| Turbidity 76                | NTU     | Carbonate                               | mg/L     | x Fe- Iron 1045         | ug/L |  |      |
| Coliform Total Tube         | /100 ml | x Total Dissolved Solids                | mg/L     | Mo-Molybdenum           | ug/L |  |      |
|                             |         |   |          | Sb-Antimony             | ug/L |  |      |
|                             |         |   |          | Sn-Tin                  | ug/L |  |      |
|                             |         |   |          | Tl-Thallium             | ug/L |  |      |
|                             |         |   |          | Ti-Titanium             | ug/L |  |      |
|                             |         |   |          | Hg-1631                 | ng/L |  |      |
|                             |         |   |          |                         |      | Temperature on arrival (°C):           | 1.1  |

COMMENTS: \_\_\_\_\_

|   |  |                                      |
|---|--|--------------------------------------|
| County: <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID: <b>AC05798</b>            |
| River Basin: <b>ROA01</b>   |  | PO Number #: <b>14W13166</b>         |
| Report To: <b>WSROSP</b>  |  | Date Received: <b>03/06/2014</b>     |
| Collector: <b>L SNIDER</b>  |  | Time Received: <b>07:50</b>          |
| Region: <b>WSRO</b>   |  | Labworks LoginID: <b>MSWIFT</b>      |
| Sample Matrix: <b>SURFACEWATER</b>  |  | Final Report Date: <b>3/14/14</b>    |
| Loc. Type: <b>STREAM/RIVER</b>  |  | Report Print Date: <b>03/15/2014</b> |
| Emergency Yes/No: <u>Yes</u>  | VisitID  |                                      |
| COC Yes/No: <u>Yes</u>  |  |                                      |
| Loc. Descr.: <b>DS-VA LINE</b>  |  |                                      |
| Location ID: <b>4P079NC0003468ASHDAN</b>  | Collect Date: <b>03/05/2014</b>  | Collect Time: <b>11:35</b>           |
| Sample Depth  |  |                                      |
| <b>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</b> |  |                                      |

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.1</b>           | °C    |                     | 3/6/14           | MSWIFT       |
| <b>WET</b> |                                      |      |                      |       |                     |                  |              |
|            | Residue_Suspended in liquid          | 6.2  | <b>9.2</b>           | mg/L  | SM 2540 D-1997      | 3/6/14           | CGREEN       |
|            | Total Dissolved Solids in liquid     | 12   | <b>66</b>            | mg/L  | SM 2540 C-1997      | 3/6/14           | CGREEN       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7429-90-5  | Al by ICP                            | 50   | <b>500</b>           | ug/L  | EPA 200.7           | 3/10/14          | ESTAFFORD1   |
| 7440-38-2  | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/7/14           | ESTAFFORD1   |
| 7440-43-9  | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/7/14           | ESTAFFORD1   |
| 7440-50-8  | Cu by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/7/14           | ESTAFFORD1   |
| 7439-89-6  | Fe by ICP                            | 50   | <b>770</b>           | ug/L  | EPA 200.7           | 3/10/14          | ESTAFFORD1   |
| 7440-02-0  | Ni by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/7/14           | ESTAFFORD1   |
| 7440-66-6  | Zn by ICP                            | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 3/10/14          | ESTAFFORD1   |

# EMER/LOC

14w 13/67

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Other :  
 COLLECTOR(S) : SMB / DOME

VISIT ID

2

Lab Number : AC05799  
 Date Received : 3.6.14  
 Time Received : 7:50  
 Received By : MP  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: DISSOLVED METALS

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/3/5                |                     | 11:35      |          |                     |                      |                   | G           |

|                             |         |   |          |                         |      |  |      |
|-----------------------------|---------|---|----------|-------------------------|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610            | mg/L | Li-Lithium 1132                        | ug/L |
| COD High 340                | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | TKN an N 625            | mg/L | Mg- Magnesium 927                      | mg/L |
| COD Low 335                 | mg/L    | Color: True 80                          | c.u.     | NO2 plus NO3 as N 630   | mg/L | Mn-Manganese 1055                      | ug/L |
| Coliform: MF Fecal 31616    | /100ml  | Color: (pH ) 83 pH=                     | c.u.     | P: Total as P 665       | mg/L | Na- Sodium 929                         | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: pH 7.6 82                        | c.u.     | PO4 as P 70507          | mg/L | x Arsenic: Total 1002                  | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Cyanide 720                             | mg/L     | P: Dissolved as P 666   | mg/L | Se- Selenium 1147                      | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Fluoride 951                            | mg/L     | K-Potassium             | mg/L | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Formaldehyde 71880                      | mg/L     | x Cd- Cadmium 1027      | ug/L | Ba-Barium                              | ug/L |
| Volatile 505                | mg/L    | Grease and Oils 556                     | mg/L     | Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Hardness Total 900                      | mg/L     | x Cu- Copper 1042       | ug/L | Organophosphorus Pesticides            |      |
| Residue: Suspended 530      | mg/L    | Specific Cond. 95                       | umhos/cm | x Ni- Nickel 1067       | ug/L | Organonitrogen Pesticides              |      |
| Volatile 535                | mg/L    | MBAS 38260                              | mg/L     | Pb- Lead 1051           | ug/L | Acid Herbicides                        |      |
| Fixed 540                   | mg/L    | Phenols 32730                           | ug/L     | x Zn- Zinc 1092         | ug/L |  |      |
| pH 403                      | units   | Sulfate 945                             | mg/L     | V-Vanadium              | ug/L | Base/Neutral&Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Sulfide 745                             | mg/L     | Ag- Silver 1077         | ug/L | TPH Diesel Range                       |      |
| Acidity to pH 8.3 435       | mg/L    | Boron                                   |          | x Al- Aluminum 1105     | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Tannin & Lignin                         | ug/L     | Be- Beryllium 1012      | ug/L | Purgeable Organics (VOA bottle req'd)  |      |
| Alkalinity to pH 4.5 410    | mg/L    | Hexavalent Chromium                     | ug/L     | Ca- Calcium 916         | mg/L | TPH Gasoline Range                     |      |
| TOC 680                     | mg/L    | Bicarbonate                             | mg/L     | Co- Cobalt 1037         | ug/L | TPH/BTEX Gasoline Range                |      |
| Turbidity 76                | NTU     | Carbonate                               | mg/L     | x Fe- Iron 1045         | ug/L | Phytoplankton                          |      |
| Coliform Total Tube         | /100 ml | Total Dissolved Solids                  | mg/L     | Mo-Molybdenum           | ug/L |  |      |
|                             |         |   |          | Sb-Antimony             | ug/L |  |      |
|                             |         |   |          | Sn-Tin                  | ug/L |  |      |
|                             |         |   |          | Tl-Thallium             | ug/L |  |      |
|                             |         |   |          | Ti-Titanium             | ug/L |  |      |
|                             |         |   |          | Hg-1631                 | ng/L | Temperature on arrival (°C):           | 1.1  |

COMMENTS :

|                                |                     |  |                    |                   |
|--------------------------------|---------------------|--|--------------------|-------------------|
| County:                        | <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID:         | <b>AC05799</b>    |
| River Basin:                   | <b>ROA01</b>        |  | PO Number #        | <b>14W13167</b>   |
| Report To:                     | <b>WSROSP</b>       |  | Date Received:     | <b>03/06/2014</b> |
| Collector:                     | <b>L SNIDER</b>     |  | Time Received:     | <b>07:50</b>      |
| Region:                        | <b>WSRO</b>         |  | Labworks LoginID   | <b>MSWIFT</b>     |
| Sample Matrix:                 | <b>SURFACEWATER</b> |  | Final Report Date: | <b>3/14/14</b>    |
| Loc. Type:                     | <b>STREAM/RIVER</b> |  | Report Print Date: | <b>03/15/2014</b> |
| Emergency Yes/No               | <u>Yes</u>          |  | VisitID            |                   |
| COC Yes/No                     | <u>Yes</u>          |  |                    |                   |
| Loc. Descr.: <b>DS-VA LINE</b> |                     |  |                    |                   |

|  |                                 |                            |              |
|--|---------------------------------|----------------------------|--------------|
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>03/05/2014</b> | Collect Time: <b>11:35</b> | Sample Depth |
|--|---------------------------------|----------------------------|--------------|

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.1</b>           | °C    |                     | 3/6/14           | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/7/14           | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/7/14           | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/7/14           | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>51</b>            | ug/L  | EPA 200.7           | 3/10/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/7/14           | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 3/10/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 3/10/14          | ESTAFFORD1   |

14W13386

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office  
 Other :  
 COLLECTOR(S) : [Signature]

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID [Stamp]

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Lab Number : AC06100  
~~AC07000~~  
 Date Received : 3-13-2014  
 Time Received : 7:30  
 Received By : [Signature]  
 Data Released :  
 Date Reported :

Estimated BOD Range:

Station Location: DS - VA Line

2

Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_


Remarks: \_\_\_\_\_

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/3/12               |                     | 11:50      |          |                     |                      |                   | G           |

|                             |         |   |          |                         |      |  |      |
|-----------------------------|---------|---|----------|-------------------------|------|--|------|
| BOD 310                     | mg/L    | Chloride 940                            | mg/L     | NH3 as N 610            | mg/L | Li-Lithium 1132                        | ug/L |
| COD High 340                | mg/L    |   |          | TKN an N 625            | mg/L | Mg- Magnesium 927                      | mg/L |
| COD Low 335                 | mg/L    | Chlorophyll a EPA 445.0 modified option | ug/L     | NO2 plus NO3 as N 630   | mg/L | Mn-Manganese 1055                      | ug/L |
| Coliform: MF Fecal 31616    | /100ml  |   |          | P: Total as P 665       | mg/L | Na- Sodium 929                         | mg/L |
| Coliform: MF Total 31504    | /100ml  | Color: True 80                          | c.u.     | PO4 as P 70507          | mg/L | Arsenic: Total 1002                    | ug/L |
| Coliform: tube Fecal 31615  | /100ml  | Color: (pH ) 83 pH=                     | c.u.     | P: Dissolved as P 666   | mg/L | Se- Selenium 1147                      | ug/L |
| Coliform: Fecal Strep 31673 | /100ml  | Color: pH 7.6 82                        | c.u.     | K-Potassium             | mg/L | Hg- Mercury 71900                      | ug/L |
| Residue: Total 500          | mg/L    | Cyanide 720                             | mg/L     | x Cd- Cadmium 1027      | ug/L | Ba-Barium                              | ug/L |
| Volatile 505                | mg/L    | Fluoride 951                            | mg/L     | Cr-Chromium: Total 1034 | ug/L | Organochlorine Pesticides              |      |
| Fixed 510                   | mg/L    | Formaldehyde 71880                      | mg/L     | x Cu- Copper 1042       | ug/L | Organophosphorus Pesticides            |      |
| x Residue: Suspended 530    | mg/L    | Grease and Oils 556                     | mg/L     | x Ni-Nickel 1067        | ug/L | Organonitrogen Pesticides              |      |
| Volatile 535                | mg/L    | Hardness Total 900                      | mg/L     | Pb- Lead 1051           | ug/L | Acid Herbicides                        |      |
| Fixed 540                   | mg/L    | Specific Cond. 95                       | umhos/cm | x Zn- Zinc 1092         | ug/L |  |      |
| pH 403                      | units   | MBAS 38260                              | mg/L     | V-Vanadium              | ug/L | Base/Neutral&Acid Extractable Organics |      |
| Acidity to pH 4.5 436       | mg/L    | Phenols 32730                           | ug/L     | Ag- Silver 1077         | ug/L | TPH Diesel Range                       |      |
| Acidity to pH 8.3 435       | mg/L    | Sulfate 945                             | mg/L     | x Al- Aluminum 1105     | ug/L |  |      |
| Alkalinity to pH 8.3 415    | mg/L    | Sulfide 745                             | mg/L     | Be- Beryllium 1012      | ug/L | Purgeable Organics (VOA bottle req'd)  |      |
| Alkalinity to pH 4.5 410    | mg/L    | Boron                                   |          | Ca- Calcium 916         | mg/L | TPH Gasoline Range                     |      |
| TOC 680                     | mg/L    | Tannin & Lignin                         | ug/L     | Co- Cobalt 1037         | ug/L | TPH/BTEX Gasoline Range                |      |
| Turbidity 76                | NTU     | Hexavalent Chromium                     | ug/L     | x Fe- Iron 1045         | ug/L | Phytoplankton                          |      |
| Coliform Total Tube         | /100 ml | Bicarbonate                             | mg/L     | Mo-Molybdenum           | ug/L |  |      |
|                             |         | Carbonate                               | mg/L     | Sb-Antimony             | ug/L |  |      |
|                             |         | x Total Dissolved Solids                | mg/L     | Sn-Tin                  | ug/L |  |      |
|                             |         |   |          | Tl-Thallium             | ug/L |  |      |
|                             |         |   |          | Ti-Titanium             | ug/L |  |      |
|                             |         |   |          | Hg-1631                 | ng/L | Temperature on arrival (°C):           | 17   |

COMMENTS : \_\_\_\_\_



|   |  |                                      |              |
|---|--|--------------------------------------|--------------|
| County: <b>ROCKINGHAM</b>   | <br><b>Final Report</b> | Sample ID: <b>AC06100</b>            |              |
| River Basin: <b>ROA01</b>   |  | PO Number #: <b>14W13386</b>         |              |
| Report To: <b>WSROSP</b>  |  | Date Received: <b>03/13/2014</b>     |              |
| Collector: <b>L SNIDER</b>  |  | Time Received: <b>07:50</b>          |              |
| Region: <b>WSRO</b>   |  | Labworks LoginID: <b>MSWIFT</b>      |              |
| Sample Matrix: <b>SURFACEWATER</b>  |  | Final Report Date: <b>3/21/14</b>    |              |
| Loc. Type: <b>RIVER/STREAM</b>  |  | Report Print Date: <b>03/21/2014</b> |              |
| Emergency Yes/No: <u>Yes</u>  |  | VisitID                              |              |
| COC Yes/No: <u>Yes</u>  |  |                                      |              |
| Loc. Descr.: <b>DS-VA LINE</b>  |  |                                      |              |
| Location ID: <b>4P079NC0003468ASHDAN</b>  | Collect Date: <b>03/12/2014</b>  | Collect Time: <b>11:50</b>           | Sample Depth |
| <b>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</b> |  |                                      |              |

| CAS #         | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|---------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b>    |                                      |      |                      |       |                     |                  |              |
|               | Sample temperature at receipt by lab |      | <b>1.7</b>           | °C    |                     | 3/13/14          | MSWIFT       |
| <b>WET</b>    |                                      |      |                      |       |                     |                  |              |
|               | Residue_Suspended in liquid          | 6.2  | <b>18</b>            | mg/L  | SM 2540 D-1997      | 3/13/14          | MOVERMAN     |
| <b>MET</b>    |                                      |      |                      |       |                     |                  |              |
| 7429-90-5     | Al by ICP                            | 50   | <b>1200</b>          | ug/L  | EPA 200.7           | 3/17/14          | ESTAFFORD1   |
| 7440-38-2     | As by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/18/14          | ESTAFFORD1   |
| 7440-43-9     | Cd by ICPMS                          | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/18/14          | ESTAFFORD1   |
| 7440-50-8     | Cu by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/18/14          | ESTAFFORD1   |
| 7439-89-6     | Fe by ICP                            | 50   | <b>1400</b>          | ug/L  | EPA 200.7           | 3/17/14          | ESTAFFORD1   |
| 7440-02-0     | Ni by ICPMS                          | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/18/14          | ESTAFFORD1   |
| 7440-66-6     | Zn by ICP                            | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 3/17/14          | ESTAFFORD1   |
| <b>Others</b> |                                      |      |                      |       |                     |                  |              |
|               | Total Dissolved Solids in liquid     | 12   | <b>64</b>            | mg/L  | APHA2540C-18TH      | 3/16/14          | MOVERMAN     |

14W 133 88

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke  
 REPORT TO : Winston-Salem Regional Office

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

Other :  
 COLLECTOR(S) : SNICK

Lab Number : ACOLA02  
 Date Received : 3-13-2011  
 Time Received : 7:50  
 Received By : MS  
 Data Released :  
 Date Reported :

Estimated BOD Range: \_\_\_\_\_ Station Location: DS - VA Line  
 Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_ Remarks: DISSOLVED METALS

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/3/12               |                     | 11:50      |          |                     |                      |                   | G           |


|                             |         |
|-----------------------------|---------|
| BOD 310                     | mg/L    |
| COD High 340                | mg/L    |
| COD Low 335                 | mg/L    |
| Coliform: MF Fecal 31616    | /100ml  |
| Coliform: MF Total 31504    | /100ml  |
| Coliform: tube Fecal 31615  | /100ml  |
| Coliform: Fecal Strep 31673 | /100ml  |
| Residue: Total 500          | mg/L    |
| Volatile 505                | mg/L    |
| Fixed 510                   | mg/L    |
| Residue: Suspended 530      | mg/L    |
| Volatile 535                | mg/L    |
| Fixed 540                   | mg/L    |
| pH 403                      | units   |
| Acidity to pH 4.5 436       | mg/L    |
| Acidity to pH 8.3 435       | mg/L    |
| Alkalinity to pH 8.3 415    | mg/L    |
| Alkalinity to pH 4.5 410    | mg/L    |
| TOC 680                     | mg/L    |
| Turbidity 76                | NTU     |
| Coliform Total Tube         | /100 ml |

|   |          |
|---|----------|
| Chloride 940                            | mg/L     |
| Chlorophyll a EPA 445.0 modified option | ug/L     |
| Color: True 80                          | c.u.     |
| Color: (pH ) 83 pH=                     | c.u.     |
| Color: pH 7.6 82                        | c.u.     |
| Cyanide 720                             | mg/L     |
| Fluoride 951                            | mg/L     |
| Formaldehyde 71880                      | mg/L     |
| Grease and Oils 556                     | mg/L     |
| Hardness Total 900                      | mg/L     |
| Specific Cond. 95                       | umhos/cm |
| MBAS 38260                              | mg/L     |
| Phenols 32730                           | ug/L     |
| Sulfate 945                             | mg/L     |
| Sulfide 745                             | mg/L     |
| Boron                                   |          |
| Tannin & Lignin                         | ug/L     |
| Hexavalent Chromium                     | ug/L     |
| Bicarbonate                             | mg/L     |
| Carbonate                               | mg/L     |
| Total Dissolved Solids                  | mg/L     |

|                        |      |
|------------------------|------|
| NH3 as N 610           | mg/L |
| TKN an N 625           | mg/L |
| NO2 plus NO3 as N 630  | mg/L |
| P: Total as P 665      | mg/L |
| PO4 as P 70507         | mg/L |
| P: Dissolved as P 666  | mg/L |
| K-Potassium            | mg/L |
| x Cd- Cadmium 1027     | ug/L |
| Cr-Chromium:Total 1034 | ug/L |
| x Cu- Copper 1042      | ug/L |
| x Ni-Nickel 1067       | ug/L |
| Pb- Lead 1051          | ug/L |
| x Zn- Zinc 1092        | ug/L |
| V-Vanadium             | ug/L |
| Ag- Silver 1077        | ug/L |
| x Al- Aluminum 1105    | ug/L |
| Be- Beryllium 1012     | ug/L |
| Ca- Calcium 916        | mg/L |
| Co- Cobalt 1037        | ug/L |
| x Fe- Iron 1045        | ug/L |
| Mo-Molybdenum          | ug/L |
| Sb-Antimony            | ug/L |
| Sn-Tin                 | ug/L |
| Tl-Thallium            | ug/L |
| Ti-Titanium            | ug/L |
| Hg-1631                | ng/L |

|  |      |
|--|------|
| Li-Lithium 1132                        | ug/L |
| Mg- Magnesium 927                      | mg/L |
| Mn-Manganese 1055                      | ug/L |
| Na- Sodium 929                         | mg/L |
| x Arsenic:Total 1002                   | ug/L |
| Se- Selenium 1147                      | ug/L |
| Hg- Mercury 71900                      | ug/L |
| Ba-Barium                              | ug/L |
| Organochlorine Pesticides              |      |
| Organophosphorus Pesticides            |      |
| Organonitrogen Pesticides              |      |
| Acid Herbicides                        |      |
| Base/Neutral&Acid Extractable Organics |      |
| TPH Diesel Range                       |      |
| Purgeable Organics (VOA bottle req'd)  |      |
| TPH Gasoline Range                     |      |
| TPH/BTEX Gasoline Range                |      |
| Phytoplankton                          |      |
| Temperature on arrival (°C):           | 17   |

COMMENTS : \_\_\_\_\_

|  |   |                                      |
|--|---|--------------------------------------|
| County: <b>ROCKINGHAM</b>                | <br><b>Division of Water Resources</b> | Sample ID: <b>AC06102</b>            |
| River Basin: <b>ROA01</b>                |   | PO Number #: <b>14W13388</b>         |
| Report To: <b>WSROSP</b>                 |   | Date Received: <b>03/13/2014</b>     |
| Collector: <b>L SNIDER</b>               |   | Time Received: <b>07:50</b>          |
| Region: <b>WSRO</b>                      |   | Labworks LoginID: <b>MSWIFT</b>      |
| Sample Matrix: <b>SURFACEWATER</b>       | Final Report Date: <b>3/20/14</b>   | Report Print Date: <b>03/21/2014</b> |
| Loc. Type: <b>RIVER/STREAM</b>           | <b>Final Report</b>   |                                      |
| Emergency Yes/No: <u>Yes</u>             | VisitID   |                                      |
| COC Yes/No: <u>Yes</u>                   |   |                                      |
| Loc. Descr.: <b>DS-VA LINE</b>           |   |                                      |
| Location ID: <b>4P079NC0003468ASHDAN</b> | Collect Date: <b>03/12/2014</b>   | Collect Time: <b>11:50</b>           |
|  |   | Sample Depth                         |

**If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.**

| CAS #      | Analyte Name                         | PQL  | Result/<br>Qualifier | Units | Method<br>Reference | Analysis<br>Date | Validated by |
|------------|--------------------------------------|------|----------------------|-------|---------------------|------------------|--------------|
| <b>LAB</b> |                                      |      |                      |       |                     |                  |              |
|            | Sample temperature at receipt by lab |      | <b>1.7</b>           | °C    |                     | 3/13/14          | MSWIFT       |
| <b>MET</b> |                                      |      |                      |       |                     |                  |              |
| 7440-38-2  | As- Dissolved by ICPMS Arsenic       | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/18/14          | ESTAFFORD1   |
| 7440-43-9  | Cd- Dissolved Cadmium by ICPMS       | 0.50 | <b>0.50 U</b>        | ug/L  | EPA 200.8           | 3/18/14          | ESTAFFORD1   |
| 7440-50-8  | Cu- Dissolved Copper by ICPMS        | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/18/14          | ESTAFFORD1   |
| 7439-89-6  | Fe- Dissolved Iron by ICP            | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 3/17/14          | ESTAFFORD1   |
| 7440-02-0  | Ni-Dissolved Nickel by ICPMS         | 2.0  | <b>2.0 U</b>         | ug/L  | EPA 200.8           | 3/18/14          | ESTAFFORD1   |
| 7429-90-5  | Al - Dissolved Aluminum by ICP       | 50   | <b>50 U</b>          | ug/L  | EPA 200.7           | 3/17/14          | ESTAFFORD1   |
| 7440-66-6  | Zn-Dissolved Zinc by ICP             | 10   | <b>10 U</b>          | ug/L  | EPA 200.7           | 3/17/14          | ESTAFFORD1   |

14613432

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham  
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other : \_\_\_\_\_  
 COLLECTOR(S) : Snider

PRIORITY  
 AMBIENT  QA  
 COMPLIANCE  CHAIN OF CUSTODY  
 EMERGENCY VISIT ID           

SAMPLE TYPE  
 STREAM  EFFLUENT  
 LAKE  INFLUENT  
 ESTUARY

2

Lab Number : AC060148  
 Date Received : 3-13-14  
 Time Received : 7:50  
 Received By :             
 Data Released : \_\_\_\_\_  
 Date Reported : \_\_\_\_\_

Estimated BOD Range: \_\_\_\_\_

Station Location: DS - VA line


Seed: \_\_\_\_\_ Chlorinated: \_\_\_\_\_

Remarks: 431 Hg 206 Mercury

| Station #/Location Code | Date Begin (yy/mm/dd) | Date End (yy/mm/dd) | Time Begin | Time End | Depth - DM, DB, DBM | Value Type - A, H, L | Composite-T, S, B | Sample Type |
|-------------------------|-----------------------|---------------------|------------|----------|---------------------|----------------------|-------------------|-------------|
| 4P079NC0003468AshDan    | 14/3/12               |                     | 11:45      |          |                     |                      |                   | G           |

|                                    |  |                             |  |
|------------------------------------|--|-----------------------------|--|
| BOD 310 mg/L                       | Chloride 940 mg/L                            | NH3 as N 610 mg/L           | Li-Lithium 1132 ug/L                   |
| COD High 340 mg/L                  |  | TKN an N 625 mg/L           | Mg- Magnesium 927 mg/L                 |
| COD Low 335 mg/L                   | Chlorophyll a EPA 445.0 modified option ug/L | NO2 plus NO3 as N 630 mg/L  | Mn-Manganese 1055 ug/L                 |
| Coliform: MF Fecal 31616 /100ml    |  | P: Total as P 665 mg/L      | Na- Sodium 929 mg/L                    |
| Coliform: MF Total 31504 /100ml    | Color: True 80 c.u.                          | PO4 as P 70507 mg/L         | Arsenic:Total 1002 ug/L                |
| Coliform: tube Fecal 31615 /100ml  | Color: (pH ) 83 pH= c.u.                     | P: Dissolved as P 666 mg/L  | Se- Selenium 1147 ug/L                 |
| Coliform: Fecal Strep 31673 /100ml | Color: pH 7.6 82 c.u.                        | K-Potassium mg/L            | Hg- Mercury 71900 ug/L                 |
| Residue: Total 500 mg/L            | Cyanide 720 mg/L                             | Cd- Cadmium 1027 ug/L       | Ba-Barium ug/L                         |
| Volatile 505 mg/L                  | Fluoride 951 mg/L                            | Cr-Chromium:Total 1034 ug/L | Organochlorine Pesticides              |
| Fixed 510 mg/L                     | Formaldehyde 71880 mg/L                      | Cu- Copper 1042 ug/L        | Organophosphorus Pesticides            |
| Residue: Suspended 530 mg/L        | Grease and Oils 556 mg/L                     | Ni-Nickel 1067 ug/L         | Organonitrogen Pesticides              |
| Volatile 535 mg/L                  | Hardness Total 900 mg/L                      | Pb- Lead 1051 ug/L          | Acid Herbicides                        |
| Fixed 540 mg/L                     | Specific Cond. 95 umhos/cm                   | Zn- Zinc 1092 ug/L          |  |
| pH 403 units                       | MBAS 38260 mg/L                              | V-Vanadium ug/L             | Base/Neutral&Acid Extractable Organics |
| Acidity to pH 4.5 436 mg/L         | Phenols 32730 ug/L                           | Ag- Silver 1077 ug/L        | TPH Diesel Range                       |
| Acidity to pH 8.3 435 mg/L         | Sulfate 945 mg/L                             | Al- Aluminum 1105 ug/L      |  |
| Alkalinity to pH 8.3 415 mg/L      | Sulfide 745 mg/L                             | Be- Beryllium 1012 ug/L     | Purgeable Organics (VOA bottle req'd)  |
| Alkalinity to pH 4.5 410 mg/L      | Boron  | Ca- Calcium 916 mg/L        | TPH Gasoline Range                     |
| TOC 680 mg/L                       | Tannin & Lignin ug/L                         | Co- Cobalt 1037 ug/L        | TPH/BTEX Gasoline Range                |
| Turbidity 76 NTU                   | Hexavalent Chromium ug/L                     | Fe- Iron 1045 ug/L          | Phytoplankton                          |
| Coliform Total Tube /100 ml        | Bicarbonate mg/L                             | Mo-Molybdenum ug/L          |  |
|                                    | Carbonate mg/L                               | Sb-Antimony ug/L            |  |
|                                    | Total Dissolved Solids mg/L                  | Sn-Tin ug/L                 |  |
|                                    |  | Tl-Thallium ug/L            |  |
|                                    |  | Ti-Titanium ug/L            |  |
|                                    |  | x Hg-1631 ng/L              | Temperature on arrival (°C):           |

COMMENTS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

|  |  |                                   |
|--|--|-----------------------------------|
| County: <b>ROCKINGHAM</b>  |  <p><b>DWR</b><br/>Division of Water Resources</p> <p><b>Final Report</b></p> | Sample ID: <b>AC06148</b>         |
| River Basin: <b>ROA01</b>  |  | PO Number #: <b>14W13432</b>      |
| Report To: <b>WSROSP</b>   |  | Date Received: <b>03/13/2014</b>  |
| Collector: <b>L SNIDER</b>   |  | Time Received: <b>07:50</b>       |
| Region: <b>WSRO</b>  |  | Labworks LoginID: <b>MSWIFT</b>   |
| Sample Matrix: <b>SURFACEWATER</b>   |  | Final Report Date: <b>3/20/14</b> |
| Loc. Type: <b>RIVER/STREAM</b>   | Report Print Date: <b>03/21/2014</b>   |                                   |
| Emergency Yes/No: <u>Yes</u>   | VisitID:   |                                   |
| COC Yes/No: <u>Yes</u>   |  |                                   |
| Loc. Descr.: <b>DS-VA LINE</b>   |  |                                   |
| Location ID: <b>4P079NC0003468ASHDAN</b>   | Collect Date: <b>03/12/2014</b>  | Collect Time: <b>11:45</b>        |
|  |  | Sample Depth:                     |
| <p><b>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</b></p> |  |                                   |

| <u>CAS #</u> | <u>Analyte Name</u> | <u>PQL</u> | <u>Result/Qualifier</u> | <u>Units</u> | <u>Method Reference</u> | <u>Analysis Date</u> | <u>Validated by</u> |
|--------------|---------------------|------------|-------------------------|--------------|-------------------------|----------------------|---------------------|
| <b>MET</b>   |                     |            |                         |              |                         |                      |                     |
| 7439-97-6    | Hg 1631             | 1.00       | <b>2.87</b>             | ng/L         | EPA 1631E               | 3/19/14              | ESTAFFORD1          |