

COC/EMER

14W12103

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke
 REPORT TO : W-5 Regional Office
 Other :
 COLLECTOR(S) : C. Basinger / S. Knight

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY
 VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC04608
 Date Received : 2-4-14
 Time Received : 13:30
 Received By : [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Seed: _____ Chlorinated: _____

Station Location: Upstream


Remarks: Upstream of the release, Dan River at Hwy 14

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 NC 0003468 Ash Dam</u>	<u>2/3/14</u>	<u>2/3/14</u>	<u>9:55 pm</u>	<u>10:10</u>				<u>67</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	ug/L <u>AW 2-4-14</u>
Residue: Total 500	mg/L	Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cr-Chromium: Total 1034	ug/L	<input checked="" type="checkbox"/> Ba-Barium	ug/L
Volatile 505	mg/L	Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L	Organochlorine Pesticides	
Fixed 510	mg/L	Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L	Organophosphorus Pesticides	
<input checked="" type="checkbox"/> Residue: Suspended 530	mg/L	Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	MBAS 38260	mg/L	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L	Acid Herbicides	
Fixed 540	mg/L	Phenols 32730	ug/L	<input checked="" type="checkbox"/> V-Vanadium	ug/L	Base/Neutral & Acid Extractable Organics	
pH 403	units	<input checked="" type="checkbox"/> Sulfate 945	mg/L	<input checked="" type="checkbox"/> Ag- Silver 1077	ug/L	TPH Diesel Range	
Acidity to pH 4.5 436	mg/L	Sulfide 745	mg/L	<input checked="" type="checkbox"/> Al- Aluminum 1105	ug/L	Purgeable Organics (VOA bottle req'd)	
Acidity to pH 8.3 435	mg/L	Boron	ug/L	<input checked="" type="checkbox"/> Be- Beryllium 1012	ug/L	TPH Gasoline Range	
Alkalinity to pH 8.3 415	mg/L	Tannin & Lignin	ug/L	<input checked="" type="checkbox"/> Ca- Calcium 916	mg/L	TPH/BTEX Gasoline Range	
Alkalinity to pH 4.5 410	mg/L	Hexavalent Chromium	ug/L	<input checked="" type="checkbox"/> Co- Cobalt 1037	ug/L	Phytoplankton	
TOC 680	mg/L	Bicarbonate	mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L		
Turbidity 76	NTU	Carbonate	mg/L	<input checked="" type="checkbox"/> Mo-Molybdenum	ug/L		
Coliform Total Tube	/100 ml	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- Mercury 1631	ng/L		
						Temperature on arrival (°C):	<u>0.8</u>

per microm

COMMENTS: _____

County:	ROCKINGHAM	 <p>Final Report</p>	Sample ID:	AC04608
River Basin:	ROA01		PO Number #	14W12103
Report To:	WSROSP		Date Received:	02/04/2014
Collector:	C BASINGER		Time Received:	13:30
Region:	WSRO		Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER		Final Report Date:	2/7/14
Loc. Type:	STREAM		Report Print Date:	02/07/2014
Emergency Yes/No	<u>Yes</u>		VisitID	<input type="text" value="01"/>
COC Yes/No	<u>Yes</u>		Loc. Descr.: UPSTREAM, UPSTREAM OF RELEASE, DAN RIVER AT HWY 14	
Location ID: 4P07QNC0003468ASHDAN			Collect Date: 02/03/2014	Collect Time: 21:55

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

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		0.8	°C		2/4/14	MSWIFT
WET							
	Residue_Suspended in liquid	6.2	15	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	14	mg/L	EPA 300.0 rev2.1	2/5/14	CGREEN
	Fluoride	0.4	0.4 U,J2	mg/L	EPA 300.0 rev2.1	2/5/14	CGREEN
	Sulfate	2.0	4.4	mg/L	EPA 300.0 rev2.1	2/5/14	CGREEN
NUT							
	Total Kjeldahl N as N in liquid	0.2	0.24	mg/L as N	EPA 351.2 REV 2	2/5/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.38	mg/L as N	EPA 353.2 REV 2	2/5/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.03	mg/L as P	EPA 365.1 REV 2	2/5/14	CGREEN
MET							
7440-22-4	Ag by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7429-90-5	Al by ICP	50	770	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-36-0	Antimony by ICPMS	10	10 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7429-90-5	B by ICP	50	230	ug/L	EPA 200.7	2/7/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	29	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-41-7	Be by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	8.7	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-48-4	Cobalt by ICP	50	50 U	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1200	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-97-6	Hg 245.1	0.2	0.20 U	ug/L	EPA 245.1	2/5/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	1.5	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-93-2	Li ICP	25	25 U	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	3.0	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	36	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-98-7	Mo by ICPMS	10	10 U	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>>

NC DWR Laboratory Section Results

Location ID: **4P07QNC0003468ASHDAN** Sample ID: **AC04608** Collect Date: **02/03/2014** Collect Time: **21:55**

MET

<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>
7440-23-5	Na by ICP	0.10	4.4	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-31-5	Sn by ICPMS	10	10 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	52	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-28-0	Thallium (TI) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	39	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	13	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

19w/2561

EMER/LOC

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
3

Lab Number AC04666
Date Received : 2/20/14
Time Received : 0800
Received By : nr
Data Released :
Date Reported :

Estimated BOD Range:

Seed: _____ Chlorinated: _____


Station Location: UPSTREAM

Remarks: Dan River upstream of release at Hwy 14

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>4P079NCO03468ASH</u> <u>DAN</u>	<u>14/02/04</u>	<u>14/02/04</u>	<u>1114</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 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): <u>0.5</u>

COMMENTS: _____

County:	ROCKINGHAM	 Final Report	Sample ID:	AC04666
River Basin:	ROA01		PO Number #	14W12161
Report To:	WSROSP		Date Received:	02/05/2014
Collector:	S KNIGHT		Time Received:	08:00
Region:	WSRO		Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER		Final Report Date:	2/7/14
Loc. Type:	STREAM		Report Print Date:	02/07/2014
Emergency Yes/No	<u>Yes</u>		VisitID	<input type="text" value="02"/>
COC Yes/No	<u>Yes</u>			
Loc. Descr.: UPSTREAM DAN RIVER UPSTREAM OF RELEASE AT HWY 14				

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/04/2014	Collect Time:	11:14	Sample Depth	
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		0.5	°C		2/5/14	MSWIFT
WET							
	Residue_Suspended in liquid	6.2	28	mg/L	SM 2540 D-1997	2/5/14	CGREEN
	Ion Chromatography		<u> </u> _TITLE_	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
	Chloride	1.0	14	mg/L	EPA 300.0 rev2.1	2/5/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/5/14	CGREEN
	Sulfate	2.0	3.8	mg/L	EPA 300.0 rev2.1	2/5/14	CGREEN
NUT							
	Total Kjeldahl N as N in liquid	0.2	0.24	mg/L as N	EPA 351.2 REV 2	2/6/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.34	mg/L as N	EPA 353.2 REV 2	2/5/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.05	mg/L as P	EPA 365.1 REV 2	2/5/14	CGREEN
MET							
7440-22-4	Ag by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7429-90-5	Al by ICP	50	1100	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-36-0	Antimony by ICPMS	10	10 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7429-90-5	B by ICP	50	200	ug/L	EPA 200.7	2/7/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	34	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-41-7	Be by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	8.5	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-48-4	Cobalt by ICP	50	50 U	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	3.3	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1700	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-97-6	Hg 245.1	0.2	0.20 U	ug/L	EPA 245.1	2/5/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	1.6	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-93-2	Li ICP	25	25 U	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	3.0	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	41	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-98-7	Mo by ICPMS	10	10 U	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>>

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC04666 Collect Date: 02/04/2014 Collect Time: 11:14

MET

<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>
7440-23-5	Na by ICP	0.10	4.9	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.1	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-31-5	Sn by ICPMS	10	10 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	52	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-28-0	Thallium (TI) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	54	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	13	ug/L	EPA 200.7	2/6/14	ESTAFFORD1

Sample Comments

WET:CL-J3-estimated-Matrix interference-LFM/LFMD were outside recovery limits.

CDC/EMER

14w/1/21/92 MS

DIVISION OF WATER QUALITY
Chemistry Laboratory Report / Water Quality

COUNTY : Rockingham
RIVER BASIN : Roanoke
REPORT TO : WS Regional Office
Other :
COLLECTOR(S) : Lo Snider/Berni/Wang
Estimated BOD Range:

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
03

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC04679
Date Received : 2-5-2017
Time Received : 1551
Received By : MS
Data Released :
Date Reported :

Station Location: US at Boat Ramp near Hwy 14
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>4P079NC0003468 Ash Dam</u>	<u>02/05/14</u>	<u>02/05/14</u>	<u>11:40</u>	<u>11:45</u>				<u>ET</u>

<input 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"/> 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
<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 checked="" 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 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 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 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 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>1.2</u>

COMMENTS:

County:	ROCKINGHAM	Sample ID:	AC04679
River Basin:	ROANOKE	PO Number #:	14W12172
Report To:	WSROSP	Date Received:	02/05/2014
Collector:	S WANG	Time Received:	15:51
Region:	WSRO	Labworks LoginID:	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	2/10/14
Loc. Type:	STREAM	Report Print Date:	02/10/2014
Emergency Yes/No:	Yes	VisitID: <input type="text" value="03"/>	
COC Yes/No:	Yes	Loc. Descr.: UPSTREAM AT BOAT RAMP NR HWY 14	

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/05/2014	Collect Time:	11:45	Sample Depth:	
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.2	°C		2/5/14	MSWIFT
MIC							
	Turbidity	1.0	31	NTU	APHA2130B-20th	2/6/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	89	mg/L	SM 2540 B-1997	2/7/14	CGREEN
	Residue_Suspended in liquid	6.2	18	mg/L	SM 2540 D-1997	2/6/14	CGREEN
	Ion Chromatography		_TITLE_	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
	Chloride	1.0	9.8	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
	Sulfate	2.0	4.2	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02 U	mg/L as N	EPA 350.1 REV 2	2/6/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	0.26	mg/L as N	EPA 351.2 REV 2	2/6/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.35	mg/L as N	EPA 353.2 REV 2	2/6/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.05	mg/L as P	EPA 365.1 REV 2	2/7/14	CGREEN
MET							
7440-22-4	Ag by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7429-90-5	Al by ICP	50	1300	ug/L	EPA 200.7	2/8/14	ESTAFFORD1
7440-36-0	Antimony by ICPMS	10	10 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7429-90-5	B by ICP	50	140	ug/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	32	ug/L	EPA 200.7	2/7/14	ESTAFFORD1
7440-41-7	Be by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/8/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	7.8	mg/L	EPA 200.7	2/7/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-48-4	Cobalt by ICP	50	50 U	ug/L	EPA 200.7	2/8/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1900	ug/L	EPA 200.7	2/8/14	ESTAFFORD1
7439-97-6	Hg 245.1	0.2	0.20 U	ug/L	EPA 245.1	2/7/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	1.8	mg/L	EPA 200.7	2/7/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC04679

Collect Date: 02/05/2014

Collect Time: 11:45

MET

<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>
7439-93-2	Li ICP	25	25 U	ug/L	EPA 200.7	2/7/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	3.0	mg/L	EPA 200.7	2/7/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	38	ug/L	EPA 200.7	2/8/14	ESTAFFORD1
7439-98-7	Mo by ICPMS	10	10 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	5.0	mg/L	EPA 200.7	2/7/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-31-5	Sn by ICPMS	10	10 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	44	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	54	ug/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/8/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	13	ug/L	EPA 200.7	2/8/14	ESTAFFORD1

COC/EMER

19w/12173

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke
 REPORT TO : W.S. Regional Office
 Other :
 COLLECTOR(S) : L. Snider/Deery/Wong
 Estimated BOD Range: Wong
 Seed: _____ Chlorinated: _____

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID 03

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY


Lab Number : AC04680
 Date Received : 2-5-14
 Time Received : 15:1
 Received By : MR
 Data Released :
 Date Reported :

Station Location: US - boat ramp
 Remarks: Diss 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
<u>4PD79NC0703468 ASD</u>	<u>2/5/14</u>	<u>2/5/14</u>	<u>11:40</u>	<u>11:45</u>				<u>ET</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 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=	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	<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		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>1.2</u>

COMMENTS : _____

County:	ROCKINGHAM		Sample ID:	AC04680
River Basin:	ROANOKE		PO Number #	14W12173
Report To:	WSROSP		Date Received:	02/05/2014
Collector:	S WANG		Time Received:	15:51
Region:	WSRO		Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER		Final Report Date:	2/10/14
Loc. Type:	STREAM		Report Print Date:	02/10/2014
Emergency Yes/No	Yes	VisitID	<input type="text" value="03"/>	
COC Yes/No	Yes	Loc. Descr.: UPSTREAM AT BOAT RAMP NR HWY 14		
Location ID: 4P079NC0003468ASHDAN		Collect Date: 02/05/2014	Collect Time: 11:45	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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.2	°C		2/5/14	MSWIFT
MET							
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	7.3	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	1.6	mg/L	EPA 200.7	2/7/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.7	mg/L	EPA 200.7	2/7/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	13	ug/L	EPA 200.7	2/8/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.8	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	140	ug/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	22	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	44	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7440-28-0	Thallium (Tl) 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
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	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>>

EMERY/COC

DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

14W12219

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

Other :
COLLECTOR(S) : L. Sander / Twiss

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID
04

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : ACD1728
Date Received : 2-6-14
Time Received : 15:39
Received By : mjo

Data Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp

3 SMPL


Seed: — ~~VACUUM~~ 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>4P0791C DDB37468ASH DAM</u>	<u>02/6/14</u>	<u>02/6/14</u>	<u>11:35</u>					<u>G7</u>
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 type="checkbox"/> 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	<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	
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	
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 checked="" type="checkbox"/> Arsenic: Total 1002	ug/L	
Coliform: tube Fecal 31615	/100ml	<input type="checkbox"/> Cyanide 720	mg/L	<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	<input checked="" type="checkbox"/> Fluoride 951	mg/L	<input checked="" type="checkbox"/> K-Potassium	mg/L	<input checked="" type="checkbox"/> Hg- Mercury 71900	ug/L	
Residue: Total 500	mg/L	<input type="checkbox"/> Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	<input type="checkbox"/> Ba-Barium	ug/L	
Volatile 505	mg/L	<input checked="" type="checkbox"/> Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Cr-Chromium: Total 1034	ug/L	<input type="checkbox"/> Organochlorine Pesticides		
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		
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		
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		
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		
pH 403	units	<input checked="" type="checkbox"/> Sulfate 945	mg/L	<input type="checkbox"/> V-Vanadium	ug/L	<input type="checkbox"/> TPH Diesel Range		
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)		
Acidity to pH 8.3 435	mg/L	<input type="checkbox"/> Boron	mg/L	<input checked="" type="checkbox"/> Al- Aluminum 1105	ug/L	<input type="checkbox"/> TPH Gasoline Range		
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		
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		
TOC 680	mg/L	<input type="checkbox"/> Bicarbonate	mg/L	<input type="checkbox"/> Co- Cobalt 1037	ug/L			
Turbidity 76	NTU	<input type="checkbox"/> Carbonate	mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L			
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:	ROCKINGHAM	Sample ID:	AC04728
River Basin	ROA01	PO Number #	14W12219
Report To	WSROSP	Date Received:	02/06/2014
Collector:	J IVERSON	Time Received:	15:39
Region:	WSRO	Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	2/11/14
Loc. Type:	STREAM	Report Print Date:	02/11/2014
Emergency Yes/No	<u>Yes</u>		
COC Yes/No	<u>Yes</u>		



Division of Water Resources

Final Report

VisitID

Loc. Descr.: **US-BOAT RAMP**

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/06/2014	Collect Time:	11:35	Sample Depth	
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		2.3	°C		2/6/14	MSWIFT
MIC							
	Turbidity	1.0	26	NTU	APHA2130B-20th	2/7/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	84	mg/L	SM 2540 B-1997	2/7/14	CGREEN
	Residue_Suspended in liquid	6.2	10	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	13	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
	Sulfate	2.0	4.2	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02 U	mg/L as N	EPA 350.1 REV 2	2/7/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	0.23	mg/L as N	EPA 351.2 REV 2	2/7/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.36	mg/L as N	EPA 353.2 REV 2	2/7/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.04	mg/L as P	EPA 365.1 REV 2	2/7/14	CGREEN
MET							
7440-22-4	Ag by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7429-90-5	Al by ICP	50	1100	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-36-0	Antimony by ICPMS	10	10 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7429-90-5	B by ICP	50	170	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	30	ug/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-41-7	Be by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	7.6	mg/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-48-4	Cobalt by ICP	50	50 U	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1400	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7439-97-6	Hg 245.1	0.2	0.20 U	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>>

NC DWR Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN**

Sample ID: **AC04728**

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

Collect Time: **11:35**

MET

<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>
7440-09-7	K by ICP	0.10	1.7	mg/L	EPA 200.7	2/10/14	ESTAFFORD1
7439-93-2	Li ICP	25	25 U	ug/L	EPA 200.7	2/10/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.8	mg/L	EPA 200.7	2/10/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	29	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7439-98-7	Mo by ICPMS	10	10 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.7	mg/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-31-5	Sn by ICPMS	10	10 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	48	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-28-0	Thallium (TI) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	54	ug/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	11	ug/L	EPA 200.7	2/11/14	ESTAFFORD1

EMER/COC

DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

14W12221

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

Other :
COLLECTOR(S) : Snyder / Ferson

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID
04

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

3

Lab Number : AC04730
Date Received : 2-6-14
Time Received : 15:30
Received By :
Data Released :
Date Reported :

Estimated BOD Range:

Seed: _____

Chlorinated: _____

Station Location: US - Boat Ramp
Remarks: Diss 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
<u>4P079 NC0003468</u>	<u>02/16/14</u>	<u>02/16/14</u>	<u>1135</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 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	ug/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		

Diss

2.55

2.3

COMMENTS:

County:	ROCKINGHAM	Sample ID:	AC04730
River Basin:	ROA01	PO Number #	14W12221
Report To:	WSROSP	Date Received:	02/06/2014
Collector:	J IVERSON	Time Received:	15:39
Region:	WSRO	Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	2/11/14
Loc. Type:	STREAM	Report Print Date:	02/11/2014
Emergency Yes/No	<u>Yes</u>	VisitID	<input type="text" value="04"/>
COC Yes/No	<u>Yes</u>		

DWR
Division of Water Resources

Final Report

Loc. Descr.: **US-BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/06/2014	Collect Time: 11:35	Sample Depth
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		2.3	°C		2/6/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-41-7	Be-Beryllium Dissolved by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	7.4	mg/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	64	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.5	mg/L	EPA 200.7	2/10/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.5	mg/L	EPA 200.7	2/10/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	13	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.5	mg/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-22-4	Ag-Dissolved Silver by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7429-90-5	B by ICP	50	160	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	21	ug/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-48-4	Cobalt Dissolved by ICP	50	50 U	ug/L	EPA 200.7	2/11/14	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	2/10/14	ESTAFFORD1
7439-98-7	Mo Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-36-0	Sb Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-31-5	Sn Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	44	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7440-28-0	Thallium (Tl) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/10/14	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	2/11/14	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>>

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC04730

Collect Date: 02/06/2014

Collect Time: 11:35

MET

<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>
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/11/14	ESTAFFORD1

7601429

1442231

DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

COUNTY : ROCKN-HAM
RIVER BASIN : ROANOKE
REPORT TO : WSPD Regional Office
Other :
COLLECTOR(S) : IVERSON/SNIJDER

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY
VISIT ID
4

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

3

Lab Number AC04740
Date Received 2-6-14
Time Received : 16:00
Received By : NA
Data Released :
Date Reported :

Estimated BOD Range:

Seed: _____ Chlorinated: _____

Station Location: US-BOATRAMP
Remarks: 3B10 Hg 134

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>US-BOAT RAMP Hg</u>	<u>2/2/14</u>		<u>1130</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	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		
Acidity to pH 8.3 435	mg/L	Boron		Al- Aluminum 1105	ug/L	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 8.3 415	mg/L	Tannin & Lignin	ug/L	Be- Beryllium 1012	ug/L	TPH Gasoline Range	
Alkalinity to pH 4.5 410	mg/L	Hexavalent Chromium	ug/L	Ca- Calcium 916	mg/L	TPH/BTEX Gasoline Range	
TOC 680	mg/L	Bicarbonate	mg/L	Co- Cobalt 1037	ug/L	Phytoplankton	
Turbidity 76	NTU	Carbonate	mg/L	Fe- Iron 1045	ug/L		
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):	

COMMENTS : DUKE ASH RELEASE

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



Sample ID: **AC04740**
 PO Number #: **14W12231**
 Date Received: **02/06/2014**
 Time Received: **16:00**
 Labworks LoginID: **MSWIFT**
 Final Report Date: **2/11/14**
 Report Print Date: **02/11/2014**

Final ReportVisitID Loc. Descr.: **US BOAT RAMP**

Location ID: US_BOAT_RAMP_HG	Collect Date: 02/06/2014	Collect Time: 11:30	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET							
7439-97-6	Hg 1631	1.00	2.74	ng/L	EPA 1631E	2/10/14	ESTAFFORD1

EMER/LOC

DIVISION OF WATER RESOURCES

14W12279

Lab Number : **AC04805**
 Date Received : 2-7-14
 Time Received : 14:19
 Received By : *mjp*
 Data Released :
 Date Reported :

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
S

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY 3

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

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 <i>Ash Dam</i>	<i>14/02/07</i>		<i>9:30</i>					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 checked="" type="checkbox"/> COD High 340	mg/L	<input checked="" type="checkbox"/> 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
<input checked="" type="checkbox"/> COD Low 335	mg/L	<input checked="" 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 checked="" type="checkbox"/> Coliform: MF Fecal 31616	/100ml	<input checked="" 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 checked="" type="checkbox"/> Coliform: MF Total 31504	/100ml	<input checked="" type="checkbox"/> Color: pH 7.6 82	c.u.	<input checked="" type="checkbox"/> PO4 as P 70507	mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002	ug/L
<input checked="" type="checkbox"/> Coliform: tube Fecal 31615	/100ml	<input checked="" type="checkbox"/> Cyanide 720	mg/L	<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 checked="" type="checkbox"/> Fluoride 951	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"/> Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	<input checked="" type="checkbox"/> Ba-Barium	ug/L
<input checked="" type="checkbox"/> Volatile 505	mg/L	<input checked="" type="checkbox"/> Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Cr-Chromium: Total 1034	ug/L	<input checked="" type="checkbox"/> Organochlorine Pesticides	
<input checked="" type="checkbox"/> Fixed 510	mg/L	<input checked="" type="checkbox"/> Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L	<input checked="" type="checkbox"/> Organophosphorus Pesticides	
<input checked="" type="checkbox"/> Residue: Suspended 530	mg/L	<input checked="" type="checkbox"/> Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L	<input checked="" type="checkbox"/> Organonitrogen Pesticides	
<input checked="" type="checkbox"/> Volatile 535	mg/L	<input checked="" type="checkbox"/> MBAS 38260	mg/L	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L	<input checked="" type="checkbox"/> Acid Herbicides	
<input checked="" type="checkbox"/> Fixed 540	mg/L	<input checked="" type="checkbox"/> Phenols 32730	ug/L	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L	<input checked="" type="checkbox"/> Base/Neutral& Acid Extractable Organics	
<input checked="" type="checkbox"/> pH 403	units	<input checked="" type="checkbox"/> Sulfate 945	mg/L	<input checked="" type="checkbox"/> V-Vanadium	ug/L	<input checked="" type="checkbox"/> TPH Diesel Range	
<input checked="" type="checkbox"/> Acidity to pH 4.5 436	mg/L	<input checked="" type="checkbox"/> Sulfide 745	mg/L	<input checked="" type="checkbox"/> Ag- Silver 1077	ug/L	<input checked="" type="checkbox"/> Purgeable Organics (VOA bottle req'd)	
<input checked="" type="checkbox"/> Acidity to pH 8.3 435	mg/L	<input checked="" type="checkbox"/> Boron		<input checked="" type="checkbox"/> Al- Aluminum 1105	ug/L	<input checked="" type="checkbox"/> TPH Gasoline Range	
<input checked="" type="checkbox"/> Alkalinity to pH 8.3 415	mg/L	<input checked="" type="checkbox"/> Tannin & Lignin	ug/L	<input checked="" type="checkbox"/> Be- Beryllium 1012	ug/L	<input checked="" type="checkbox"/> TPH/BTEX Gasoline Range	
<input checked="" type="checkbox"/> Alkalinity to pH 4.5 410	mg/L	<input checked="" type="checkbox"/> Hexavalent Chromium	ug/L	<input checked="" type="checkbox"/> Ca- Calcium 916	mg/L	<input checked="" type="checkbox"/> Phytoplankton	
<input checked="" type="checkbox"/> TOC 680	mg/L	<input checked="" type="checkbox"/> Bicarbonate	mg/L	<input checked="" type="checkbox"/> Co- Cobalt 1037	ug/L		
<input checked="" type="checkbox"/> Turbidity 76	NTU	<input checked="" type="checkbox"/> Carbonate	mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L		
<input checked="" 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 checked="" type="checkbox"/> Hg-1631	ng/L		
						Temperature on arrival (°C):	<i>10</i>

COMMENTS:

County:	ROCKINGHAM	Sample ID:	AC04805
River Basin:	ROA01	PO Number #:	14W12279
Report To:	WSROSP	Date Received:	02/07/2014
Collector:	J CARTER	Time Received:	14:19
Region:	WSRO	Labworks LoginID:	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	2/17/14
Loc. Type:	STREAM	Report Print Date:	02/17/2014
Emergency Yes/No:	<u>Yes</u>	VisitID:	<input type="text" value="5"/>
COC Yes/No:	<u>Yes</u>		

Final Report

Loc. Descr.: **US- BOAT RAMP**

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/07/2014	Collect Time:	09:50	Sample Depth:	
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.0	°C		2/7/14	MSWIFT
MIC							
	Turbidity	1.0	16	NTU	APHA2130B-20th	2/7/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	70	mg/L	SM 2540 B-1997	2/10/14	CGREEN
	Residue_Suspended in liquid	6.2	17 U,P	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	12	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Sulfate	2.0	5.7	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	X2	mg/L as N	EPA 350.1 REV 2	2/10/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	X2	mg/L as N	EPA 351.2 REV 2	2/10/14	CGREEN
	NO2+NO3 as N in liquid	0.02	X2	mg/L as N	EPA 353.2 REV 2	2/10/14	CGREEN
	Phosphorus_total as P in liquid	0.02	X2	mg/L as P	EPA 365.1 REV 2	2/10/14	CGREEN
MET							
7440-22-4	Ag by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7429-90-5	Al by ICP	50	760	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-36-0	Antimony by ICPMS	10	10 U	ug/L	EPA 200.8	2/12/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7429-90-5	B by ICP	50	170	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	26	ug/L	EPA 200.7	2/12/14	ESTAFFORD1
7440-41-7	Be by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	8.0	mg/L	EPA 200.7	2/12/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7440-48-4	Cobalt by ICP	50	50 U	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	950	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7439-97-6	Hg 245.1	0.2	0.20 U	ug/L	EPA 245.1	2/11/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC04805** Collect Date: **02/07/2014** Collect Time: **09:50**

MET

<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>
7440-09-7	K by ICP	0.10	1.6	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	2.8	mg/L	EPA 200.7	2/12/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	26	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	4.2	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	23	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

EMER/COX

DIVISION OF WATER RESOURCES

14W/2280

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
 COLLECTOR(S) : Snyder/Carle

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
5

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

3

Lab Number: AL04806
 Date Received: 2-7-14
 Time Received: 14:19
 Received By: MB
 Data Released:
 Date Reported:

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

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 JAM</u>	<u>14/02/07</u>		<u>9:50</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		
				Hg-1631	ng/L	Temperature on arrival (°C):	<u>10</u>

COMMENTS:

County:	ROCKINGHAM	Sample ID:	AC04806
River Basin:	ROA01	PO Number #	14W12280
Report To:	WSROSP	Date Received:	02/07/2014
Collector:	J CARTER	Time Received:	14:19
Region:	WSRO	Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	2/17/14
Loc. Type:	STREAM	Report Print Date:	02/17/2014
Emergency Yes/No	<u>Yes</u>	VisitID	<input type="text" value="5"/>
COC Yes/No	<u>Yes</u>		
Final Report			
Loc. Desc.: US- BOAT RAMP			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/07/2014
		Collect Time:	09:50
		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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.0	°C		2/7/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7440-41-7	Be-Beryllium Dissolved by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	7.3	mg/L	EPA 200.7	2/12/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	52	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.4	mg/L	EPA 200.7	2/12/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.5	mg/L	EPA 200.7	2/12/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	13	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	3.9	mg/L	EPA 200.7	2/12/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7440-22-4	Ag-Dissolved Silver by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/11/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7429-90-5	B by ICP	50	160	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	20	ug/L	EPA 200.7	2/12/14	ESTAFFORD1
7440-48-4	Cobalt Dissolved by ICP	50	50 U	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7439-97-6	Hg 245.1 Dissolved	0.2	0.20 U	ug/L	EPA 245.1	2/11/14	ESTAFFORD1
7439-93-2	Li DISSOLVED ICP	25	25 U	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7439-98-7	Mo Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/12/14	ESTAFFORD1
7440-36-0	Sb Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/12/14	ESTAFFORD1
7440-31-5	Sn Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/12/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	45	ug/L	EPA 200.8	2/12/14	ESTAFFORD1
7440-28-0	Thallium (Tl) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/12/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	10 U	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/14/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC04806

Collect Date: 02/07/2014

Collect Time: 09:50

MET

<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>
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/14/14	ESTAFFORD1

EMER/DOC

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

14W 12288
14W 12293/10
2719

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
 S

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY
 3

Lab Number AC04814
 Date Received : 2-7-14
 Time Received : 1439
 Received By : W/G
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

Seed: _____ Chlorinated: _____

Remarks: 431Hg40

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	14/07/17		9:45					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		
				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

**Final Report**VisitID

Sample ID: **AC04814**
 PO Number #: **14W12288**
 Date Received: **02/07/2014**
 Time Received: **14:30**
 Labworks LoginID: **MSWIFT**
 Final Report Date: **2/20/14**
 Report Print Date: **02/20/2014**

Loc. Descr.: **US - BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/07/2014	Collect Time: 09:45	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET 7439-97-6	Hg 1631	1.00	2.09	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

EMER/COC

14W12305

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 3

Lab Number : ACD4831
Date Received : 2-8-14
Time Received : 13:15
Received By : MP
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

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 <u>Ashdan</u>	<u>14/02/08</u>		<u>09:15</u>					

<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 checked="" type="checkbox"/> COD High 340	mg/L			<input checked="" type="checkbox"/> TKN an N 625	mg/L	<input checked="" type="checkbox"/> Mg- Magnesium 927	mg/L
<input checked="" type="checkbox"/> COD Low 335	mg/L	<input checked="" 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 checked="" type="checkbox"/> 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
<input checked="" type="checkbox"/> 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
<input checked="" type="checkbox"/> 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
<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> Cyanide 720	mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	<input checked="" type="checkbox"/> Ba-Barium	ug/L
<input checked="" 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 checked="" type="checkbox"/> Organochlorine Pesticides	
<input checked="" type="checkbox"/> Fixed 510	mg/L	<input checked="" type="checkbox"/> Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L	<input checked="" type="checkbox"/> Organophosphorus Pesticides	
<input checked="" type="checkbox"/> Residue: Suspended 530	mg/L	<input checked="" type="checkbox"/> Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L	<input checked="" type="checkbox"/> Organonitrogen Pesticides	
<input checked="" type="checkbox"/> Volatile 535	mg/L	<input checked="" type="checkbox"/> Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L	<input checked="" type="checkbox"/> Acid Herbicides	
<input checked="" type="checkbox"/> Fixed 540	mg/L	<input checked="" type="checkbox"/> Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L		
<input checked="" type="checkbox"/> pH 403	units	<input checked="" type="checkbox"/> MBAS 38260	mg/L	<input checked="" type="checkbox"/> V-Vanadium	ug/L	<input checked="" type="checkbox"/> Base/Neutral& Acid Extractable Organics	
<input checked="" type="checkbox"/> Acidity to pH 4.5 436	mg/L	<input checked="" type="checkbox"/> Phenols 32730	ug/L	<input checked="" type="checkbox"/> Ag- Silver 1077	ug/L	<input checked="" type="checkbox"/> TPH Diesel Range	
<input checked="" 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 checked="" type="checkbox"/> Alkalinity to pH 8.3 415	mg/L	<input checked="" type="checkbox"/> Sulfide 745	mg/L	<input checked="" type="checkbox"/> Be- Beryllium 1012	ug/L	<input checked="" type="checkbox"/> Purgeable Organics (VOA bottle req'd)	
<input checked="" type="checkbox"/> Alkalinity to pH 4.5 410	mg/L	<input checked="" type="checkbox"/> Boron		<input checked="" type="checkbox"/> Ca- Calcium 916	mg/L	<input checked="" type="checkbox"/> TPH Gasoline Range	
<input checked="" type="checkbox"/> TOC 680	mg/L	<input checked="" type="checkbox"/> Tannin & Lignin	ug/L	<input checked="" type="checkbox"/> Co- Cobalt 1037	ug/L	<input checked="" type="checkbox"/> TPH/BTEX Gasoline Range	
<input checked="" type="checkbox"/> Turbidity 76	NTU	<input checked="" type="checkbox"/> Hexavalent Chromium	ug/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L	<input checked="" type="checkbox"/> Phytoplankton	
<input checked="" type="checkbox"/> Coliform Total Tube	/100 ml	<input checked="" type="checkbox"/> Bicarbonate	mg/L	<input checked="" type="checkbox"/> Mo-Molybdenum	ug/L		
		<input checked="" type="checkbox"/> Carbonate	mg/L	<input checked="" type="checkbox"/> Sb-Antimony	ug/L		
		<input checked="" type="checkbox"/> 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		
				<input checked="" type="checkbox"/> Hg-1631	ng/L		
						Temperature on arrival (°C): <u>16</u>	

COMMENTS :

County:	ROCKINGHAM	 Division of Water Resources	Sample ID:	AC04831
River Basin:	ROA01		PO Number #	14W12305
Report To:	WSROSP		Date Received:	02/08/2014
Collector:	M MICKEY		Time Received:	13:15
Region:	WSRO	Labworks LoginID	MSWIFT	
Sample Matrix:	SURFACEWATER	Final Report Date:	2/25/14	
Loc. Type:	STREAM	Report Print Date:	02/26/2014	
Emergency Yes/No	<u>Yes</u>	VisitID	<input type="text" value="6"/>	
COC Yes/No	<u>Yes</u>	Loc. Descr.: US-BOAT RAMP		
Location ID: 4P079NC0003468ASHDAN		Collect Date: 02/08/2014	Collect Time: 09:10	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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.6	°C		2/8/14	TASCENZO
MIC							
	Turbidity	1.0	10	NTU	APHA2130B-20th	2/10/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	70	mg/L	SM 2540 B-1997	2/10/14	CGREEN
	Residue_Suspended in liquid	6.2	6.2 U	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	11	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Sulfate	2.0	5.4	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02 U	mg/L as N	EPA 350.1 REV 2	2/10/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	0.2 U	mg/L as N	EPA 351.2 REV 2	2/11/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.32	mg/L as N	EPA 353.2 REV 2	2/10/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.02	mg/L as P	EPA 365.1 REV 2	2/10/14	CGREEN
MET							
7440-22-4	Ag by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7429-90-5	Al by ICP	50	430	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-36-0	Antimony by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7429-90-5	B by ICP	50	190	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	26	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-41-7	Be by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	8.4	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-48-4	Cobalt by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	770	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-97-6	Hg 245.1	0.2	0.20 U	ug/L	EPA 245.1	2/11/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC04831** Collect Date: **02/08/2014** Collect Time: **09:10**

MET

<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>
7440-09-7	K by ICP	0.10	1.6	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-93-2	Li ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.9	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	27	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-98-7	Mo by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.4	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-31-5	Sn by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	47	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	42	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	13	ug/L	EPA 200.7	2/18/14	ESTAFFORD1

EMER/COC

14w12306

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
 COLLECTOR(S) : Sando Michael

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT # 6

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : ASD1832
 Date Received : 2-8-14
 Time Received : 13:15
 Received By : MJ
 Date Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

3

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>Ashdan</u>	<u>14/02/03</u>		<u>0910</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 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		

DIS

Temperature on arrival (°C): 5.6

COMMENTS :

County:	ROCKINGHAM	Sample ID:	AC04832
River Basin:	ROA01	PO Number #:	14W12306
Report To:	WSROSP	Date Received:	02/08/2014
Collector:	M MICKEY	Time Received:	13:15
Region:	WSRO	Labworks LoginID:	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	2/25/14
Loc. Type:	STREAM	Report Print Date:	02/26/2014
Emergency Yes/No:	<u>Yes</u>	VisitID:	<input type="text" value="6"/>
COC Yes/No:	<u>Yes</u>		

Final Report

Loc. Descr.: **US-BOAT RAMP**

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/08/2014	Collect Time:	09:10	Sample Depth:	
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.6	°C		2/8/14	TASCENZO
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-41-7	Be-Beryllium Dissolved by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	7.8	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	92	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.4	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.7	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	19	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.2	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-22-4	Ag-Dissolved Silver by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7429-90-5	B by ICP	50	170	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	21	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-48-4	Cobalt Dissolved by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-97-6	Hg 245.1 Dissolved	0.2	0.20 U	ug/L	EPA 245.1	2/11/14	ESTAFFORD1
7439-93-2	Li DISSOLVED ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-98-7	Mo Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-36-0	Sb Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-31-5	Sn Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
	Strontium Dissolved by ICPMS	10	46	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-28-0	Thallium (Tl) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	10 U	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC04832

Collect Date: 02/08/2014

Collect Time: 09:10

MET

<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>
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

14W12317

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC 04843
 Date Received : 2-8-14
 Time Received : 1400
 Received By : [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)


Seed: _____ Chlorinated: _____

Remarks: *4B1Hg66

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
4P079NC0003468AsheDan	14/02/08		0900					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 Colly 7

County: ROCKINGHAM River Basin: ROA01 Report To: WSROSP Collector: M MICKEY Region: WSRO Sample Matrix: SURFACEWATER Loc. Type: STREAM Emergency Yes/No: <u>Yes</u> COC Yes/No: <u>Yes</u>	 Final Report VisitID <input type="text" value="6"/>	Sample ID: AC04843 PO Number #: 14W12317 Date Received: 02/08/2014 Time Received: 14:00 Labworks LoginID: MSWIFT Final Report Date: 2/20/14 Report Print Date: 02/20/2014	
Loc. Descr.: US-BOAT RAMP			
Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/08/2014	Collect Time: 09:00	Sample Depth
<i>If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.</i>			

<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>
MET							
7439-97-6	Hg 1631	1.00	1.61	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

Enrol/COC

14W / 23 34 31 TA

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
[] AMBIENT [] QA
[] COMPLIANCE [X] CHAIN OF CUSTODY
[X] EMERGENCY VISIT ID 7

SAMPLE TYPE
[X] STREAM [] EFFLUENT
[] LAKE [] INFLUENT
[] ESTUARY 3

Lab Number : A264858 TA
Date Received : 2-9-2017
Time Received : 14:53
Received By : TA
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)


Seed: Chlorinated:

Remarks:

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

Main data table with 4 columns for various chemical and biological parameters such as BOD, COD, Chloride, Fluoride, Sulfate, NH3, TKN, NO2, etc.

COMMENTS:

County:	ROCKINGHAM	 Division of Water Resources Final Report	Sample ID:	AC04857
River Basin:	ROA1		PO Number #	14W12331
Report To:	WSROSP		Date Received:	02/09/2014
Collector:	J IVERSON		Time Received:	14:33
Region:	WSRO		Labworks LoginID	TASCENZO
Sample Matrix:	SURFACEWATER		Final Report Date:	2/25/14
Loc. Type:	STREAM		Report Print Date:	02/26/2014
Emergency Yes/No			VisitID	<input type="text" value="7"/>
COC Yes/No	Yes		Loc. Descr.:	US BOAT RAMP
Location ID: 4P079NC0003468ASHDAN			Collect Date: 02/09/2014	Collect Time: 09:40

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

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		0.8	°C		2/10/14	TASCENZO
MIC							
	Turbidity	1.0	7.3	NTU	APHA2130B-20th	2/10/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	72	mg/L	SM 2540 B-1997	2/12/14	CGREEN
	Residue_Suspended in liquid	6.2	6.2 U	mg/L	SM 2540 D-1997	2/10/14	CGREEN
	Ion Chromatography		_TITLE_	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Chloride	1.0	11	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Sulfate	2.0	5.2	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02 U	mg/L as N	EPA 350.1 REV 2	2/10/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	0.2 U	mg/L as N	EPA 351.2 REV 2	2/11/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.32	mg/L as N	EPA 353.2 REV 2	2/10/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.02	mg/L as P	EPA 365.1 REV 2	2/10/14	CGREEN
MET							
7440-22-4	Ag by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7429-90-5	Al by ICP	50	310	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-36-0	Antimony by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7429-90-5	B by ICP	50	180	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	23	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-41-7	Be by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	8.0	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-48-4	Cobalt by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	620	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-97-6	Hg 245.1	0.2	0.20 U	ug/L	EPA 245.1	2/19/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC04857

Collect Date: 02/09/2014

Collect Time: 09:40

MET

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
7440-09-7	K by ICP	0.10	1.4	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-93-2	Li ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.8	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	32	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-98-7	Mo by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.1	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-31-5	Sn by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	49	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	25	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1

Enal/CoC

14w 12325 37 TR

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
COLLECTOR(S) : TIERSON/SKRIGHT

PRIORITY
[] AMBIENT [] QA
[] COMPLIANCE [X] CHAIN OF CUSTODY
[X] EMERGENCY VISIT ID 7

SAMPLE TYPE
[X] STREAM [] EFFLUENT
[] LAKE [] INFLUENT
[] ESTUARY 3

Lab Number A2048587A
Date Received 2-21-14
Time Received 1433
Received By JS
Date Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)


Seed: Chlorinated:

Remarks: Dissolved Metals SAMPLE

Table with 8 columns: Station #/Location Code, Date Begin, Date End, Time Begin, Time End, Depth, Value Type, Composite, Sample Type. Includes handwritten values like 'Ashdan', '14/2/9', '0940', 'G'.

Main data table with 4 columns: Parameter, Unit, Value, and another unit. Lists various water quality parameters like BOD, COD, Chloride, etc., with handwritten checkmarks and values.

COMMENTS :

County:	ROCKINGHAM		Sample ID:	AC04858
River Basin:	ROA1		PO Number #	14W12332
Report To:	WSROSP		Date Received:	02/09/2014
Collector:	J IVERSON		Time Received:	14:33
Region:	WSRO	Labworks LoginID	TASCENZO	
Sample Matrix:	SURFACEWATER	Final Report Date:	2/25/14	
Loc. Type:	STREAM	Report Print Date:	02/26/2014	
Emergency Yes/No		VisitID	<input type="text" value="7"/>	
COC Yes/No	Yes	Loc. Descr.:	US BOAT RAMP	

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/09/2014	Collect Time:	09:40	Sample Depth:	
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		0.8	°C		2/10/14	TASCENZO
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-41-7	Be-Beryllium Dissolved by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	8.4	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	64	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.5	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.9	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	24	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.4	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-22-4	Ag-Dissolved Silver by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7429-90-5	B by ICP	50	180	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	22	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-48-4	Cobalt Dissolved by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-97-6	Hg 245.1 Dissolved	0.2	0.20 U	ug/L	EPA 245.1	2/19/14	ESTAFFORD1
7439-93-2	Li DISSOLVED ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-98-7	Mo Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-36-0	Sb Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-31-5	Sn Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	49	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-28-0	Thallium (Tl) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	10 U	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN

Sample ID: AC04858

Collect Date: 02/09/2014

Collect Time: 09:40

MET

<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>
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1

Emab / Coe

Hwy / 2341 + 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. JERSON / S. KNIGHT

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID 7

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY 3

Lab Number : AC04863
 Date Received : 2-9-2014
 Time Received : 1433
 Received By : TK
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

Seed: _____ Chlorinated: _____

Remarks: 4.31 Hg 50 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	14/2/14		0935					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):	<u>08 TK</u>

COMMENTS : 56051496

County: ROCKINGHAM
 River Basin: R0A1
 Report To: WSROSP
 Collector: J IVERSON
 Region: WSRO
 Sample Matrix: SURFACEWATER
 Loc. Type: STREAM
 Emergency Yes/No
 COC Yes/No Yes

**Final Report**VisitID Loc. Descr.: US-BOAT RAMP

Sample ID: **AC04863**
 PO Number #: **14W12337**
 Date Received: **02/09/2014**
 Time Received: **14:33**
 Labworks LoginID: **TASCENZO**
 Final Report Date: **2/20/14**
 Report Print Date: **02/20/2014**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/09/2014	Collect Time: 09:35	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET							
7439-97-6	Hg 1631	1.00	1.17	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

County: **ROCKINGHAM**
 River Basin: **R0A1**
 Report To: **WSROSP**
 Collector: **J IVERSON**
 Region: **WSRO**
 Sample Matrix: **SURFACEWATER**
 Loc. Type: **STREAM**
 Emergency Yes/No
 COC Yes/No Yes



Sample ID: **AC04863**
 PO Number #: **14W12337**
 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 ReportVisitID Loc. Descr.: **DRAPER LANDINGUS-BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/09/2014	Collect Time: 09:35	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET 7439-97-6	Hg 1631	1.00	1.17	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

COC / EMU6

14W 12348

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
 08

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number AC04874
 Date Received : 2-16-14
 Time Received : 1715
 Received By : MS
 Data Released :
 Date Reported :

Estimated BOD Range: _____ Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)
 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 Dan</u>	<u>2/10/14</u>	<u>2/10/14</u>	<u>10:30</u>	<u>10:55</u>				G

Parameter	Unit	Result	Parameter	Unit	Result	Parameter	Unit	Result
BOD 310	mg/L		Chloride 940	mg/L		NH3 as N 610	mg/L	
COD High 340	mg/L					TKN as N 625	mg/L	
COD Low 335	mg/L		Chlorophyll a EPA 445.0 modified option	ug/L		NO2 plus NO3 as N 630	mg/L	
Coliform: MF Fecal 31616	/100ml					P: Total as P 665	mg/L	
Coliform: MF Total 31504	/100ml		Color: True 80	c.u.		PO4 as P 70507	mg/L	
Coliform: tube Fecal 31615	/100ml		Color: (pH) 83 pH=	c.u.		P: Dissolved as P 666	mg/L	
Coliform: Fecal Strep 31673	/100ml		Color: pH 7.6 82	c.u.		K-Potassium	mg/L	
Residue: Total 500	mg/L		Cyanide 720	mg/L		Cd- Cadmium 1027	ug/L	
Volatil 505	mg/L		Fluoride 951	mg/L		Cr-Chromium: Total 1034	ug/L	
Fixed 510	mg/L		Formaldehyde 71880	mg/L		Cu- Copper 1042	ug/L	
Residue: Suspended 530	mg/L		Grease and Oils 556	mg/L		Ni-Nickel 1067	ug/L	
Volatil 535	mg/L		Hardness Total 900	mg/L		Pb- Lead 1051	ug/L	
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	
Acidity to pH 4.5 436	mg/L		Phenols 32730	mg/L		Ag- Silver 1077	ug/L	
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	
Alkalinity to pH 4.5 410	mg/L		Boron			Ca- Calcium 916	mg/L	
TOC 680	mg/L		Tannin & Lignin	ug/L		Co- Cobalt 1037	ug/L	
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	

Li-Lithium 1132	ug/L
Mg- Magnesium 927	mg/L
Mn-Manganese 1055	ug/L
Na- Sodium 929	mg/L
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>0.6</u>

COMMENTS : _____

County:	ROCKINGHAM	Sample ID:	AC04874
River Basin:	ROA1	PO Number #:	14W12348
Report To:	WSROSP	Date Received:	02/10/2014
Collector:	S WANG	Time Received:	17:15
Region:	WSRO	Labworks LoginID:	TASCENZO
Sample Matrix:	SURFACEWATER	Final Report Date:	2/25/14
Loc. Type:	STREAM	Report Print Date:	02/26/2014
Emergency Yes/No:			
COC Yes/No:	Yes		



Final Report

VisitID

Loc. Descr.: **US-BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/10/2014	Collect Time: 10:30	Sample Depth
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		0.6	°C		2/11/14	MSWIFT
MIC							
	Turbidity	1.0	11	NTU	APHA2130B-20th	2/11/14	ESTAFFORD1
WET							
	Residue_Suspended in liquid	6.2	10 U,P	mg/L	SM 2540 D-1997	2/12/14	CGREEN
	Ion Chromatography		_TITLE_	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Chloride	1.0	11	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Sulfate	2.0	5.4	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Total Dissolved Solids in liquid	12	60	mg/L	SM 2540 C-1997	2/12/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02 U	mg/L as N	EPA 350.1 REV 2	2/11/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	0.2 U	mg/L as N	EPA 351.2 REV 2	2/11/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.31	mg/L as N	EPA 353.2 REV 2	2/11/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.03	mg/L as P	EPA 365.1 REV 2	2/11/14	CGREEN
MET							
7440-22-4	Ag by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7429-90-5	Al by ICP	50	620	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-36-0	Antimony by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7429-90-5	B by ICP	50	180	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	25	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-41-7	Be by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	8.5	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-48-4	Cobalt by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	860	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-97-6	Hg 245.1	0.2	0.20 U	ug/L	EPA 245.1	2/19/14	ESTAFFORD1

NC DW/R Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC04874** Collect Date: **02/10/2014** Collect Time: **10:30**

MET

<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>
7440-09-7	K by ICP	0.10	1.5	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-93-2	Li ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	3.0	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	29	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-98-7	Mo by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.3	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-31-5	Sn by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	48	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	30	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1

Sample Comments

REANALYZED: ELEVATED PQL DUE TO SAMPLE VOLUME LEFT

CW 16146

14W 12350

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 123

[] SAMPLE TYPE
[X] STREAM [] EFFLUENT
[] LAKE [] INFLUENT
[] ESTUARY
3

Lab Number A204876
Date Received : 2-10-14
Time Received : 1715
Received By : RA
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

Seed: Chlorinated:


Remarks: Dissolved Metals

Table with 8 columns: Station #/Location Code, Date Begin, Date End, Time Begin, Time End, Depth, Value Type, Composite-T, S, B, Sample Type. Includes handwritten data for station 4P079NC0003468 ASHDAN.

Main data table with 4 columns of parameters and units. Includes parameters like BOD 310, Chloride 940, NH3 as N 610, Li-Lithium 1132, etc.

COMMENTS :

County:	ROCKINGHAM	Sample ID:	AC04876
River Basin:	ROA1	PO Number #:	14W12350
Report To:	WSROSP	Date Received:	02/10/2014
Collector:	S WANG	Time Received:	17:15
Region:	WSRO	Labworks LoginID:	TASCENZO
Sample Matrix:	SURFACEWATER	Final Report Date:	2/25/14
Loc. Type:	STREAM	Report Print Date:	02/26/2014
Emergency Yes/No:			
COC Yes/No:	Yes		



Final Report

VisitID

Loc. Descr.: **US-BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/10/2014	Collect Time: 10:30	Sample Depth
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		0.6	°C		2/11/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-41-7	Be-Beryllium Dissolved by ICP	5.0	5.0 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	8.1	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.4	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.8	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	18	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.1	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7440-22-4	Ag-Dissolved Silver by ICPMS	1.0	1.0 U	ug/L	EPA 200.8	2/17/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7429-90-5	B by ICP	50	170	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	21	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-48-4	Cobalt Dissolved by ICP	50	50 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-97-6	Hg 245.1 Dissolved	0.2	0.20 U	ug/L	EPA 245.1	2/19/14	ESTAFFORD1
7439-93-2	Li DISSOLVED ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7439-98-7	Mo Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-36-0	Sb Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-31-5	Sn Dissolved by ICPMS	10	10 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
	Strontium Dissolved by ICPMS	10	46	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-28-0	Thallium (Tl) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/22/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	10 U	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC04876 Collect Date: 02/10/2014 Collect Time: 10:30

MET

<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>
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/18/14	ESTAFFORD1

CC / FUR 6

DIVISION OF WATER RESOURCES

14W/23 93

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke
 REPORT TO : Winston-Salem Regional Office
 Other :
 COLLECTOR(S) : S. Wainwright / S. K. Perry

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
 08

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

3

Lab Number : AC04922
 Date Received : 2-11-14
 Time Received : 8:30 17:15
 Received By : ML
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

Seed: _____ Chlorinated: _____

Remarks: (4B1 Hg br) 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
4P079NC0003468AsheDan	<u>2/10/14</u>	<u>2/10/14</u>	<u>10:30</u>	<u>10:55</u>				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 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
Cd- Cadmium 1027	ug/L
Cr-Chromium:Total 1034	ug/L
Cu- Copper 1042	ug/L
Ni-Nickel 1067	ug/L
Pb- Lead 1051	ug/L
Zn- Zinc 1092	ug/L
V-Vanadium	ug/L
Ag- Silver 1077	ug/L
Al- Aluminum 1105	ug/L
Be- Beryllium 1012	ug/L
Ca- Calcium 916	mg/L
Co- Cobalt 1037	ug/L
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
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):	

COMMENTS : 5 E051910

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: **AC04922**
 PO Number #: **14W12393**
 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 ReportVisitID Loc. Descr.: **US-BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/10/2014	Collect Time: 10:30	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET							
7439-97-6	Hg 1631	1.00	1.20	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

COC/KM

14W12433⁷

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

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

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

3

Lab Number: ACC 4966
Date Received: 2-12-14
Time Received: 08:26
Received By: nfo
Data Released:
Date Reported:

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)


Seed: Chlorinated:

Remarks:

Table with 8 columns: Station #/Location Code, Date Begin, Date End, Time Begin, Time End, Depth - DM, DB, DBM, Value Type - A, H, L, Composite-T, S, B, Sample Type

Main data table with 4 columns: Parameter, Units, Value, Units. Includes parameters like BOD 310, Chloride 940, NH3 as N 610, etc.

COMMENTS:

County:	ROCKINGHAM	 Division of Water Resources Final Report	Sample ID:	AC04966
River Basin:	ROA01		PO Number #	14W12437
Report To:	WSROSP		Date Received:	02/12/2014
Collector:	J IVERSON		Time Received:	08:26
Region:	WSRO		Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER		Final Report Date:	2/27/14
Loc. Type:	STREAM		Report Print Date:	02/27/2014
Emergency Yes/No			VisitID	
COC Yes/No			Loc. Descr.:	US-BOAT RAMP
Location ID: 4P079NC0003468ASHDAN			Collect Date: 02/11/2014	Collect Time: 09:40

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

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		3.2	°C		2/12/14	MSWIFT
MIC							
	Turbidity	1.0	7.8	NTU	APHA2130B-20th	2/12/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	62	mg/L	SM 2540 B-1997	2/17/14	CGREEN
	Residue_Suspended in liquid	6.2	12 U,P	mg/L	SM 2540 D-1997	2/14/14	CGREEN
	Ion Chromatography		_TITLE_	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Chloride	1.0	10	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Sulfate	2.0	5.5	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Total Dissolved Solids in liquid	12	59	mg/L	SM 2540 C-1997	2/14/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02 U	mg/L as N	EPA 350.1 REV 2	2/17/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	0.20	mg/L as N	EPA 351.2 REV 2	2/18/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.31	mg/L as N	EPA 353.2 REV 2	2/17/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.02	mg/L as P	EPA 365.1 REV 2	2/17/14	CGREEN
MET							
7429-90-5	Al by ICP	50	330	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7429-90-5	B by ICP	50	190	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	24	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	8.6	mg/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	600	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	1.5	mg/L	EPA 200.7	2/19/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	3.0	mg/L	EPA 200.7	2/19/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	25	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.2	mg/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	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/wg/lab/staffinfo/techassist#Data_Qualifier_Codes <<http://portal.ncdenr.org/web/wg/lab/staffinfo/techassist>>

NC DWR Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC04966** Collect Date: **02/11/2014** Collect Time: **09:40**

MET

<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>
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	45	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	10 U	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	2/19/14	ESTAFFORD1

CoCl Emul

14W 12438 mp

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number ACD 4967
 Date Received: 2-12-14
 Time Received: 08:26
 Received By: ms
 Data Released :
 Date Reported :

3

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

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>11/2/11</u>		<u>0940</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	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		
Acidity to pH 8.3 435	mg/L	Sulfate 945	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	Sulfide 745	mg/L	<input checked="" type="checkbox"/> Be- Beryllium 1012	ug/L	TPH Gasoline Range	
Alkalinity to pH 4.5 410	mg/L	Boron		<input checked="" type="checkbox"/> Ca- Calcium 916	mg/L	TPH/BTEX Gasoline Range	
TOC 680	mg/L	Tannin & Lignin	ug/L	<input checked="" type="checkbox"/> Co- Cobalt 1037	ug/L	Phytoplankton	
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>3.2</u>

COMMENTS :

County: ROCKINGHAM	 Division of Water Resources Final Report	Sample ID: AC04967
River Basin: ROA01		PO Number #: 14W12438
Report To: WSROSP		Date Received: 02/12/2014
Collector: J IVERSON		Time Received: 08:26
Region: WSRO		Labworks LoginID: MSWIFT
Sample Matrix: SURFACEWATER		Final Report Date: 2/27/14
Loc. Type: STREAM		Report Print Date: 02/27/2014
Emergency Yes/No		VisitID
COC Yes/No		
Loc. Descr.: US-BOAT RAMP		

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/11/2014	Collect Time: 09:40	Sample Depth
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		3.2	°C		2/12/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	8.9	mg/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	59	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.5	mg/L	EPA 200.7	2/19/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	3.0	mg/L	EPA 200.7	2/19/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	19	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.4	mg/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7429-90-5	B by ICP	50	190	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	23	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	49	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-28-0	Thallium (Tl) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/25/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	10 U	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/19/14	ESTAFFORD1

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
7/D

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY 3

14W 12530
 2/18/14
 mp

Lab Number : AC05062
 Date Received : 2-18-14
 Time Received : 8:15
 Received By : mp
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

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>1/4/14</u>	<u>1/4/14</u>	<u>1325</u>	<u>1355</u>				G

<input 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 checked="" type="checkbox"/> PKN 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 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	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	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	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"/> Base/Neutral&Acid Extractable Organics	
<input type="checkbox"/> pH 403	units	<input type="checkbox"/> MBAS 38260	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"/> Phenols 32730	ug/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 checked="" type="checkbox"/> Sulfate 945	mg/L	<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"/> Sulfide 745	mg/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"/> Boron		<input checked="" type="checkbox"/> Ca- Calcium 916	mg/L	<input type="checkbox"/> Phytoplankton	
<input type="checkbox"/> TOC 680	mg/L	<input type="checkbox"/> Tannin & Lignin	ug/L	<input checked="" type="checkbox"/> Co- Cobalt 1037	ug/L		
<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"/> Coliform Total Tube	/100 ml	<input type="checkbox"/> 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 checked="" type="checkbox"/> 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		
				<input type="checkbox"/> Hg-1631	ng/L		

Temperature on arrival (°C): 2.1

COMMENTS : _____

County:	ROCKINGHAM	 Final Report	Sample ID:	AC05062
River Basin:	ROA1		PO Number #	14W12530
Report To:	WSROSP		Date Received:	02/18/2014
Collector:	S WANG		Time Received:	08:15
Region:	WSRO		Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER		Final Report Date:	2/27/14
Loc. Type:	STREAM		Report Print Date:	02/27/2014
Emergency Yes/No	<u>Yes</u>		VisitID	<input type="text" value="10"/>
COC Yes/No	<u>Yes</u>			
Loc. Descr.: US-BOAT RAMP				

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/17/2014	Collect Time: 13:55	Sample Depth
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		2.1	°C		2/18/14	MSWIFT
MIC							
	Turbidity	1.0	30	NTU	APHA2130B-20th	2/18/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	100	mg/L	SM 2540 B-1997	2/18/14	CGREEN
	Residue_Suspended in liquid	6.2	18	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	15	mg/L	EPA 300.0 rev2.1	2/20/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/20/14	CGREEN
	Sulfate	2.0	4.6	mg/L	EPA 300.0 rev2.1	2/20/14	CGREEN
	Total Dissolved Solids in liquid	12	78	mg/L	SM 2540 C-1997	2/19/14	CGREEN
MET							
7429-90-5	Al by ICP	50	1500	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7429-90-5	B by ICP	50	140	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	34	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	7.2	mg/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	2000	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	1.9	mg/L	EPA 200.7	2/20/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.8	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	35	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	6.2	mg/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	46	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	85	ug/L	EPA 200.7	2/20/14	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>>

NC DWR Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC05062** Collect Date: **02/17/2014** Collect Time: **13:55**

MET

<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>
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	2/21/14	ESTAFFORD1

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) : S. W. Berry

VISIT ID
3

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

Seed: _____ Chlorinated: _____

Remarks: Dissolved Metals


Lab Number: ACO5003
 Date Received: 2-18-14
 Time Received: 8:15
 Received By: mp
 Data Released :
 Date Reported :

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>1/6/07/17</u>	<u>1/6/07/17</u>	<u>13:25</u>	<u>17:55</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	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): 21

COMMENTS : _____

County: ROCKINGHAM	 Final Report	Sample ID: AC05063	
River Basin: ROA01		PO Number #: 14W12531	
Report To: WSRO		Date Received: 02/18/2014	
Collector: S WANG		Time Received: 08:15	
Region: WSRO		Labworks LoginID: MSWIFT	
Sample Matrix: SURFACEWATER		Final Report Date: 2/27/14	
Loc. Type: STREAM		Report Print Date: 02/27/2014	
Emergency Yes/No: Yes		VisitID:	
COC Yes/No: Yes			
Loc. Descr.: US-BOAT RAMP			
Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/17/2014	Collect Time: 13:55	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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		2.1	°C		2/18/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	6.9	mg/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	390	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.7	mg/L	EPA 200.7	2/20/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.6	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	19	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	6.1	mg/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	300	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7429-90-5	B by ICP	50	140	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	26	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	45	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-28-0	Thallium (Tl) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	17	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/21/14	ESTAFFORD1

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

14612552
14W125521
mp
mbo 2/18/14

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY
VISIT ID
14612552

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY
 3

Lab Number : AC05092
Date Received : 2-18-14
Time Received : 8:15
Received By : [Signature]
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

Seed: _____ Chlorinated: _____

Remarks: Mercury - 4B1 Hg 106

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
4P079NC0003468AsheDan	14/02/17	14/02/17	13:26	13:55				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: 7 EOLH 29

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



Sample ID: **AC05092**
 PO Number #: **14W12551**
 Date Received: **02/18/2014**
 Time Received: **08:15**
 Labworks LoginID: **MSWIFT**
 Final Report Date: **3/3/14**
 Report Print Date: **03/03/2014**

Final ReportVisitID Loc. Descr.: **US-BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/17/2014	Collect Time: 13:55	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET 7439-97-6	Hg 1631	1.00	4.05	ng/L	EPA 1631E	2/28/14	ESTAFFORD1

14.W 12569

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
 COLLECTOR(S) : Sonder/Twerson

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

3

Lab Number: AC05106
 Date Received: 2-18-2014
 Time Received: 1315
 Received By: MS
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)


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 Dan</u>	<u>14/02/18</u>		<u>09:19</u>					G

<input type="checkbox"/> BOD 310	mg/L	<input checked="" type="checkbox"/> Chloride 940	mg/L	<input checked="" type="checkbox"/> NH ₂ as N 610	mg/L	<input checked="" type="checkbox"/> Li-Lithium 1132	ug/L
<input type="checkbox"/> COD High 340	mg/L			<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"/> NO ₂ plus NO ₃ as N 630	mg/L	<input checked="" type="checkbox"/> Mn-Manganese 1055	ug/L
<input type="checkbox"/> 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
<input type="checkbox"/> Coliform: MF Total 31504	/100ml	<input type="checkbox"/> Color: True 80	c.u.	<input type="checkbox"/> PO ₄ 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 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 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>39</u>

COMMENTS : _____

County:	ROCKINGHAM	 Final Report	Sample ID:	AC05106
River Basin:	ROA01		PO Number #	14W12569
Report To:	WSROSP		Date Received:	02/18/2014
Collector:	J IVERSON		Time Received:	13:15
Region:	WSRO		Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER		Final Report Date:	2/27/14
Loc. Type:	STREAM		Report Print Date:	02/27/2014
Emergency Yes/No	<u>Yes</u>		VisitID	
COC Yes/No	<u>Yes</u>			
Loc. Descr.: US - BOAT RAMP				

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/18/2014	Collect Time: 09:19	Sample Depth
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		3.9	°C		2/19/14	MSWIFT
MIC							
	Turbidity	1.0	25	NTU	APHA2130B-20th	2/18/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	102	mg/L	SM 2540 B-1997	2/19/14	CGREEN
	Residue_Suspended in liquid	6.2	12	mg/L	SM 2540 D-1997	2/19/14	CGREEN
	Ion Chromatography		<u> TITLE </u>	mg/L	EPA 300.0 rev2.1	2/20/14	CGREEN
	Chloride	1.0	13	mg/L	EPA 300.0 rev2.1	2/20/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/20/14	CGREEN
	Sulfate	2.0	4.4	mg/L	EPA 300.0 rev2.1	2/20/14	CGREEN
	Total Dissolved Solids in liquid	12	86	mg/L	SM 2540 C-1997	2/20/14	CGREEN
MET							
7429-90-5	Al by ICP	50	1700	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7429-90-5	B by ICP	50	140	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	30	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	7.2	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1800	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	1.8	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.8	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	31	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	5.6	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	43	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	48	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/wg/lab/staffinfo/techassist#Data_Qualifier_Codes <<http://portal.ncdenr.org/web/wg/lab/staffinfo/techassist>>

NC DWR Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC05106** Collect Date: **02/18/2014** Collect Time: **09:19**

MET

<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>
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	2/24/14	ESTAFFORD1

14w 12570

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
 COLLECTOR(S) : SNider / E. J. S. N

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

3

Lab Number : AC05107
 Date Received : 2-18-2014
 Time Received : 1315
 Received By : MS
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)


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>14/02/19</u>		<u>07:10</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>3.9</u>	

COMMENTS : _____

County: ROCKINGHAM	 Division of Water Resources	Sample ID: AC05107
River Basin: ROA01		PO Number #: 14W12570
Report To: WSROSP		Date Received: 02/18/2014
Collector: J IVERSON		Time Received: 13:15
Region: WSRO		Labworks LoginID: MSWIFT
Sample Matrix: SURFACEWATER		Final Report Date: 2/27/14
Loc. Type: STREAM		Report Print Date: 02/27/2014
Emergency Yes/No: Yes	VisitID	
COC Yes/No: Yes		
Loc. Descr.: US - BOAT RAMP		
Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/18/2014	Collect Time: 09:19
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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		3.9	°C		2/18/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	7.1	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	50 U	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.7	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.7	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	10 U	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	5.8	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7429-90-5	B by ICP	50	140	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	23	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	45	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-28-0	Thallium (Tl) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	10 U	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/24/14	ESTAFFORD1

14612581

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number AC05118
 Date Received : 2-13-14
 Time Received : 13:51
 Received By : [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

Seed: _____ Chlorinated: _____

Remarks: Mercury 431 Hg 884

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
4P079NC0003468AsheDan	14/02/18		09:12					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):	

COMMENTS :

7E014928

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: **AC05118**
 PO Number #: **14W12581**
 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.: **US-BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/18/2014	Collect Time: 09:12	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET							
7439-97-6	Hg 1631	1.00	3.28	ng/L	EPA 1631E	2/28/14	ESTAFFORD1

EMER/COC

14w 12671

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
 COLLECTOR(S) : TECERON / GERRARD

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC05215
 Date Received : 2-28-15
 Time Received : 8:50
 Received By : mfp
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

3

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 Dan</u>	<u>19/12/19</u>		<u>09:30</u>					G

<input 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"/> Chlorophyll a EPA 445.0 modified option ug/L	<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"/> Color: True 80 c.u.	<input checked="" type="checkbox"/> NO2 plus NO3 as N 620 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 checked="" 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	
		Hg-1631 ng/L	Temperature on arrival (°C): <u>1.4</u>

COMMENTS : _____

County:	ROCKINGHAM	Sample ID:	AC05215
River Basin:	R0A1	PO Number #:	14W12671
Report To:	WSROSP	Date Received:	02/20/2014
Collector:	J IVERSON	Time Received:	08:50
Region:	WSRO	Labworks LoginID:	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	3/11/14
Loc. Type:	STREAM	Report Print Date:	03/11/2014
Emergency Yes/No:	Yes	VisitID:	
COC Yes/No:	Yes		
Final Report			
Loc. Desc.: US-BOAT RAMP			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/19/2014
		Collect Time:	09:40
		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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.4	°C		2/20/14	MSWIFT
MIC							
	Turbidity	1.0	28	NTU	APHA2130B-20th	2/20/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	96	mg/L	SM 2540 B-1997	2/21/14	MOVERMAN
	Residue_Suspended in liquid	6.2	30	mg/L	SM 2540 D-1997	2/20/14	CGREEN
	Ion Chromatography		_TITLE_	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Chloride	1.0	13	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Sulfate	2.0	4.9	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Total Dissolved Solids in liquid	12	76	mg/L	SM 2540 C-1997	2/20/14	CGREEN
MET							
7429-90-5	Al by ICP	50	1400	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7429-90-5	B by ICP	50	120	ug/L	EPA 200.7	2/26/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	35	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	7.0	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.2	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1900	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	1.9	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.8	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	42	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	5.1	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	39	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-28-0	Thallium (TI) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	180 J2	ug/L	EPA 200.7	2/27/14	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/stafinfo/techassist#Data_Qualifier_Codes <<http://portal.ncdenr.org/web/wq/lab/stafinfo/techassist>>

NC DWR, Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC05215** Collect Date: **02/19/2014** Collect Time: **09:40**

MET

<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>
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1

EMER/COC

14W 12672

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

3

Lab Number : AC05216
Date Received : 2-20-10
Time Received : 8:50
Received By : mp
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

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>1/2/10</u>		<u>6:00</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	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>1.4</u>

COMMENTS : _____

County:	ROCKINGHAM	Sample ID:	AC05216
River Basin:	R0A1	PO Number #:	14W12672
Report To:	WSROSP	Date Received:	02/20/2014
Collector:	J IVERSON	Time Received:	08:50
Region:	WSRO	Labworks LoginID:	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	3/11/14
Loc. Type:	STREAM	Report Print Date:	03/11/2014
Emergency Yes/No:	<u>Yes</u>	VisitID:	
COC Yes/No:	<u>Yes</u>		
Final Report			
Loc. Descr.: US-BOAT RAMP			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/19/2014
		Collect Time:	09:40
		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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.4	°C		2/20/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	6.8	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	71	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.7	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.5	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	13	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	5.1	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7429-90-5	B by ICP	50	130	ug/L	EPA 200.7	2/26/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	23	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	44	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-28-0	Thallium (TI) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	10 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1

14W 12686

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

SAMPLE TYPE

STREAM EFFLUENT

LAKE INFLUENT

ESTUARY

3

COUNTY : Rockingham
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

PRIORITY

AMBIENT QA

COMPLIANCE CHAIN OF CUSTODY

EMERGENCY

VISIT ID

Other :
 COLLECTOR(S) : DTCC/RSW

Lab Number : AL05234
 Date Received : 2-20-14
 Time Received : 8:50
 Received By : [Signature]

Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

Seed: _____ Chlorinated: _____ 4B1H8126 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
4P079NC0003468AsheDan	1/2/14		09:35					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		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 E05H70

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

**Final Report**

VisitID

Sample ID: **AC05234**
 PO Number #: **14W12686**
 Date Received: **02/20/2014**
 Time Received: **08:50**
 Labworks LoginID: **TASCENZO**
 Final Report Date: **3/3/14**
 Report Print Date: **03/03/2014**

Loc. Descr.: **US-BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/19/2014	Collect Time: 09:35	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET							
7439-97-6	Hg 1631	1.00	4.44	ng/L	EPA 1631E	2/28/14	ESTAFFORD1

EMER/COC

DIVISION OF WATER RESOURCES
Surface Water Fieldsheet

14W12705

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

3

Lab Number : A005253
 Date Received : 2-20-14
 Time Received : 13:44
 Received By : mf
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

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>14/2/20</u>		<u>9:20</u>					G

BOD 310 mg/L	Chloride 940 mg/L	NH3 as N 610 <u>NS</u> 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 <u>NS</u> 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
<input checked="" type="checkbox"/> Residue: Total 500 mg/L	Cyanide 720 mg/L	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	Cr-Chromium: Total 1034 ug/L	Organochlorine Pesticides
Fixed 510 mg/L	Formaldehyde 71880 mg/L	Cu- Copper 1042 ug/L	Organophosphorus Pesticides
<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 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
<input checked="" type="checkbox"/> 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	
	<input checked="" type="checkbox"/> 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): 27

COMMENTS : _____

County: ROCKINGHAM	 Division of Water Resources Final Report	Sample ID: AC05253				
River Basin: ROA01		PO Number #: 14W12705				
Report To: WSROSP		Date Received: 02/20/2014				
Collector: L SNIDER		Time Received: 13:44				
Region: WSRO		Labworks LoginID: MSWIFT				
Sample Matrix: SURFACEWATER		Final Report Date: 3/11/14				
Loc. Type: STREAM/RIVER		Report Print Date: 03/11/2014				
Emergency Yes/No: Yes		VisitID				
COC Yes/No: Yes		Loc. Descr.: US-BOAT RAMP				
<table border="1"> <tr> <td>Location ID: 4P079NC0003468ASHDAN</td> <td>Collect Date: 02/20/2014</td> <td>Collect Time: 09:20</td> <td>Sample Depth</td> </tr> </table>			Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/20/2014	Collect Time: 09:20	Sample Depth
Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/20/2014	Collect Time: 09:20	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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		2.7	°C		2/20/14	MSWIFT
MIC							
	Turbidity	1.0	80	NTU	APHA2130B-20th	2/20/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	158	mg/L	SM 2540 B-1997	2/21/14	MOVERMAN
	Residue_Suspended in liquid	6.2	84	mg/L	SM 2540 D-1997	2/21/14	CGREEN
	Ion Chromatography		_TITLE_	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Chloride	1.0	10	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Sulfate	2.0	3.3	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Total Dissolved Solids in liquid	12	69	mg/L	SM 2540 C-1997	2/21/14	CGREEN
MET							
7429-90-5	Al by ICP	50	4000	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7429-90-5	B by ICP	50	66	ug/L	EPA 200.7	2/26/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	57	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	5.7	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	3.8	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	5500	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	2.2	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.7	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	120	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.4	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.8	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	3.4	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	33	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	400	ug/L	EPA 200.7	2/27/14	ESTAFFORD1

NC DWR, Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC05253 Collect Date: 02/20/2014 Collect Time: 09:20

MET

<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>
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1

EMER/COC

DIVISION OF WATER RESOURCES
Surface Water Fieldsheet

14W 127.06

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC05254
 Date Received : 2-20-14
 Time Received : 13:44
 Received By : MJD
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

3

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>4/20/14</u>		<u>9:20</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	<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): <u>2.7</u>

COMMENTS :

County:	ROCKINGHAM	Sample ID:	AC05254
River Basin:	ROA01	PO Number #:	14W12706
Report To:	WSROSP	Date Received:	02/20/2014
Collector:	L SNIDER	Time Received:	13:44
Region:	WSRO	Labworks LoginID:	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	3/11/14
Loc. Type:	STREAM/RIVER	Report Print Date:	03/11/2014
Emergency Yes/No:	Yes	VisitID:	
COC Yes/No:	Yes		
Final Report			
Loc. Descr.: US-BOAT RAMP			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/20/2014
		Collect Time:	09:20
		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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		2.7	°C		2/20/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	5.1	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	54	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.6	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.0	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	19	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.2	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7429-90-5	B by ICP	50	72	ug/L	EPA 200.7	2/26/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	20	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	34	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-28-0	Thallium (TI) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	10 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/27/14	ESTAFFORD1

DIVISION OF WATER RESOURCES

14412717

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY 3

Lab Number : AC05265
 Date Received : 2-20-19
 Time Received : 1344
 Received By : MP
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp (Upstream boat ramp near Hwy 14)

Seed: _____

Chlorinated: _____

Remarks: Mercury 431 Hg 92

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
4P079NC0003468AsheDan	14/02/20		9:12					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	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 8.3 415	mg/L	Sulfide 745	mg/L	Be- Beryllium 1012	ug/L	TPH Gasoline Range	
Alkalinity to pH 4.5 410	mg/L	Boron		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		
				<input checked="" type="checkbox"/> Hg-1631	ng/L	Temperature on arrival (°C):	

COMMENTS: 7E011/19

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**

VisitID

Sample ID: **AC05265**
 PO Number #: **14W12717**
 Date Received: **02/20/2014**
 Time Received: **13:44**
 Labworks LoginID: **MSWIFT**
 Final Report Date: **3/6/14**
 Report Print Date: **03/06/2014**

Loc. Descr.: **US-BOAT RAMP**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/20/2014	Collect Time: 09:12	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET							
7439-97-6	Hg 1631	1.00	9.44	ng/L	EPA 1631E	3/5/14	ESTAFFORD1

Coc/Bxub

14W 12793

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

3

Lab Number : AC05351
Date Received : 2-21-2014
Time Received : 1445
Received By : NY
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp at Hwys 14 & 311

Seed: Chlorinated:

Remarks:

Table with 7 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, 09:30, 10:00, 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 rows for BOD 310, Chloride 940, NH3 as N 610, etc. Includes handwritten 'x' marks for certain parameters.

COMMENTS:
Revision: 08/23/13

County:	ROCKINGHAM	Sample ID:	AC05351
River Basin:	ROA01	PO Number #:	14W12793
Report To:	WSROSP	Date Received:	02/21/2014
Collector:	S WANG	Time Received:	14:45
Region:	WSRO	Labworks LoginID:	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	3/11/14
Loc. Type:	STREAM/RIVER	Report Print Date:	03/11/2014
Emergency Yes/No:	Yes	VisitID: <input type="text" value="14"/>	
COC Yes/No:	Yes	Loc. Descr.: US-BOAT RAMP AT HWYS 14 & 311	

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/21/2014	Collect Time:	10:00	Sample Depth:	
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		2.5	°C		2/21/14	MSWIFT
MIC							
	Turbidity	1.0	70	NTU	APHA2130B-20th	2/21/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	145	mg/L	SM 2540 B-1997	2/24/14	MOVERMAN
	Residue_Suspended in liquid	6.2	82	mg/L	SM 2540 D-1997	2/24/14	MOVERMAN
	Ion Chromatography		_TITLE_	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Chloride	1.0	9.1	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Sulfate	2.0	3.9	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Total Dissolved Solids in liquid	12	62	mg/L	SM 2540 C-1997	2/27/14	CGREEN
MET							
7429-90-5	Al by ICP	50	3500 J2	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7429-90-5	B by ICP	50	67	ug/L	EPA 200.7	3/3/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	50	ug/L	EPA 200.7	3/6/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	5.7	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	3.1	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	4400	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	2.4	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.6	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	93	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.1	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.2	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.7	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	34	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	200 J2	ug/L	EPA 200.7	2/27/14	ESTAFFORD1

NC DWR, Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC05351** Collect Date: **02/21/2014** Collect Time: **10:00**

MET

<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>
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	14	ug/L	EPA 200.7	2/28/14	ESTAFFORD1

Coc / Encl

14W 12794

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

3

Lab Number : AC05352
Date Received : 2-21-2014
Time Received : 1445
Received By : NR
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp

Seed: Chlorinated:

Remarks: Dissolved Metals

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

Table with 2 columns: Parameter, Value/Unit. Includes BOD 310, COD High 340, Coliform: MF Fecal 31616, etc.

Table with 2 columns: Parameter, Value/Unit. Includes Chloride 940, Chlorophyll a EPA 445.0 modified option, Color: True 80, etc.

Table with 2 columns: Parameter, Value/Unit. Includes NH3 as N 610, TKN an N 625, NO2 plus NO3 as N 630, etc.

Table with 2 columns: Parameter, Value/Unit. Includes Li-Lithium 1132, Mg- Magnesium 927, Mn-Manganese 1055, etc.

COMMENTS:

Temperature on arrival (°C): 25

County:	ROCKINGHAM	Sample ID:	AC05352
River Basin:	ROA01	PO Number #:	14W12794
Report To:	WSROSP	Date Received:	02/21/2014
Collector:	S WANG	Time Received:	14:45
Region:	WSRO	Labworks LoginID:	MSWIFT
Sample Matrix:	SURFACEWATER	Final Report Date:	3/11/14
Loc. Type:	STREAM/RIVER	Report Print Date:	03/11/2014
Emergency Yes/No:	Yes	VisitID:	14
COC Yes/No:	Yes	Loc. Descr.:	US-BOAT RAMP

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/21/2014	Collect Time:	10:10	Sample Depth:	
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		2.5	°C		2/21/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	5.4	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-47-3	Cr- Dissolved Chromium by ICPMS	10	10 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	310	ug/L	EPA 200.7	3/6/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.9	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.1	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	15	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.0	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7439-92-1	Pb-Dissolved Lead by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7782-49-2	Se-Dissolved Selenium by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	310	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7429-90-5	B by ICP	50	73	ug/L	EPA 200.7	3/3/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	23	ug/L	EPA 200.7	3/6/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	37	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-28-0	Thallium (TI) Dissolved by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-32-6	Ti (Titanium) Dissolved by ICP	10	20	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-62-2	V Dissolved by ICP	25	25 U	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/28/14	ESTAFFORD1

CEL/Excel

14612809

AC 05363

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

Lab Number : AC05363
 Date Received : 2-21-14
 Time Received : 1:45
 Received By : WJG
 Data Released :
 Date Reported :

3

Estimated BOD Range:

Station Location: US - Boat Ramp

Seed: _____ Chlorinated: _____

Remarks: (48LH, 84A 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	14/02/21	14/02/21	10:18	10:15				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	mg/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		
				x Hg-1631	ng/L	Temperature on arrival (°C):	

COMMENTS: SE05H96

Revision: 08/23/13

COMMENTS: SE05H96

Revision: 08/23/13

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: **AC05363**
 PO Number #: **14W12805**
 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 ReportVisitID Loc. Descr.: US-BOAT RAMP

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/21/2014	Collect Time: 10:15	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET							
7439-97-6	Hg 1631	1.00	7.60	ng/L	EPA 1631E	3/5/14	ESTAFFORD1

DIVISION OF WATER RESOURCES
Surface Water Fieldsheet

EMER/COC

74W 12860

COUNTY: Rockingham
RIVER BASIN: ROANOKE
REPORT TO: ESS
SHIPPED BY: Staff
COLLECTOR(S): M. Hale

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

W SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY


Lab Number: AC05428
Date Received: 2-25-14
Time Received: 9:06
Received By: MJD
Data Released: _____
Date Reported: _____

Estimated BOD Range: _____ Station Location: Dan River upstream of Spill at Hwy 14
Seed: _____ Chlorinated: _____ Remarks: _____

101

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - H, L	Composite - T, S, B	Sample Type
<u>Hwy 14</u>	<u>14 02 24</u>		<u>12:45</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		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.			P O4 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		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			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			
					Tl- Thallium ug/L			
					Ti- Titanium ug/L			
					Hg- 1631 ng/L			
							Temperature on arrival (C): <u>1.6</u>	

COMMENTS:

County: ROCKINGHAM	 Division of Water Resources Final Report	Sample ID: AC05428
River Basin: ROA01		PO Number #: 14W12860
Report To: WSROSP		Date Received: 02/25/2014
Collector: M HALE		Time Received: 09:06
Region: WSRO		Labworks LoginID: MSWIFT
Sample Matrix: SURFACEWATER		Final Report Date: 3/11/14
Loc. Type: RIVER/STREAM		Report Print Date: 03/11/2014
Emergency Yes/No: Yes		VisitID: _____
COC Yes/No: Yes		
Loc. Descr.: DAN RIVER UPSTREAM OF SPILL AT HWY 14		
Location ID: HWY_14	Collect Date: 02/24/2014	Collect Time: 12:45
Sample Depth: 0.15		

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

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.6	°C		2/25/14	MSWIFT
WET							
	Residue_Total in liquid	12	87	mg/L	SM 2540 B-1997	2/26/14	MOVERMAN
	Residue_Suspended in liquid	6.2	22	mg/L	SM 2540 D-1997	2/25/14	MOVERMAN
	Ion Chromatography		_TITLE_	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Chloride	1.0	9.2	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Fluoride	0.4	0.4 U	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Sulfate	2.0	3.2	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
MET							
7429-90-5	Al by ICP	50	1500	ug/L	EPA 200.7	3/6/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7429-90-5	B by ICP	50	110	ug/L	EPA 200.7	3/5/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	31	ug/L	EPA 200.7	3/5/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	6.2	mg/L	EPA 200.7	3/5/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-47-3	Cr by ICPMS	10	10 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1900	ug/L	EPA 200.7	3/6/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	1.6	mg/L	EPA 200.7	3/5/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.5	mg/L	EPA 200.7	3/5/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	36	ug/L	EPA 200.7	3/6/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	3.7	mg/L	EPA 200.7	3/5/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7782-49-2	Se by ICPMS	5.0	5.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-24-6	Sr by ICPMS	10	39	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-28-0	Thallium (Tl) ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	78 J2	ug/L	EPA 200.7	3/5/14	ESTAFFORD1
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	3/6/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	3/6/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: HWY_14

Sample ID: AC05428

Collect Date: 02/24/2014

Collect Time: 12:45

MET

<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>
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Sample Comments

MET:Ti-J2-estimated-LFM recovery>130%

Coc/Everb

1/22 98
406
2/27/12

DIVISION OF WATER QUALITY
Chemistry Laboratory Report / Water Quality

COUNTY : ROCKINGHAM
RIVER BASIN : ROANOKE
REPORT TO : WSRO Regional Office
Other :
COLLECTOR(S) : E. SMIDER / K. BOONE

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY 3


Lab Number : AC055102
Date Received : 2-27-2019
Time Received : 7:50
Received By : mv
Data Released :
Date Reported :

Estimated BOD Range: _____ Station Location: _____
Seed: _____ Chlorinated: _____ 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>VS BOAT RAMP</u>	<u>14/2/26</u>		<u>12:35</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 mg/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	<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	Se- Selenium 1147 ug/L
Coliform: Fecal Strep 31673 /100ml	Fluoride 951 mg/L	K-Potassium mg/L	Hg- Mercury 71900 ug/L
<input checked="" type="checkbox"/> Residue: Total 500 mg/L	Formaldehyde 71880 mg/L	<input checked="" type="checkbox"/> 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	<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	Pb- Lead 1051 ug/L	Acid Herbicides
Fixed 540 mg/L	Phenols 32730 mg/L	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> Ag- Silver 1077 ug/L	
Acidity to pH 8.3 435 mg/L	Boron	<input checked="" type="checkbox"/> Al- Aluminum 1105 ug/L	Purgeable Organics (VOA bottle req'd)
Alkalinity to pH 8.3 415 mg/L	Tannin & Lignin ug/L	Be- Beryllium 1012 ug/L	TPH Gasoline Range
Alkalinity to pH 4.5 410 mg/L	Hexavalent Chromium ug/L	Ca- Calcium 916 mg/L	TPH/BTEX Gasoline Range
TOC 680 mg/L	Bicarbonate mg/L	Co- Cobalt 1037 ug/L	Phytoplankton
Turbidity 76 NTU	Carbonate mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045 ug/L	
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>2.2</u>

COMMENTS : _____

County:	ROCKINGHAM	 Division of Water Resources Final Report	Sample ID:	AC05562
River Basin:	ROA01		PO Number #	14W12984
Report To:	WSROSP		Date Received:	02/27/2014
Collector:	L SNIDER		Time Received:	07:50
Region:	WSRO	Labworks LoginID	MSWIFT	
Sample Matrix:	SURFACEWATER	Final Report Date:	3/4/14	
Loc. Type:	RIVER/STREAM	Report Print Date:	03/04/2014	
Emergency Yes/No	<u>Yes</u>	VisitID		
COC Yes/No	<u>Yes</u>			
Loc. Descr.: DAN R. COAL ASH SPILL				
Location ID: US_BOAT_RAMP		Collect Date: 02/26/2014	Collect Time: 12:35	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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		2.2	°C		2/27/14	MSWIFT
WET							
	Residue_Total in liquid	12	81	mg/L	SM 2540 B-1997	2/28/14	CGREEN
	Residue_Suspended in liquid	6.2	13	mg/L	SM 2540 D-1997	2/27/14	MOVERMAN
MET							
7429-90-5	Al by ICP	50	880	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/4/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/4/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/4/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1200	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/4/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	2/28/14	ESTAFFORD1

Ced Creek

14w 12984
4/7/14 5mb

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

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Other :
COLLECTOR(S) : LSNIDER / R BOONE

VISIT ID

Lab Number : AC05563
Date Received : 2-27-2014
Time Received : 7:50
Received By : MX
Data Released :
Date Reported :

Estimated BOD Range: * DISSOLVED METAL SAMPLE

Station Location: _____

Seed: _____ Chlorinated: _____


Remarks: DAN 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>US BOAT RAMP</u>	<u>14/2/26</u>		<u>1235</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	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	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	<input checked="" type="checkbox"/> 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	<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	Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	Specific Cond. 95	umbos/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	<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		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): 2.2

COMMENTS : _____

County:	ROCKINGHAM	 Final Report	Sample ID:	AC05563
River Basin:	ROA01		PO Number #	14W12985
Report To:	WSROSP		Date Received:	02/27/2014
Collector:	L SNIDER		Time Received:	07:50
Region:	WSRO		Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER		Final Report Date:	3/4/14
Loc. Type:	RIVER/STREAM		Report Print Date:	03/04/2014
Emergency Yes/No	<u>Yes</u>		VisitID	
COC Yes/No	<u>Yes</u>			
Loc. Descr.: DAN R. COAL ASH SPILL				

Location ID: US_BOAT_RAMP	Collect Date: 02/26/2014	Collect Time: 12:35	Sample Depth
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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/ Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
LAB							
	Sample temperature at receipt by lab		2.2	°C		2/27/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	3/4/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/4/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/4/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	50 U	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/4/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/28/14	ESTAFFORD1

EMER/COC

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

3

Lab Number : AC05792
Date Received : 3-6-14
Time Received : 7:50
Received By : mp
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp at Hwys 14 & 311

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		12:35					G

Parameter	Unit	Parameter	Unit	Parameter	Unit	Parameter	Unit
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	x 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):	11

COMMENTS :

County:	ROCKINGHAM	 Division of Water Resources Final Report	Sample ID:	AC05792
River Basin:	ROA01		PO Number #	14W13160
Report To:	WSROSP		Date Received:	03/06/2014
Collector:	L SNIDER		Time Received:	07:50
Region:	WSRO	Labworks LoginID	MSWIFT	
Sample Matrix:	SURFACEWATER	Final Report Date:	3/14/14	
Loc. Type:	STREAM/RIVER	Report Print Date:	03/15/2014	
Emergency Yes/No	<u>Yes</u>	VisitID		
COC Yes/No	<u>Yes</u>			
Loc. Descr.: US-BOAT RAMP AT HWYS 14@311				
Location ID: 4P079NC0003468ASHDAN		Collect Date: 03/05/2014	Collect Time: 12:35	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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.1	°C		3/6/14	MSWIFT
WET							
	Residue_Suspended in liquid	6.2	6.2 U	mg/L	SM 2540 D-1997	3/6/14	CGREEN
	Total Dissolved Solids in liquid	12	69	mg/L	SM 2540 C-1997	3/6/14	CGREEN
MET							
7429-90-5	Al by ICP	50	520	ug/L	EPA 200.7	3/10/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/7/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/7/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/7/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	650	ug/L	EPA 200.7	3/10/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/7/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	3/10/14	ESTAFFORD1

EMER/COC

14W13161

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) : Snyder/Boone

VISIT ID

3

Lab Number : AC05793
 Date Received : 3.10.14
 Time Received : 7:50
 Received By : mp
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp

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		12:35					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			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	x 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	
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		
		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): 1.1

COMMENTS : _____

County:	ROCKINGHAM	 Division of Water Resources Final Report	Sample ID:	AC05793
River Basin:	ROA01		PO Number #	14W13161
Report To:	WSROSP		Date Received:	03/06/2014
Collector:	L SNIDER		Time Received:	07:50
Region:	WSRO	Labworks LoginID	MSWIFT	
Sample Matrix:	SURFACEWATER	Final Report Date:	3/14/14	
Loc. Type:	STREAM/RIVER	Report Print Date:	03/15/2014	
Emergency Yes/No	<u>Yes</u>	VisitID		
COC Yes/No	<u>Yes</u>			
Loc. Descr.: US-BOAT RAMP				
Location ID: 4P079NC0003468ASHDAN		Collect Date: 03/05/2014	Collect Time: 12:35	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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.1	°C		3/6/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	3/7/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/7/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/7/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	50 U	ug/L	EPA 200.7	3/10/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/7/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	3/10/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	3/10/14	ESTAFFORD1

14W 13382

AC06894 pub

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

- SAMPLE TYPE
- STREAM EFFLUENT
- LAKE INFLUENT
- ESTUARY

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

- PRIORITY
- AMBIENT QA
- COMPLIANCE CHAIN OF CUSTODY
- EMERGENCY
- VISIT ID

Lab Number : AC06894
 Date Received : 3-13-2014
 Time Received : 7:50
 Received By : TR
 Date Released :
 Date Reported :

Estimated BOD Range:

Station Location: US - Boat Ramp

3

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		1328					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	x 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	
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		
		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: ROCKINGHAM	 Division of Water Resources Final Report	Sample ID: AC06094
River Basin: ROA01		PO Number #: 14W13380
Report To: WSROSP		Date Received: 03/13/2014
Collector: L SNIDER		Time Received: 07:50
Region: WSRO		Labworks LoginID: MSWIFT
Sample Matrix: SURFACEWATER	Final Report Date: 3/20/14	Report Print Date: 03/21/2014
Loc. Type: RIVER/STREAM	VisitID	
Emergency Yes/No: <u>Yes</u>		
COC Yes/No: <u>Yes</u>		
Loc. Desc.: US-BOAT RAMP AT HWYS 14 & 311		
Location ID: 4P079NC0003468ASHDAN	Collect Date: 03/12/2014	Collect Time: 13:28
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/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.7	°C		3/13/14	MSWIFT
MET							
7440-38-2	As- Dissolved by ICPMS Arsenic	2.0	2.0 U	ug/L	EPA 200.8	3/18/14	ESTAFFORD1
7440-43-9	Cd- Dissolved Cadmium by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/18/14	ESTAFFORD1
7440-50-8	Cu- Dissolved Copper by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/18/14	ESTAFFORD1
7439-89-6	Fe- Dissolved Iron by ICP	50	50 U	ug/L	EPA 200.7	3/17/14	ESTAFFORD1
7440-02-0	Ni-Dissolved Nickel by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/18/14	ESTAFFORD1
7429-90-5	Al - Dissolved Aluminum by ICP	50	50 U	ug/L	EPA 200.7	3/17/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	3/17/14	ESTAFFORD1

14W 13380
13380

AC06046
AC06046
3/18/14
PWB

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

SAMPLE TYPE

STREAM EFFLUENT

LAKE INFLUENT

ESTUARY

3

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 _____

Lab Number : AC06046

Date Received : 3-13-2014

Time Received : 7:50

Received By : RS

Data Released : _____

Date Reported : _____


Estimated BOD Range: _____ Station Location: US - Boat Ramp at Hwys 14 & 311

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	14/3/12		1328					

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	x 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): <u>17</u>

COMMENTS : _____

County:	<u>ROCKINGHAM</u>	 Division of Water Resources Final Report	Sample ID:	AC06096
River Basin:	<u>ROA01</u>		PO Number #	14W13382
Report To:	<u>WSROSP</u>		Date Received:	03/13/2014
Collector:	<u>L SNIDER</u>		Time Received:	07:50
Region:	<u>WSRO</u>		Labworks LoginID	MSWIFT
Sample Matrix:	<u>SURFACEWATER</u>		Final Report Date:	3/21/14
Loc. Type:	<u>RIVER/STREAM</u>		Report Print Date:	03/21/2014
Emergency Yes/No	<u>Yes</u>		VisitID	
COC Yes/No	<u>Yes</u>			
Loc. Descr.: <u>US-BOAT RAMP</u>				

Location ID: 4P079NC0003468ASHDAN	Collect Date: 03/12/2014	Collect Time: 13:28	Sample Depth
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If this report is labeled preliminary report, the results have not been validated. Do not use for Regulatory purposes.

CAS #	Analyte Name	PQL	Result/ Qualifier	Units	Method Reference	Analysis Date	Validated by
LAB							
	Sample temperature at receipt by lab		1.7	°C		3/13/14	MSWIFT
WET							
	Residue_Suspended in liquid	6.2	19	mg/L	SM 2540 D-1997	3/13/14	MOVERMAN
MET							
7429-90-5	Al by ICP	50	1300	ug/L	EPA 200.7	3/17/14	ESTAFFORD1
7440-38-2	As by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/18/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.50 U	ug/L	EPA 200.8	3/18/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/18/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1400	ug/L	EPA 200.7	3/17/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0 U	ug/L	EPA 200.8	3/18/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	10 U	ug/L	EPA 200.7	3/17/14	ESTAFFORD1
Others							
	Total Dissolved Solids in liquid	12	71	mg/L	APHA2540C-18TH	3/16/14	MOVERMAN

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

14W13428
14W13428

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

Lab Number : AC06144
 Date Received : 3-13-14
 Time Received : 7:50
 Received By : [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: US Boat Ramp

3

Seed: _____

Chlorinated: _____


431 Hg 148

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
Coal Ash	14/3/12		1320					From lab

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: ROCKINGHAM	 Division of Water Resources Final Report	Sample ID: AC06144
River Basin: ROA01		PO Number #: 14W13428
Report To: WSROSP		Date Received: 03/13/2014
Collector: L SNIDER		Time Received: 07:50
Region: WSRO		Labworks LoginID: MSWIFT
Sample Matrix: SURFACEWATER		Final Report Date: 3/20/14
Loc. Type: RIVER/STREAM	Report Print Date: 03/21/2014	
Emergency Yes/No: <u>Yes</u>	VisitID	
COC Yes/No: <u>Yes</u>		
Loc. Descr.: US BOAT RAMP		
Location ID: COAL_ASH	Collect Date: 03/12/2014	Collect Time: 13:20
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/Qualifier</u>	<u>Units</u>	<u>Method Reference</u>	<u>Analysis Date</u>	<u>Validated by</u>
MET							
7439-97-6	Hg 1631	1.00	2.86	ng/L	EPA 1631E	3/19/14	ESTAFFORD1