

COC/EMER

DIVISION OF WATER RESOURCES

14W/18101

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke
 REPORT TO : W-S Regional Office

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

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

VISIT ID

Estimated BOD Range:

Seed: _____ Chlorinated: _____

Station Location: DS - Daper Landing
 Remarks: Dan River, down stream of release


Lab Number: AC04606
 Date Received: 2-4-14
 Time Received: 13:30
 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
<u>4P079AC0003468AshDam</u>	<u>2/3/14</u>	<u>2/3/14</u>	<u>8:50pm</u>	<u>9:00pm</u>				<u>G</u>

BOD 310	mg/L	Chloride 940	mg/L	MBAS 38260	mg/L	<input checked="" type="checkbox"/> Li-Lithium 1132	ug/L
COD High 340	mg/L			<input checked="" type="checkbox"/> TKN an N 625	mg/L	<input checked="" type="checkbox"/> Mg- Magnesium 927	mg/L
COD Low 335	mg/L	Chlorophyll a EPA 445.0 modified option	ug/L	<input checked="" type="checkbox"/> NO2 plus NO3 as N 630	mg/L	<input checked="" type="checkbox"/> Mn-Manganese 1055	ug/L
Coliform: MF Fecal 31616	/100ml			<input checked="" type="checkbox"/> P: Total as P 665	mg/L	<input checked="" type="checkbox"/> Na- Sodium 929	mg/L
Coliform: MF Total 31504	/100ml	Color: True 80	c.u.	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	<u>Aw 2/4/14</u> 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	
<input checked="" type="checkbox"/> Residue: Suspended 530	mg/L	Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L		
pH 403	units	MBAS 38260	mg/L	<input checked="" type="checkbox"/> V-Vanadium	ug/L	Base/Neutral&Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	Phenols 32730	ug/L	<input checked="" type="checkbox"/> Ag- Silver 1077	ug/L	TPH Diesel Range	
Acidity to pH 8.3 435	mg/L	<input checked="" type="checkbox"/> Sulfate 945	mg/L	<input checked="" type="checkbox"/> Al- Aluminum 1105	ug/L		
Alkalinity to pH 8.3 415	mg/L	Sulfide 745	mg/L	<input checked="" type="checkbox"/> Be- Beryllium 1012	ug/L	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 4.5 410	mg/L	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		
				<input checked="" type="checkbox"/> Hg-1031 - <u>Aw 2/4/14</u>	ng/L	Temperature on arrival (°C): <u>0.8</u>	

COMMENTS:

Revision: 08/23/13

County:	ROCKINGHAM	 Division of Water Resources	Sample ID:	AC04606
River Basin:	ROA01		PO Number #	14W12101
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>			
Final Report				
Loc. Descr.: DS-DAPER LANDING, DAN RIVER, DOWNSTREAM OF RELEASE				
Location ID: 4P07QNC0003468ASHDAN		Collect Date: 02/03/2014	Collect Time: 20:50	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		0.8	°C		2/4/14	MSWIFT
WET							
	Residue_Suspended in liquid	6.2	855	mg/L	SM 2540 D-1997	2/4/14	CGREEN
	Ion Chromatography		<u> </u> _TITLE_	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	4.6	mg/L	EPA 300.0 rev2.1	2/5/14	CGREEN
NUT							
	Total Kjeldahl N as N in liquid	0.2	0.74	mg/L as N	EPA 351.2 REV 2	2/5/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.40	mg/L as N	EPA 353.2 REV 2	2/5/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.26	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	16000	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	40	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7429-90-5	B by ICP	50	210	ug/L	EPA 200.7	2/7/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	530	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	12	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-43-9	Cd by ICPMS	0.50	0.69	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	15	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7440-50-8	Cu by ICPMS	2.0	46	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	7800	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	4.7	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	4.6	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	120	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: **AC04606** Collect Date: **02/03/2014** Collect Time: **20:50**

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>
7440-23-5	Na by ICP	0.10	6.4	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	21	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	23	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	260	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	2/6/14	ESTAFFORD1
7440-32-6	Ti (Titanium) by ICP	10	980	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-62-2	V by ICP	25	67	ug/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	44	ug/L	EPA 200.7	2/6/14	ESTAFFORD1

Sample Comments

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

EMER / COC

19W12159

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
02

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY 1

Lab Number: AC04664
 Date Received: 2-5-04
 Time Received: 0800
 Received By: NR
 Data Released:
 Date Reported:

Estimated BOD Range:

Seed: _____ Chlorinated: _____


Station Location: DRAPER LANDING

Remarks: Downstream of release - Dan River

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
<u>4 P079NCO003468 ASH</u> <u>DMN</u>	<u>14/02/04</u>	<u>14/02/04</u>	<u>11:40</u>					

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.	K-Potassium	mg/L	<input checked="" type="checkbox"/>	Hg- Mercury 71900	ug/L
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	Fluoride 951	mg/L	Cr-Chromium: Total 1034	ug/L	<input checked="" type="checkbox"/>	Organochlorine Pesticides	
Fixed 510	mg/L	Formaldehyde 71880	mg/L	Cu- Copper 1042	ug/L	<input checked="" type="checkbox"/>	Organophosphorus Pesticides	
<input checked="" type="checkbox"/> Residue: Suspended 530	mg/L	Grease and Oils 556	mg/L	Ni-Nickel 1067	ug/L	<input checked="" type="checkbox"/>	Organonitrogen Pesticides	
Volatile 535	mg/L	Hardness Total 900	mg/L	Pb- Lead 1051	ug/L	<input checked="" type="checkbox"/>	Acid Herbicides	
Fixed 540	mg/L	Specific Cond. 95	umhos/cm	Zn- Zinc 1092	ug/L	<input checked="" type="checkbox"/>		
pH 403	units	MBAS 38260	mg/L	V-Vanadium	ug/L	<input checked="" type="checkbox"/>	Base/Neutral&Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	Phenols 32730	ug/L	Ag- Silver 1077	ug/L	<input checked="" type="checkbox"/>	TPH Diesel Range	
Acidity to pH 8.3 435	mg/L	<input checked="" type="checkbox"/> Sulfate 945	mg/L	Al- Aluminum 1105	ug/L	<input checked="" type="checkbox"/>		
Alkalinity to pH 8.3 415	mg/L	Sulfide 745	mg/L	Be- Beryllium 1012	ug/L	<input checked="" type="checkbox"/>	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 4.5 410	mg/L	Boron		Ca- Calcium 916	mg/L	<input checked="" type="checkbox"/>	TPH Gasoline Range	
TOC 680	mg/L	Tannin & Lignin	ug/L	Co- Cobalt 1037	ug/L	<input checked="" type="checkbox"/>	TPH/BTEX Gasoline Range	
Turbidity 76	NTU	Hexavalent Chromium	ug/L	Fe- Iron 1045	ug/L	<input checked="" type="checkbox"/>	Phytoplankton	
Coliform Total Tube	/100 ml	Bicarbonate	mg/L	Mo-Molybdenum	ug/L	<input checked="" type="checkbox"/>		
		Carbonate	mg/L	Sb-Antimony	ug/L	<input checked="" type="checkbox"/>		
		Total Dissolved Solids	mg/L	Sn-Tin	ug/L	<input checked="" type="checkbox"/>		
				Tl-Thallium	ug/L	<input checked="" type="checkbox"/>		
				Ti-Titanium	ug/L	<input checked="" type="checkbox"/>		
				Hg-1631	ng/L	<input checked="" type="checkbox"/>	Temperature on arrival (°C):	<u>0.5</u>

COMMENTS:

County:	ROCKINGHAM	 Final Report	Sample ID:	AC04664
River Basin:	ROA01		PO Number #	14W12159
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.: DRAPER LANDING DOWNSTREAM OF RELEASE DAN RIVER				

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/04/2014	Collect Time:	11:40	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		0.5	°C		2/5/14	MSWIFT
WET							
	Residue_Suspended in liquid	6.2	164	mg/L	SM 2540 D-1997	2/5/14	CGREEN
	Ion Chromatography		<u> _TITLE </u>	mg/L	EPA 300.0 rev2.1	2/5/14	CGREEN
	Chloride	1.0	13	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	4.1	mg/L	EPA 300.0 rev2.1	2/5/14	CGREEN
NUT							
	Total Kjeldahl N as N in liquid	0.2	0.31	mg/L as N	EPA 351.2 REV 2	2/6/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.39	mg/L as N	EPA 353.2 REV 2	2/5/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.10	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	3000	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	6.3	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7429-90-5	B by ICP	50	140	ug/L	EPA 200.7	2/7/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	100	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	7.8	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	13	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	2400	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	1.9	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	2.9	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	48	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: **AC04664** Collect Date: **02/04/2014** Collect Time: **11:40**

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>
7440-23-5	Na by ICP	0.10	5.5	mg/L	EPA 200.7	2/6/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	7.5	ug/L	EPA 200.8	2/6/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	4.5	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	84	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	200	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	19	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

COCYEMER

DIVISION OF WATER QUALITY
Chemistry Laboratory Report / Water Quality

14W 12166

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

Other :
COLLECTOR(S) : Lo Snider/Berni/Wang

Estimated BOD Range:

Seed: _____

Chlorinated: _____

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID
03

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC04673
Date Received : 2-3-2014
Time Received : 1:55
Received By : NR
Data Released :
Date Reported :


Station Location: DS - Dropper Landing

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>4P079NC0034-68 Ash Dam</u>	<u>02/05/14</u>	<u>02/05/14</u>	<u>12:30</u>	<u>12:40</u>				<u>G7</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"/> Al- Aluminum 1105	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"/> Be- Beryllium 1012	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"/> Ca- Calcium 916	mg/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 type="checkbox"/> Co- Cobalt 1037	ug/L	<input type="checkbox"/> Phytoplankton	
<input type="checkbox"/> TOC 680	mg/L	<input type="checkbox"/> Bicarbonate	mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L		
<input checked="" type="checkbox"/> Turbidity 76	NTU	<input type="checkbox"/> Carbonate	mg/L	<input type="checkbox"/> Mo-Molybdenum	ug/L		
<input type="checkbox"/> Coliform Total Tube	/100 ml	<input type="checkbox"/> Total Dissolved Solids	mg/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:	AC04673
River Basin:	ROANOKE		PO Number #	14W12166
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	<u>Yes</u>	VisitID	<input type="text" value="03"/>	
COC Yes/No	<u>Yes</u>	Final Report		
Loc. Descr.: DRAPER LANDING DOWNSTREAM OF RELEASE DAN RIVER				
Location ID: 4P079NC0003468ASHDAN		Collect Date: 02/05/2014	Collect Time: 12:40	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		1.2	°C		2/5/14	MSWIFT
MIC							
	Turbidity	1.0	35	NTU	APHA2130B-20th	2/6/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	111	mg/L	SM 2540 B-1997	2/7/14	CGREEN
	Residue_Suspended in liquid	6.2	35	mg/L	SM 2540 D-1997	2/6/14	CGREEN
	Ion Chromatography		<u>TITLE</u>	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
	Chloride	1.0	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	5.1	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02	mg/L as N	EPA 350.1 REV 2	2/6/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	0.28	mg/L as N	EPA 351.2 REV 2	2/6/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.33	mg/L as N	EPA 353.2 REV 2	2/6/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.06	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	1800 U	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	110	ug/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	50	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	7.9	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	2.6	ug/L	EPA 200.8	2/7/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	2100	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	2.0	mg/L	EPA 200.7	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: AC04673

Collect Date: 02/05/2014

Collect Time: 12:40

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>
7439-93-2	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	43	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	6.0	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
7440-36-0	Sb Dissolved by ICPMS	10	PG	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	2/7/14	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	47	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	85 J2	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	14	ug/L	EPA 200.7	2/8/14	ESTAFFORD1

County:	ROCKINGHAM	Sample ID:	AC04674
River Basin:	ROANOKE	PO Number #:	14W12167
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:	<u>Yes</u>	VisitID: <input type="text" value="03"/>	
COC Yes/No:	<u>Yes</u>		
Final Report			
Loc. Descr.: DRAPER LANDING DOWNSTREAM OF RELEASE DAN RIVER			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/05/2014
		Collect Time:	12:40
		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		1.2	°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	50 U	ug/L	EPA 200.7	2/8/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.7	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	5.7	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	110	ug/L	EPA 200.7	2/10/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	23	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	42	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>>

EMERFOC

DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

14W/2225

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

Other :
COLLECTOR(S) : Snider / Iverson

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID 24

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : ACD4734
Date Received : 2/6/14
Time Received : 15:39
Received By : mp
Data Released :
Date Reported :

Estimated BOD Range:

Seed: _____ Chlorinated: _____

Station Location: DS - Draper Landing 1 Sample
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>4P079NCO003468AshDam</u>	<u>02/06/14</u>	<u>02/06/14</u>	<u>12:40</u>					<u>G7</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 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 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 checked="" type="checkbox"/> Residue: Total 500 mg/L	<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 type="checkbox"/> Volatile 505 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"/> Fixed 510 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 checked="" type="checkbox"/> Residue: Suspended 530 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 type="checkbox"/> Volatile 535 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"/> Fixed 540 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"/> pH 403 units	<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"/> Acidity to pH 4.5 436 mg/L	<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 8.3 435 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"/> Alkalinity to pH 8.3 415 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 4.5 410 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"/> TOC 680 mg/L	<input type="checkbox"/> Hexavalent Chromium ug/L	<input checked="" type="checkbox"/> Ca- Calcium 916 mg/L	<input type="checkbox"/> Phytoplankton
<input checked="" type="checkbox"/> Turbidity 76 NTU	<input type="checkbox"/> Bicarbonate mg/L	<input type="checkbox"/> Co- Cobalt 1037 ug/L	
<input type="checkbox"/> Coliform Total Tube /100 ml	<input type="checkbox"/> Carbonate mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045 ug/L	
	<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>7.3</u>

COMMENTS: _____

County:	ROCKINGHAM	Sample ID:	AC04734
River Basin:	ROA01	PO Number #:	14W12225
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>		

DWR
Division of Water Resources

Final Report

VisitID

Loc. Descr.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/06/2014	Collect Time: 12:40	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		2.3	°C		2/6/14	MSWIFT
MIC							
	Turbidity	1.0	36	NTU	APHA2130B-20th	2/7/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	102	mg/L	SM 2540 B-1997	2/7/14	CGREEN
	Residue_Suspended in liquid	6.2	27	mg/L	SM 2540 D-1997	2/7/14	CGREEN
	Ion Chromatography		_TITLE_	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
	Chloride	1.0	12	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	3.8	mg/L	EPA 300.0 rev2.1	2/6/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02	mg/L as N	EPA 350.1 REV 2	2/7/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	0.29	mg/L as N	EPA 351.2 REV 2	2/7/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.34	mg/L as N	EPA 353.2 REV 2	2/7/14	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	2/10/14	ESTAFFORD1
7429-90-5	Al by ICP	50	1400	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	130	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	37	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	7.4	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	2.1	ug/L	EPA 200.8	2/10/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	1600	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/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: **AC04734**

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

Collect Time: **12:40**

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>
7440-09-7	K by ICP	0.10	1.8	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	31	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	5.2	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	74	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	13	ug/L	EPA 200.7	2/11/14	ESTAFFORD1

EMER/COC

DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

14W12227

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number AC04736
 Date Received : 2-6-14
 Time Received : 10:39
 Received By : MP
 Data Released :
 Date Reported :

Sample

Estimated BOD Range:

Station Location: Draper Landing

Seed: _____

Chlorinated: _____

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>4 P079 NC000 3468 Jm</u>	<u>02/6/14</u>	<u>02/6/14</u>	<u>12:40</u>					

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

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

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

Li-Lithium 1132	ug/L
<input checked="" type="checkbox"/> Mg- Magnesium 927	mg/L
<input checked="" type="checkbox"/> Mn-Manganese 1055	ug/L
<input checked="" type="checkbox"/> Na- Sodium 929	mg/L
<input checked="" type="checkbox"/> Arsenic:Total 1002	ug/L
<input checked="" type="checkbox"/> Se- Selenium 1147	ug/L
<input checked="" type="checkbox"/> Hg- Mercury 71900	ug/L
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>2.3</u>

COMMENTS:

County:	ROCKINGHAM	Sample ID:	AC04736
River Basin:	ROA01	PO Number #	14W12227
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>		

Division of Water Resources

Final Report

Loc. Descr.: **DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/06/2014	Collect Time: 12:40	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		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	50 U	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.6	mg/L	EPA 200.7	2/10/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.7	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	5.1	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	130	ug/L	EPA 200.7	2/11/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	22	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	43	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: AC04736

Collect Date: 02/06/2014

Collect Time: 12:40

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	2/11/14	ESTAFFORD1

76011928

1442229

DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

COUNTY : ROCKINGHAM
RIVER BASIN : ROANOKE
REPORT TO : WSPO Regional Office
Other :
COLLECTOR(S) : J. J. PERSUN / L. SMIDER

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY
VISIT ID
4

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY
1

Lab Number AC04738
Date Received : 2-6-14
Time Received : 16:00
Received By : ML
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: DS DRAPERS LANDING

Seed: _____ Chlorinated: _____

Remarks: 3B10 Hg 132

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
<u>DS-DRAPERS LANDING 173</u>			<u>1230</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	e.u.	PO4 as P 70507	mg/L	Arsenic:Total 1002	ug/L
Coliform: tube Fecal 31615	/100ml	Color: (pH) 83 pH+	e.u.	P: Dissolved as P 666	mg/L	Se- Selenium 1147	ug/L
Coliform: Fecal Strep 31673	/100ml	Color: pH 7.6 82	e.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 : DUKE ASH RELEASE

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



Division of Water Resources

Final Report

VisitID

Sample ID: **AC04738**
 PO Number #: **14W12229**
 Date Received: **02/06/2014**
 Time Received: **16:00**
 Labworks LoginID: **MSWIFT**
 Final Report Date: **2/11/14**
 Report Print Date: **02/11/2014**

Loc. Descr.: **DS DRAPERS LANDING HG**

Location ID: DS_DRAPERS_LANDING_HG	Collect Date: 02/06/2014	Collect Time: 12:30	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	6.17	ng/L	EPA 1631E	2/10/14	ESTAFFORD1

EMER/COC

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

74W12282

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
5

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

1

Lab Number : AC04808
 Date Received : 2-7-10
 Time Received : 14:19
 Received By : mg
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: _____ Chlorinated: _____

Remarks: _____

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
4P079NC0003468 <u>ASH Dam</u>	<u>14/02/07</u>		<u>10:40</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 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 checked="" type="checkbox"/> PO4 as P 70507	mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002	ug/L
<input type="checkbox"/> Coliform: tubé 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
<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 checked="" 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 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>1.0</u>

COMMENTS : _____

County:	ROCKINGHAM	Sample ID:	AC04808
River Basin:	ROA01	PO Number #:	14W12282
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.: DS - DRAPER LANDING			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/07/2014
		Collect Time:	10:40
		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		1.0	°C		2/7/14	MSWIFT
MIC							
	Turbidity	1.0	19	NTU	APHA2130B-20th	2/7/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	87	mg/L	SM 2540 B-1997	2/10/14	CGREEN
	Residue_Suspended in liquid	6.2	18	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	4.4	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02	mg/L as N	EPA 350.1 REV 2	2/10/14	CGREEN
	Total Kjeldahl N as N in liquid	0.2	0.22	mg/L as N	EPA 351.2 REV 2	2/11/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.34	mg/L as N	EPA 353.2 REV 2	2/10/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.04	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	710	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	140	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	29	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	7.8	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	1100	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: **AC04808** Collect Date: **02/07/2014** Collect Time: **10:40**

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>
7440-09-7	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	27	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	4.7	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	47	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	33	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/COC

14W12283

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
COLLECTOR(S) : SALVO/CRK

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID
5

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

1

Lab Number AC04809
Date Received: 2-7-14
Time Received: 14:19
Received By: MP
Data Released:
Date Reported:

Estimated BOD Range:

Station Location: DS - Draper landing (Downstream at Hwy 700)

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>14/02/07</u>		<u>10:40</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:	AC04809
River Basin:	ROA01	PO Number #:	14W12283
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>	Loc. Descr.:	DS - DRAPER LANDING



Final Report

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/07/2014	Collect Time:	10:40	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		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	7.6	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	200	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-09-7	K-Dissolved Potassium by ICP	0.10	1.5	mg/L	EPA 200.7	2/12/14	ESTAFFORD1
7439-95-4	Mg- Dissolved Magnesium by ICP	0.10	2.7	mg/L	EPA 200.7	2/12/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	16	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.8	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	150	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7429-90-5	B by ICP	50	130	ug/L	EPA 200.7	2/14/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	22	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	47	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: AC04809 Collect Date: 02/07/2014 Collect Time: 10:40

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	2/14/14	ESTAFFORD1

EMER/COC

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID: 5

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

14612290
~~14612291~~
 WWR
 2-7-14

Lab Number : AC04816
 Date Received : 2-7-14
 Time Received : 14:39
 Received By : WHL
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper landing (Downstream at Hwy 700)


Seed: _____ Chlorinated: _____

Remarks: 431 Hg 60

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	<u>14/02/07</u>		<u>10:30</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		

COMMENTS :

County: ROCKINGHAM	 <p>Final Report</p>	Sample ID: AC04816	
River Basin: ROA01		PO Number #: 14W12290	
Report To: WSROSP		Date Received: 02/07/2014	
Collector: J CARTER		Time Received: 14:30	
Region: WSRO	Labworks LoginID: MSWIFT	Final Report Date: 2/20/14	
Sample Matrix: SURFACEWATER	Report Print Date: 02/20/2014		
Loc. Type: STREAM			
Emergency Yes/No: <u>Yes</u>	VisitID: <input type="text" value="5"/>		
COC Yes/No: <u>Yes</u>			
Loc. Descr.: DS - DRAPER LANDING			
Location ID: 4P079NC0003468ASHDAN		Collect Date: 02/07/2014	Collect Time: 10:30
		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	5.66	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

EMER/LOC

14W12308

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 1

Lab Number : AC04834
 Date Received : 2-8-14
 Time Received : 13:15
 Received By : mpb
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: _____ Chlorinated: _____

Remarks: _____

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
4P079NC0003468 <u>AshDan</u>	<u>14/02/08</u>		<u>0945</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 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 checked="" type="checkbox"/> PO4 as P 70507	mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002	ug/L
<input type="checkbox"/> Coliform: tube Fecal 31615	/100ml	<input 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 type="checkbox"/> Coliform: Fecal Strep 31673	/100ml	<input 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"/> Al- Aluminum 1105	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"/> Be- Beryllium 1012	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"/> Ca- Calcium 916	mg/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"/> Co- Cobalt 1037	ug/L	<input type="checkbox"/> Phytoplankton	
<input type="checkbox"/> TOC 680	mg/L	<input type="checkbox"/> Bicarbonate	mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L		
<input checked="" type="checkbox"/> Turbidity 76	NTU	<input type="checkbox"/> Carbonate	mg/L	<input type="checkbox"/> Mo-Molybdenum	ug/L		
<input type="checkbox"/> Coliform Total Tube	/100 ml	<input type="checkbox"/> Total Dissolved Solids	mg/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>16</u>

COMMENTS : _____

County:	ROCKINGHAM	Sample ID:	AC04834
River Basin:	ROA01	PO Number #:	14W12308
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.: DS-DRAPER LANDING	

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/08/2014	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.

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	8.7	NTU	APHA2130B-20th	2/10/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	77	mg/L	SM 2540 B-1997	2/10/14	CGREEN
	Residue_Suspended in liquid	6.2	16	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	9.3	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	5.1	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
NUT							
	NH3 as N in liquid	0.02	0.02	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	0.31	mg/L as N	EPA 353.2 REV 2	2/10/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.03	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	490	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	150	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	28	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	8.1	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	2/11/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC04834** Collect Date: **02/08/2014** Collect Time: **09:45**

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>
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	3.0	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	4.9	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	45	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	47	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

EMER/KOC

14W12309

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
 COLLECTOR(S) : Snyder/Milobey

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID
6

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY 1

Lab Number ACD4835
 Date Received: 2-8-14
 Time Received: 10:15
 Received By: mf
 Date Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper landing (Downstream at Hwy 700)

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>14/02/08</u>		<u>0945</u>					G

BOD 310	mg/L	Chloride 940	mg/L	NH3 as N 610	mg/L	Li-Lithium 1132	ug/L
COD High 340	mg/L			TKN an N 625	mg/L	<input checked="" type="checkbox"/> Mg- Magnesium 927	mg/L
COD Low 335	mg/L	Chlorophyll a EPA 445.0 modified option	ug/L	NO2 plus NO3 as N 630	mg/L	<input checked="" type="checkbox"/> Mn-Manganese 1055	ug/L
Coliform: MF Fecal 31616	/100ml			P: Total as P 665	mg/L	<input checked="" type="checkbox"/> Na- Sodium 929	mg/L
Coliform: MF Total 31504	/100ml	Color: True 80	c.u.	PO4 as P 70507	mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002	ug/L
Coliform: tube Fecal 31615	/100ml	Color: (pH) 83 pH=	c.u.	P: Dissolved as P 666	mg/L	<input checked="" type="checkbox"/> Se- Selenium 1147	ug/L
Coliform: Fecal Strep 31673	/100ml	Color: pH 7.6 82	c.u.	<input checked="" type="checkbox"/> K-Potassium	mg/L	<input checked="" type="checkbox"/> Hg- Mercury 71900	ug/L
Residue: Total 500	mg/L	Cyanide 720	mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	Ba-Barium	ug/L
Volatile 505	mg/L	Fluoride 951	mg/L	<input checked="" type="checkbox"/> Cr-Chromium: Total 1034	ug/L	Organochlorine Pesticides	
Fixed 510	mg/L	Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L	Organophosphorus Pesticides	
Residue: Suspended 530	mg/L	Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L		
pH 403	units	MBAS 38260	mg/L	V-Vanadium	ug/L	Base/Neutral&Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	Phenols 32730	ug/L	Ag- Silver 1077	ug/L	TPH Diesel Range	
Acidity to pH 8.3 435	mg/L	Sulfate 945	mg/L	<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	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): 16

COMMENTS :

County:	ROCKINGHAM	Sample ID:	AC04835
River Basin:	ROA01	PO Number #:	14W12309
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. Desc.: **DS-DRAPER LANDING**

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/08/2014	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.

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	7.6	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	83	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	2.7	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	15	ug/L	EPA 200.7	2/18/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.7	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	130	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: AC04835 Collect Date: 02/08/2014 Collect Time: 09:45

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

14612319

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY
 VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC04845
 Date Received : 2-8-14
 Time Received : 1400
 Received By : [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: _____ Chlorinated: _____

Remarks: 431Hg68

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
4P079NC0003468AshDam	14/02/08		0940					G


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

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

NH3 as N 610	mg/L
TKN an N 625	mg/L
NO2 plus NO3 as N 630	mg/L
P: Total as P 665	mg/L
PO4 as P 70507	mg/L
P: Dissolved as P 666	mg/L
K-Potassium	mg/L
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: 7 Col 1/97

County: ROCKINGHAM	 <p>Final Report</p>	Sample ID: AC04845	
River Basin: ROA01		PO Number #: 14W12319	
Report To: WSROSP		Date Received: 02/08/2014	
Collector: M MICKEY		Time Received: 14:00	
Region: WSRO	Labworks LoginID: MSWIFT	Final Report Date: 2/20/14	
Sample Matrix: SURFACEWATER	Report Print Date: 02/20/2014		
Loc. Type: STREAM	VisitID: <input type="text" value="6"/>		
Emergency Yes/No: <u>Yes</u>			
COC Yes/No: <u>Yes</u>			
Loc. Descr.: DS-DRAPER LANDING			
Location ID: 4P079NC0003468ASHDAN		Collect Date: 02/08/2014	Collect Time: 09:40
		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	2.66	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

EMC 6 / coc

14w12325

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

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

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

1

Lab Number : AC04851
 Date Received : 2-9-2014
 Time Received : 1433
 Received By : TA
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

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>Ashdam</u>	<u>14/2/9</u>		<u>1025</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 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 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 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 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 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>0.8</u>

COMMENTS: _____

County:	ROCKINGHAM	Sample ID:	AC04851
River Basin:	ROA1	PO Number #:	14W12325
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:			
COC Yes/No:	Yes		



Final Report

VisitID

Loc. Desc.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/09/2014	Collect Time: 10:25	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
MIC							
	Turbidity	1.0	7.3	NTU	APHA2130B-20th	2/10/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	75	mg/L	SM 2540 B-1997	2/12/14	CGREEN
	Residue_Suspended in liquid	6.2	11	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	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	5.4	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	0.30	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	400	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	160	ug/L	EPA 200.7	2/19/14	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	8.2	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 DW/R Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC04851** Collect Date: **02/09/2014** Collect Time: **10:25**

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	3.0	mg/L	EPA 200.7	2/17/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	26	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	4.7	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	32	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

Emerg loc

14w 12326

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

Other :
COLLECTOR(S) : J. P. PERSON / SKRIGHT

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID
7

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

1

Lab Number : AC04852
Date Received : 2-9-2014
Time Received : 1433
Received By : MS
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: DS - Draper landing (Downstream at Hwy 700)


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 Ashdam	14/2/9		1025					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	Ba- Barium	ug/L
Volatile 505	mg/L	Fluoride 951	mg/L	<input checked="" type="checkbox"/> Cr- Chromium: Total 1034	ug/L	Organochlorine Pesticides	
Fixed 510	mg/L	Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L	Organophosphorus Pesticides	
Residue: Suspended 530	mg/L	Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Ni- Nickel 1067	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L		
pH 403	units	MBAS 38260	mg/L	V- Vanadium	ug/L	Base/Neutral & Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	Phenols 32730	ug/L	Ag- Silver 1077	ug/L	TPH Diesel Range	
Acidity to pH 8.3 435	mg/L	Sulfate 945	mg/L	Al- Aluminum 1105	ug/L		
Alkalinity to pH 8.3 415	mg/L	Sulfide 745	mg/L	Be- Beryllium 1012	ug/L	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 4.5 410	mg/L	Boron		<input checked="" type="checkbox"/> Ca- Calcium 916	mg/L	TPH Gasoline Range	
TOC 680	mg/L	Tannin & Lignin	ug/L	Co- Cobalt 1037	ug/L	TPH/BTEX Gasoline Range	
Turbidity 76	NTU	Hexavalent Chromium	ug/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L	Phytoplankton	
Coliform Total Tube	/100 ml	Bicarbonate	mg/L	Mo- Molybdenum	ug/L		
		Carbonate	mg/L	Sb- Antimony	ug/L		
		Total Dissolved Solids	mg/L	Sn- Tin	ug/L		
				Tl- Thallium	ug/L		
				Ti- Titanium	ug/L		
				Hg-1631	ng/L	Temperature on arrival (°C):	0.8

COMMENTS :

County:	ROCKINGHAM	 Division of Water Resources	Sample ID:	AC04852
River Basin:	ROA1		PO Number #	14W12326
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	Final Report		
Loc. Desc.: DS-DRAPER LANDING				
Location ID: 4P079NC0003468ASHDAN		Collect Date: 02/09/2014	Collect Time: 10:25	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		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	2/19/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	7.9	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	85	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	17	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.5	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	2/19/14	ESTAFFORD1
7429-90-5	B by ICP	50	140	ug/L	EPA 200.7	2/17/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	22	ug/L	EPA 200.7	2/19/14	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
	Stronium Dissolved by ICPMS	10	48	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: AC04852 Collect Date: 02/09/2014 Collect Time: 10:25

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

Envlab/CoC

HW 12328
21019

1422339

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID

7

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

1

Lab Number : AC04865
Date Received : 2-9-2014
Time Received : 1431
Received By : MS
Data Released :
Date Reported :

Estimated BOD Range:

Seed: _____ Chlorinated: _____

Station Location: DS - Draper Landing (Downstream at Hwy 700)


Remarks: 4311g 52 Hy Sample

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
4P079NC0003468AshDan	14/2/9		1020					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- Aluminium 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):	<u>28</u>

COMMENTS :

56091g 52

County: ROCKINGHAM	 <p>Final Report</p>	Sample ID: AC04865		
River Basin: ROA1		PO Number #: 14W12339		
Report To: WSROSP		Date Received: 02/09/2014		
Collector: J IVERSON		Time Received: 14:33		
Region: WSRO		Labworks LoginID: TASCENZO		
Sample Matrix: BLANKWATER		Final Report Date: 2/20/14		
Loc. Type: FIELDBLANK	Report Print Date: 02/20/2014			
Emergency Yes/No: <u>YES</u>	VisitID: <input type="text" value="7"/>			
COC Yes/No: <u>Yes</u>				
Loc. Descr.: DS-DRAPER LANDING				
Location ID: 4P079NC0003468ASHDAN		Collect Date: 02/09/2014	Collect Time: 10:20	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	1.48	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

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



Sample ID: **AC04865**
 PO Number #: **14W12339**
 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.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/09/2014	Collect Time: 10:20	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	1.48	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

Cic/End

14w/2351

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY
 VISIT ID
 08

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY
 1

Lab Number A204877
 Date Received : 2-10-14
 Time Received : 1:25
 Received By : MS
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

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>2/10/14</u>	<u>2/10/14</u>	<u>1:30</u>	<u>1:55</u>				G

BOD 310	mg/L	<input checked="" type="checkbox"/> Chloride 940	mg/L	<input checked="" type="checkbox"/> NH3 as N 610	mg/L	Li-Lithium 1132	ug/L
COD High 340	mg/L			<input checked="" type="checkbox"/> TKN an N 625	mg/L	<input checked="" type="checkbox"/> Mg- Magnesium 927	mg/L
COD Low 335	mg/L	Chlorophyll a EPA 445.0 modified option	ug/L	<input checked="" type="checkbox"/> NO2 plus NO3 as N 630	mg/L	<input checked="" type="checkbox"/> Mn-Manganese 1055	ug/L
Coliform: MF Fecal 31616	/100ml	Color: True 80	c.u.	<input checked="" type="checkbox"/> P: Total as P 665	mg/L	<input checked="" type="checkbox"/> Na- Sodium 929	mg/L
Coliform: MF Total 31504	/100ml	Color: (pH) 83 pH=	c.u.	<input checked="" type="checkbox"/> PO4 as P 70507	mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002	ug/L
Coliform: tube Fecal 31615	/100ml	Color: pH 7.6 82	c.u.	<input checked="" type="checkbox"/> P: Dissolved as P 666	mg/L	<input checked="" type="checkbox"/> Se- Selenium 1147	ug/L
Coliform: Fecal Strep 31673	/100ml	Cyanide 720	mg/L	<input checked="" type="checkbox"/> K-Potassium	mg/L	Hg- Mercury 71900	ug/L
Residue: Total 500	mg/L	<input checked="" type="checkbox"/> Fluoride 951	mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	Ba-Barium	ug/L
Volatile 505	mg/L	Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cr-Chromium: Total 1034	ug/L	Organochlorine Pesticides	
Fixed 510	mg/L	Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L	Organophosphorus Pesticides	
<input checked="" type="checkbox"/> Residue: Suspended 530	mg/L	Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	MBAS 38260	mg/L	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L	Base/Neutral & Acid Extractable Organics	
pH 403	units	Phenols 32730	ug/L	<input checked="" type="checkbox"/> V-Vanadium	ug/L	TPH Diesel Range	
Acidity to pH 4.5 436	mg/L	<input checked="" type="checkbox"/> Sulfate 945	mg/L	<input checked="" type="checkbox"/> Ag- Silver 1077	ug/L		
Acidity to pH 8.3 435	mg/L	Sulfide 745	mg/L	<input checked="" type="checkbox"/> Al- Aluminum 1105	ug/L	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 8.3 415	mg/L	Boron		<input checked="" type="checkbox"/> Be- Beryllium 1012	ug/L	TPH Gasoline Range	
Alkalinity to pH 4.5 410	mg/L	Tannin & Lignin	ug/L	<input checked="" type="checkbox"/> Ca- Calcium 916	mg/L	TPH/BTEX Gasoline Range	
TOC 680	mg/L	Hexavalent Chromium	ug/L	<input checked="" type="checkbox"/> Co- Cobalt 1037	ug/L	Phytoplankton	
<input checked="" type="checkbox"/> Turbidity 76	NTU	Bicarbonate	mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L		
Coliform Total Tube	/100 ml	Carbonate	mg/L	<input checked="" type="checkbox"/> Mo- Molybdenum	ug/L		
		<input checked="" type="checkbox"/> 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		
						Temperature on arrival (°C):	<u>0.6</u>

COMMENTS: _____

County:	ROCKINGHAM	Sample ID:	AC04877
River Basin:	ROA1	PO Number #:	14W12351
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. Desc.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/10/2014	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.

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	12 U,P	mg/L	SM 2540 D-1997	2/12/14	CGREEN
	Ion Chromatography		<u> _TITLE </u>	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Chloride	1.0	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	5.6	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Total Dissolved Solids in liquid	12	62	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	0.20	mg/L as N	EPA 351.2 REV 2	2/11/14	CGREEN
	NO2+NO3 as N in liquid	0.02	0.30	mg/L as N	EPA 353.2 REV 2	2/11/14	CGREEN
	Phosphorus_total as P in liquid	0.02	0.02	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	370	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	150	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	8.1	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	790	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: **AC04877** Collect Date: **02/10/2014** Collect Time: **11:30**

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	1.6	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	28	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	4.7	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	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	2/17/14	ESTAFFORD1

Sample Comments

REANALYZED: ELEVATED PQL DUE TO SAMPLE VOLUME LEFT

GC/ENV

14w12352

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Rockingham
RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

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

PRIORITY
[] AMBIENT [] QA
[] COMPLIANCE [X] CHAIN OF CUSTODY
[X] EMERGENCY VISIT ID: 18

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

Lab Number : ACO4878
Date Received : 2-16-17
Time Received : 1:15 PM
Received By : [Signature]
Date Released :
Date Reported :

Estimated BOD Range:

Station Location: DS - Draper landing (Downstream at Hwy 700)

1

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. Row 1: 4P079NC0003468 Ash Dan, 2/10/17, 2/10/17, 11:30, 11:55, 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. Column 1: BOD 310, COD High 340, COD Low 335, Coliform: MF Fecal 31616, Coliform: MF Total 31504, Coliform: tube Fecal 31615, Coliform: Fecal Strep 31673, Residue: Total 500, Volatile 505, Fixed 510, Residue: Suspended 530, Volatile 535, Fixed 540, pH 403, Acidity to pH 4.5 436, Acidity to pH 8.3 435, Alkalinity to pH 8.3 415, Alkalinity to pH 4.5 410, TOC 680, Turbidity 76, Coliform Total Tube. Column 2: Chloride 940, Chlorophyll a EPA 445.0 modified option, Color: True 80, Color: (pH) 83 pH=, Color: pH 7.6 82, Cyanide 720, Fluoride 951, Formaldehyde 71880, Grease and Oils 556, Hardness Total 900, Specific Cond. 95, MBAS 38260, Phenols 32730, Sulfate 945, Sulfide 745, Boron, Tannin & Lignin, Hexavalent Chromium, Bicarbonate, Carbonate, Total Dissolved Solids. Column 3: NH3 as N 610, TKN an N 625, NO2 plus NO3 as N 630, P: Total as P 665, PO4 as P 70507, P: Dissolved as P 666, K-Potassium, Cd- Cadmium 1027, Cr-Chromium: Total 1034, Cu- Copper 1042, Ni-Nickel 1067, Pb- Lead 1051, Zn- Zinc 1092, V-Vanadium, Ag- Silver 1077, Al- Aluminum 1105, Be- Beryllium 1012, Ca- Calcium 916, Co- Cobalt 1037, Fe- Iron 1045, Mo-Molybdenum, Sb-Antimony, Sn-Tin, Tl-Thallium, Ti-Titanium, Hg-1631. Column 4: Li-Lithium 1132, Mg- Magnesium 927, Mn-Manganese 1055, Na- Sodium 929, Arsenic: Total 1002, Se- Selenium 1147, Hg- Mercury 71900, Ba-Barium, Organochlorine Pesticides, Organophosphorus Pesticides, Organonitrogen Pesticides, Acid Herbicides, Base/Neutral & Acid Extractable Organics, TPH Diesel Range, Purgeable Organics (VOA bottle req'd), TPH Gasoline Range, TPH/BTEX Gasoline Range, Phytoplankton, Temperature on arrival (C): 0.6

COMMENTS :

County:	ROCKINGHAM	Sample ID:	AC04878
River Basin:	ROA1	PO Number #:	14W12352
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:	2/26/14
Loc. Type:	STREAM	Report Print Date:	02/26/2014
Emergency Yes/No:	Yes	VisitID:	8
COC Yes/No:	Yes		
Final Report			
Loc. Descr.: DS-DRAPER LANDING			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/10/2014
		Collect Time:	11:30
		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		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	2/19/14	ESTAFFORD1
7440-70-2	Ca-Dissolved Calcium by ICP	0.10	8.1	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	2/17/14	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	72	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	2.9	mg/L	EPA 200.7	2/19/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	18	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.8	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	2/17/14	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	2/19/14	ESTAFFORD1
7429-90-5	B by ICP	50	150	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	2/19/14	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	2/19/14	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	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	2/19/14	ESTAFFORD1

NC DWR Laboratory Section Results

Location ID: 4P079NC0003468ASHDAN Sample ID: AC04878 Collect Date: 02/10/2014 Collect Time: 11:30

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	2/19/14	ESTAFFORD1

CCL/Smack

19K12395

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID
 08

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

1

Lab Number : AC04924
 Date Received : 2-11-14
 Time Received : 5:30 PM
 Received By : NR
 Data Released :
 Date Reported :

Estimated BOD Range:

Seed: _____ Chlorinated: _____

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Remarks: (4B) Hg 64 > 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	<u>2/10/14</u>	<u>2/10/14</u>	<u>11:30</u>	<u>11:54</u>				G

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

COMMENTS :

S 6056610

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: **AC04924**
 PO Number #: **14W12395**
 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.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/10/2014	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	1.53	ng/L	EPA 1631E	2/19/14	ESTAFFORD1

CCL 6446

14W12443840

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : ACO 49169
 Date Received : 2-12-14
 Time Received : 08:26
 Received By : mp
 Data Released :
 Date Reported :

1

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)


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	14/2/11		1040					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"/> TKN an N 625	mg/L	<input checked="" type="checkbox"/> Mg- Magnesium 927	mg/L
<input type="checkbox"/> COD Low 335	mg/L	<input type="checkbox"/> Chlorophyll a EPA 445.0 modified option	ug/L	<input checked="" type="checkbox"/> NO2 plus NO3 as N 630	mg/L	<input checked="" type="checkbox"/> Mn-Manganese 1055	ug/L
<input type="checkbox"/> Coliform: MF Fecal 31616	/100ml			<input checked="" type="checkbox"/> P: Total as P 665	mg/L	<input checked="" type="checkbox"/> Na- Sodium 929	mg/L
<input type="checkbox"/> Coliform: MF Total 31504	/100ml	<input type="checkbox"/> Color: True 80	c.u.	<input checked="" type="checkbox"/> PO4 as P 70507	mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002	ug/L
<input type="checkbox"/> Coliform: tube Fecal 31615	/100ml	<input type="checkbox"/> Color: (pH) 83	pH= c.u.	<input checked="" type="checkbox"/> P: Dissolved as P 666	mg/L	<input checked="" type="checkbox"/> Se- Selenium 1147	ug/L
<input type="checkbox"/> Coliform: Fecal Strep 31673	/100ml	<input type="checkbox"/> Color: pH 7.6 82	c.u.	<input checked="" type="checkbox"/> K- Potassium	mg/L	<input checked="" type="checkbox"/> Hg- Mercury 71900	ug/L
<input checked="" type="checkbox"/> Residue: Total 500	mg/L	<input type="checkbox"/> Cyanide 720	mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	<input 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): 3.2

COMMENTS:

County: ROCKINGHAM	 Division of Water Resources Final Report	Sample ID: AC04969
River Basin: ROA01		PO Number #: 14W12440
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.: DS-DRAPER LANDING		
Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/11/2014	Collect Time: 10:40
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		3.2	°C		2/12/14	MSWIFT
MIC							
	Turbidity	1.0	8.7	NTU	APHA2130B-20th	2/12/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	74	mg/L	SM 2540 B-1997	2/17/14	CGREEN
	Residue_Suspended in liquid	6.2	6.5	mg/L	SM 2540 D-1997	2/12/14	CGREEN
	Ion Chromatography		<u> </u> TITLE <u> </u>	mg/L	EPA 300.0 rev2.1	2/11/14	CGREEN
	Chloride	1.0	9.7	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	56	mg/L	SM 2540 C-1997	2/17/14	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	0.32	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	390	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	150	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	26	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	8.3	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	890	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	29	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.9	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/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: AC04969 Collect Date: 02/11/2014 Collect Time: 10:40

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	44	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	14	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

CC / Encls

14W 124397MP

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

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

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : ACO4970
 Date Received : 2.12.14
 Time Received : 08:26
 Received By : mfo
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper landing (Downstream at Hwy 700)

1

Seed: _____ Chlorinated: _____


Remarks: Dissolved Metals

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
4P079NC0003468 <u>Ash Dan</u>	<u>14/2/14</u>		<u>1040</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 7.6 82	pH= c.u.	P: Dissolved as P 666	mg/L	<input checked="" type="checkbox"/> Se- Selenium 1147	ug/L
Coliform: Fecal Strep 31673	/100ml	Cyanide 720	mg/L	<input checked="" type="checkbox"/> K- Potassium	mg/L	<input checked="" type="checkbox"/> Hg- Mercury 71900	ug/L
Residue: Total 500	mg/L	Fluoride 951	mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	<input checked="" type="checkbox"/> Ba-Barium	ug/L
Volatile 505	mg/L	Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cr-Chromium: Total 1034	ug/L	Organochlorine Pesticides	
Fixed 510	mg/L	Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L	Organophosphorus Pesticides	
Residue: Suspended 530	mg/L	Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	MBAS 38260	mg/L	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L		
pH 403	units	Phenols 32730	ug/L	<input checked="" type="checkbox"/> V-Vanadium	ug/L	Base/Neutral&Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	Sulfate 945	mg/L	<input checked="" type="checkbox"/> Ag- Silver 1077	ug/L	TPH Diesel Range	
Acidity to pH 8.3 435	mg/L	Sulfide 745	mg/L	<input checked="" type="checkbox"/> Al- Aluminum 1105	ug/L		
Alkalinity to pH 8.3 415	mg/L	Boron		<input checked="" type="checkbox"/> Be- Beryllium 1012	ug/L	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 4.5 410	mg/L	Tannin & Lignin	ug/L	<input checked="" type="checkbox"/> Ca- Calcium 916	mg/L	TPH Gasoline Range	
TOC 680	mg/L	Hexavalent Chromium	ug/L	<input checked="" type="checkbox"/> Co- Cobalt 1037	ug/L	TPH/BTEX Gasoline Range	
Turbidity 76	NTU	Bicarbonate	mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L	Phytoplankton	
Coliform Total Tube	/100 ml	Carbonate	mg/L	<input checked="" type="checkbox"/> Mo-Molybdenum	ug/L		
		Total Dissolved Solids	mg/L	<input checked="" type="checkbox"/> Sb-Antimony	ug/L		
				<input checked="" type="checkbox"/> Sn-Tin	ug/L		
				<input checked="" type="checkbox"/> Tl-Thallium	ug/L		
				<input checked="" type="checkbox"/> Ti-Titanium	ug/L		
				Hg-1631	ng/L		

Temperature on arrival (°C): 32

COMMENTS :

County: ROCKINGHAM	 Final Report	Sample ID: AC04970
River Basin: ROA01		PO Number #: 14W12441
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.: DS-DRAPER LANDING		
Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/11/2014	Collect Time: 10:40
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		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	8.3	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	61	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	17	ug/L	EPA 200.7	2/19/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	5.0	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	150	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	22	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

14W12518

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number: AC05050
Date Received: 2-18-14
Time Received: 9:04
Received By: MJD
Data Released: _____
Date Reported: _____


Estimated BOD Range: _____ Station Location: Don River at NC 700

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, B, L	Composi-te-T, S, B	Sample Type
<u>C1</u>	<u>140217</u>		<u>15:10</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 132	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	Color: True 80	c.u.		P: Total as P 665	mg/L	<input checked="" type="checkbox"/> Na- Sodium 929	mg/L
Coliform: MF Total 31504	#/100 mls	Color: (pH) 83 pH=	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 7.6 82	c.u.		P: Dissolved as P 666	mg/L	<input checked="" type="checkbox"/> Se- Selenium 1147	ug/L
Coliform: Fecal Strep 31673	#/100 mls	Cyanide 720	mg/L		K- Potassium	mg/L	Hg- Mercury 71900	ug/L
<input checked="" type="checkbox"/> Residue: Total 500	mg/L	<input checked="" type="checkbox"/> Fluoride 951	mg/L		<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	<input checked="" type="checkbox"/> Ba- Barium	ug/L
Volatile 505	mg/L	Formaldehyde 71880	mg/L		Cr- Chromium: Total 1034	ug/L	Organo chlo rine P esticides	
Fixed 510	mg/L	Grease and Oils 556	mg/L		Cu- Copper 1042	ug/L	Organo phospho rus P esticides	
<input checked="" type="checkbox"/> Residue: Suspended 530	mg/L	<input checked="" type="checkbox"/> Hardness Total 900	mg/L		Ni- Nickel 1067	ug/L	Organo nitro gen P esticides	
Volatile 535	mg/L	Specific Cond. 95	umhos/cm2		Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	MBAS 38260	mg/L		Zn- Zinc 1092	ug/L		
pH 403	units	Pheno ls 32730	ug/L		V- Vanadium	ug/L	Base/Neutral&Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	<input checked="" type="checkbox"/> Sulfate 945	mg/L		Ag- Silver 1077	ug/L	TP H 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	<input checked="" type="checkbox"/> Boron: Total 1022	ug/L		Bc- Beryllium 1012	ug/L	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 4.5 410	mg/L	Tannin & Lignin 32240	ug/L		Ca- Calcium 916	mg/L	TP H Gasoline Range	
TOC 680	mg/L	Hexavalent Chromium 1032	ug/L		Co- Cobalt 1037	ug/L	TP H/BTEX Gasoline Range	
Turbidity 82079	NTU	Bicarbonate	mg/L		Fe- Iron 1045	ug/L	Phytoplankton	
Coliform Total Tube 31508	#/100 mls	Carbonate	mg/L		<input checked="" type="checkbox"/> Mo- Molybdenum	ug/L		
		Total Dissolved Solids	mg/L		Sb- Antimony	ug/L	<input checked="" type="checkbox"/> Sr- STRONTIUM	
DOC - filtered	mg/L				Sn- Tin	ug/L		
					Tl- Thallium	ug/L		
					Ti- Titanium	ug/L		
					Hg- 1631	ng/L		

Temperature on arrival (C): 0.6

COMMENTS: _____

County:	ROCKINGHAM	 Division of Water Resources Final Report	Sample ID:	AC05050
River Basin:	ROA1		PO Number #	14W12518
Report To:	WSROSP		Date Received:	02/18/2014
Collector:	J DOBY		Time Received:	08:04
Region:	WSRO		Labworks LoginID	MSWIFT
Sample Matrix:	SURFACEWATER		Final Report Date:	2/27/14
Loc. Type:	RIVER/STREAM		Report Print Date:	02/27/2014
Emergency Yes/No	Yes		VisitID	
COC Yes/No	Yes			
Loc. Descr.: DAN RIVER 2MILES DOWNSTREAM AT NC 700				
Location ID: C1		Collect Date: 02/17/2014	Collect Time: 15:10	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		0.6	°C		2/18/14	RBYRD
WET							
	Residue_Total in liquid	12	182	mg/L	SM 2540 B-1997	2/18/14	CGREEN
	Residue_Suspended in liquid	6.2	26	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	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	5.2	mg/L	EPA 300.0 rev2.1	2/20/14	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	110	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	37	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	7.0	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	4.1	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	38	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	6.7	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	80	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
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	12	ug/L	EPA 200.7	2/21/14	ESTAFFORD1

14W125400033
2/18/14

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

SAMPLE TYPE

STREAM EFFLUENT

LAKE INFLUENT

ESTUARY

1

COUNTY : Rockingham
 RIVER BASIN : Roanoke

REPORT TO : Winston-Salem Regional Office

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

PRIORITY

AMBIENT QA

COMPLIANCE CHAIN OF CUSTODY

EMERGENCY

VISIT ID
 10

Lab Number : ACC05065
 Date Received : 2-18-14
 Time Received : 08:15
 Received By : MP


Data Released :
 Date Reported :

Estimated BOD Range: _____ Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: _____ Chlorinated: _____ Remarks: _____

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type G
4P079NC0003468AshDan	14/02/17	14/02/17	1745	1815				
BOD 310	mg/L	<input checked="" type="checkbox"/> Chloride 940	mg/L	<input checked="" type="checkbox"/> NH3 as N 110	mg/L	<input checked="" type="checkbox"/> Li-Lithium 1132	ug/L	
COD High 340	mg/L			<input checked="" type="checkbox"/> TN/Am N 623	mg/L	<input checked="" type="checkbox"/> Mg- Magnesium 927	mg/L	
COD Low 335	mg/L	Chlorophyll a EPA 445.0 modified option	ug/L	<input checked="" type="checkbox"/> NO2 plus NO3 as N 670	mg/L	<input checked="" type="checkbox"/> Mn-Manganese 1055	ug/L	
Coliform: MF Fecal 31616	/100ml	Color: True 80	c.u.	<input checked="" type="checkbox"/> P-Total as P 665	mg/L	<input checked="" type="checkbox"/> Na- Sodium 929	mg/L	
Coliform: MF Total 31504	/100ml	Color: (pH) 83 pH=	c.u.	PO4 as P 70507	mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002	ug/L	
Coliform: tube Fecal 31615	/100ml	Color: pH 7.6 82	c.u.	P: Dissolved as P 666	mg/L	<input checked="" type="checkbox"/> Se- Selenium 1147	ug/L	
Coliform: Fecal Strep 31673	/100ml	Cyanide 720	mg/L	K-Potassium	mg/L	Hg- Mercury 71900	ug/L	
<input checked="" type="checkbox"/> Residue: Total 500	mg/L	<input checked="" type="checkbox"/> Fluoride 951	mg/L	Cd- Cadmium 1027	ug/L	<input checked="" type="checkbox"/> 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		
<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 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		
<input checked="" type="checkbox"/> Turbidity 76	NTU	Bicarbonate	mg/L	Fe- Iron 1045	ug/L	Phytoplankton		
Coliform Total Tube	/100 ml	Carbonate	mg/L	Mo-Molybdenum	ug/L			
		Carbonate	mg/L	Sb-Antimony	ug/L			
		<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):	2.1	

COMMENTS : _____

County:	ROCKINGHAM	 Final Report	Sample ID:	AC05065
River Basin:	ROA1		PO Number #	14W12533
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.: DS-DRAPER LANDING				

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/17/2014	Collect Time: 13:15	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.

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	31	NTU	APHA2130B-20th	2/18/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	124	mg/L	SM 2540 B-1997	2/19/14	CGREEN
	Residue_Suspended in liquid	6.2	33	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	14	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	4.2	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	1600	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	100	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	38	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	6.9	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	2.5	ug/L	EPA 200.8	2/26/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	2200	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	2.0	mg/L	EPA 200.7	2/20/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.9	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	42	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	6.9	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	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	86	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: **AC05065** Collect Date: **02/17/2014** Collect Time: **13:15**

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
 Other :
 COLLECTOR(S) : [Signature]

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID 111

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY I

14W12544
 34
 2/18/14

Lab Number: ACD5066
 Date Received: 2-18-14
 Time Received: 08:15
 Received By: [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper landing (Downstream at Hwy 700)


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>11/12/11</u>	<u>11/12/11</u>	<u>12:45</u>	<u>1:37:5</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	Chlorophyll a EPA 445.0 modified option	ug/L	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.	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.	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	<input checked="" type="checkbox"/> K-Potassium	mg/L	<input checked="" type="checkbox"/> Hg- Mercury 71900	ug/L
Residue: Total 500	mg/L	Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	<input checked="" type="checkbox"/> Ba-Barium	ug/L
Volatile 505	mg/L	Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Cr-Chromium: Total 1034	ug/L	Organochlorine Pesticides	
Fixed 510	mg/L	Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L	Organophosphorus Pesticides	
Residue: Suspended 530	mg/L	Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	MBAS 38260	mg/L	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	Phenols 32730	ug/L	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L		
pH 403	units	Sulfate 945	mg/L	<input checked="" type="checkbox"/> V-Vanadium	ug/L	Base/Neutral&Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	Sulfide 745	mg/L	<input checked="" type="checkbox"/> Ag- Silver 1077	ug/L	TPH Diesel Range	
Acidity to pH 8.3 435	mg/L	Boron		<input checked="" type="checkbox"/> Al- Aluminum 1105	ug/L		
Alkalinity to pH 8.3 415	mg/L	Tannin & Lignin	ug/L	<input checked="" type="checkbox"/> Be- Beryllium 1012	ug/L	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 4.5 410	mg/L	Hexavalent Chromium	ug/L	<input checked="" type="checkbox"/> Ca- Calcium 916	mg/L	TPH Gasoline Range	
TOC 680	mg/L	Bicarbonate	mg/L	<input checked="" type="checkbox"/> Co- Cobalt 1037	ug/L	TPH/BTEX Gasoline Range	
Turbidity 76	NTU	Carbonate	mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045	ug/L	Phytoplankton	
Coliform Total Tube	/100 ml	Total Dissolved Solids	mg/L	<input checked="" type="checkbox"/> Mo-Molybdenum	ug/L		
				<input checked="" type="checkbox"/> Sb-Antimony	ug/L		
				<input checked="" type="checkbox"/> Sn-Tin	ug/L		
				<input checked="" type="checkbox"/> Tl-Thallium	ug/L		
				<input checked="" type="checkbox"/> Ti-Titanium	ug/L		
				Hg-1631	ng/L	Temperature on arrival (°C): <u>2.1</u>	

COMMENTS :

County: ROCKINGHAM	 Final Report	Sample ID: AC05066
River Basin: ROA1		PO Number #: 14W12534
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: Yes	VisitID: <input type="text" value="10"/>	
COC Yes/No: Yes		
Loc. Descr.: DS-DRAPER LANDING		
Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/17/2014	Collect Time: 13:15
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	6.6	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	60	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	11	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	6.8	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	50 U	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7429-90-5	B by ICP	50	100	ug/L	EPA 200.7	2/21/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	22	ug/L	EPA 200.7	2/20/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	46	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	2/20/14	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

14W1255-462/18/14
14W12553

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

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

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY
 1

Lab Number : AC05094
 Date Received : 2-18-14
 Time Received : 8:15
 Received By : [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)


Seed: _____ Chlorinated: _____

Remarks: 431 Hg 1064 Mercury - Low Level

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>14/02/17</u>	<u>14/02/17</u>	<u>1245</u>	<u>1315</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		
				<input checked="" type="checkbox"/> Hg-1631	ng/L	Temperature on arrival (°C):	

COMMENTS: 7601 Hg 29

County: ROCKINGHAM	 Final Report	Sample ID: AC05094	
River Basin: ROA1		PO Number #: 14W12553	
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: 3/3/14	
Loc. Type: STREAM		Report Print Date: 03/03/2014	
Emergency Yes/No: <u>Yes</u>	VisitID: <input type="text" value="10"/>		
COC Yes/No: <u>Yes</u>			
Loc. Descr.: DS-DRAPER LANDING			
Location ID: 4P079NC0003468ASHDAN		Collect Date: 02/17/2014	Collect Time: 13:15
		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	5.24	ng/L	EPA 1631E	2/28/14	ESTAFFORD1

14W12572

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC05109
 Date Received : 2-18-2014
 Time Received : 1:30
 Received By : TS
 Data Released :
 Date Reported :


Estimated BOD Range: _____ Station Location: DS - Draper Landing (Downstream at Hwy 700)

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	1/10/16		10:16					G

<input type="checkbox"/> BOD 310 mg/L	<input checked="" type="checkbox"/> Chloride 940 mg/L	<input checked="" type="checkbox"/> NH3 as N 610 <u>NS</u> 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 <u>NS</u> 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 <u>NS</u> 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 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 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 type="checkbox"/> Zn- Zinc 1092 ug/L	<input type="checkbox"/> Base/Neutral & Acid Extractable Organics
<input type="checkbox"/> pH 403 units	<input checked="" type="checkbox"/> Sulfate 945 mg/L	<input checked="" type="checkbox"/> V-Vanadium ug/L	<input type="checkbox"/> TPH Diesel Range
<input type="checkbox"/> Acidity to pH 4.5 436 mg/L	<input type="checkbox"/> Sulfide 745 mg/L	<input checked="" type="checkbox"/> Ag- Silver 1077 ug/L	<input type="checkbox"/> Purgeable Organics (VOA bottle req'd)
<input type="checkbox"/> Acidity to pH 8.3 435 mg/L	<input type="checkbox"/> Boron	<input checked="" type="checkbox"/> Al- Aluminum 1105 ug/L	<input type="checkbox"/> TPH Gasoline Range
<input type="checkbox"/> Alkalinity to pH 8.3 415 mg/L	<input type="checkbox"/> Tannin & Lignin ug/L	<input checked="" type="checkbox"/> Be- Beryllium 1012 ug/L	<input type="checkbox"/> TPH/BTEX Gasoline Range
<input type="checkbox"/> Alkalinity to pH 4.5 410 mg/L	<input type="checkbox"/> Hexavalent Chromium ug/L	<input checked="" type="checkbox"/> Ca- Calcium 916 mg/L	<input type="checkbox"/> Phytoplankton
<input type="checkbox"/> TOC 680 mg/L	<input type="checkbox"/> Bicarbonate mg/L	<input checked="" type="checkbox"/> Co- Cobalt 1037 ug/L	
<input checked="" type="checkbox"/> Turbidity 76 NTU	<input type="checkbox"/> Carbonate mg/L	<input checked="" type="checkbox"/> Fe- Iron 1045 ug/L	
<input type="checkbox"/> Coliform Total Tube /100 ml	<input checked="" type="checkbox"/> Total Dissolved Solids mg/L	<input checked="" type="checkbox"/> Mo-Molybdenum ug/L	
		<input checked="" type="checkbox"/> Sb-Antimony ug/L	
		<input checked="" type="checkbox"/> Sn-Tin ug/L	
		<input checked="" type="checkbox"/> Tl-Thallium ug/L	
		<input checked="" type="checkbox"/> Ti-Titanium ug/L	
		<input type="checkbox"/> Hg-1631 ng/L	Temperature on arrival (°C): <u>2.9</u>

COMMENTS : _____

County:	ROCKINGHAM	 Division of Water Resources Final Report	Sample ID:	AC05109
River Basin:	ROA01		PO Number #	14W12572
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.: DS - DRAPER LANDING				

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/18/2014	Collect Time:	10:16	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	109	mg/L	SM 2540 B-1997	2/19/14	CGREEN
	Residue_Suspended in liquid	6.2	19	mg/L	SM 2540 D-1997	2/19/14	CGREEN
	Ion Chromatography		_TITLE_	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	4.2	mg/L	EPA 300.0 rev2.1	2/20/14	CGREEN
	Total Dissolved Solids in liquid	12	80	mg/L	SM 2540 C-1997	2/20/14	CGREEN
MET							
7429-90-5	Al by ICP	50	1600	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	110	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	34	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	7.0	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	1.9	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.9	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	32	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	6.4	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	42	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	53	ug/L	EPA 200.7	2/24/14	ESTAFFORD1

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

For a detailed description of the qualifier codes refer to http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist#Data_Qualifier_Codes <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>

NC DWR Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC05109** Collect Date: **02/18/2014** Collect Time: **10:16**

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 125 73

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number AC05110
 Date Received : 2-18-21
 Time Received : 12:15
 Received By : MS
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper landing (Downstream at Hwy 700)

Seed: _____ Chlorinated: _____


Remarks: Dissolved Metals

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
4P079NC0003468 <u>ASH DAN</u>	<u>14/02/18</u>		<u>10:17</u>					G

BOD 310	mg/L	Chloride 940	mg/L	NH3 as N 610	mg/L	<input checked="" type="checkbox"/>	Lj-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"/> Ti-Thallium	ug/L			
				<input checked="" type="checkbox"/> Ti-Titanium	ug/L			
				Hg-1631	ng/L			

Temperature on arrival (°C): 3.9

COMMENTS : _____

County:	ROCKINGHAM	 Final Report	Sample ID:	AC05110
River Basin:	ROA01		PO Number #	14W12573
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.: DS - DRAPER LANDING				

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/18/2014	Collect Time:	10:12	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.

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	6.6	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	120	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	2.6	mg/L	EPA 200.7	2/24/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	12	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	6.0	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	85	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
7429-90-5	B by ICP	50	100	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	22	ug/L	EPA 200.7	2/24/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	43	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

DIVISION OF WATER RESOURCES

1412589

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC05120
 Date Received : 2-18-14
 Time Received : 1:15
 Received By : [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: _____ Chlorinated: _____

Remarks: 4.81 Hg 90A Mercury - Low Level

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>14/02/18</u>		<u>1005</u>					G

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

COMMENTS : 7E0114928

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**

Sample ID: **AC05120**
 PO Number #: **14W12583**
 Date Received: **02/18/2014**
 Time Received: **13:15**
 Labworks LoginID: **MSWIFT**
 Final Report Date: **3/3/14**
 Report Print Date: **03/03/2014**

VisitID

Loc. Descr.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/18/2014	Collect Time: 10:05	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	4.40	ng/L	EPA 1631E	2/28/14	ESTAFFORD1

EMER/LOC
DIVISION OF WATER RESOURCES

14W12674

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

VISIT ID
1

Lab Number : AC05218
Date Received : 2-20-14
Time Received : 8:50
Received By : mfp
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

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	14/2/14		12:40					G
BOD 310	mg/L	<input checked="" type="checkbox"/> Chloride 940	mg/L	<input checked="" type="checkbox"/> NH3 as N 6107	mg/L	<input checked="" type="checkbox"/> Li-Lithium 1132	ug/L	
COD High 340	mg/L			<input checked="" type="checkbox"/> TKN as N 625	mg/L	<input checked="" type="checkbox"/> Mg- Magnesium 927	mg/L	
COD Low 335	mg/L	Chlorophyll a EPA 445.0 modified option	ug/L	<input checked="" type="checkbox"/> NO2 plus NO3 as N 630	mg/L	<input checked="" type="checkbox"/> Mn-Manganese 1055	ug/L	
Coliform: MF Fecal 31616	/100ml			<input checked="" type="checkbox"/> P- Total as P 665	mg/L	<input checked="" type="checkbox"/> Na- Sodium 929	mg/L	
Coliform: MF Total 31504	/100ml	Color: True 80	c.u.	<input checked="" type="checkbox"/> PO4 as P 70507	mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002	ug/L	
Coliform: tube Fecal 31615	/100ml	Color: (pH) 83 pH=	c.u.	<input checked="" type="checkbox"/> P- Dissolved as P 666	mg/L	<input checked="" type="checkbox"/> Se- Selenium 1147	ug/L	
Coliform: Fecal Strep 31673	/100ml	Color: pH 7.6 82	c.u.	<input checked="" type="checkbox"/> K- Potassium	mg/L	<input checked="" type="checkbox"/> Hg- Mercury 71900	ug/L	
<input checked="" type="checkbox"/> Residue: Total 500	mg/L	Cyanide 720	mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027	ug/L	<input checked="" type="checkbox"/> Ba-Barium	ug/L	
Volatile 505	mg/L	<input checked="" type="checkbox"/> Fluoride 951	mg/L	<input checked="" type="checkbox"/> Cr-Chromium: Total 1034	ug/L		Organochlorine Pesticides	
Fixed 510	mg/L	Formaldehyde 71880	mg/L	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L		Organophosphorus Pesticides	
<input checked="" type="checkbox"/> Residue: Suspended 530	mg/L	Grease and Oils 556	mg/L	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L		Organonitrogen Pesticides	
Volatile 535	mg/L	Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Pb- Lead 1051	ug/L		Acid Herbicides	
Fixed 540	mg/L	Specific Cond. 95	umhos/cm	<input checked="" type="checkbox"/> Zn- Zinc 1092	ug/L			
pH 403	units	MBAS 38260	mg/L	<input checked="" type="checkbox"/> V- Vanadium	ug/L		Base/Neutral & Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	Phenols 32730	ug/L	<input checked="" type="checkbox"/> Ag- Silver 1077	ug/L		TPH Diesel Range	
Acidity to pH 8.3 435	mg/L	<input checked="" type="checkbox"/> Sulfate 945	mg/L	<input checked="" type="checkbox"/> Al- Aluminum 1105	ug/L		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	
<input checked="" type="checkbox"/> 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			
		<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			
				Hg-1631	ng/L			
							Temperature on arrival (°C):	12.4

COMMENTS:

County:	ROCKINGHAM	Sample ID:	AC05218
River Basin:	R0A1	PO Number #:	14W12674
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. Descr.: DS-DRAPER LANDING			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/19/2014
		Collect Time:	12:40
		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	36	NTU	APHA2130B-20th	2/20/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	135	mg/L	SM 2540 B-1997	2/21/14	MOVERMAN
	Residue_Suspended in liquid	6.2	67	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	11	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	4.8	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	2000	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	87	ug/L	EPA 200.7	2/26/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	53	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	7.2	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	3.7	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	2500	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	2.0	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	3.0	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	58	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	5.5	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.2	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.2	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	44	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	190	ug/L	EPA 200.7	2/27/14	ESTAFFORD1

NC DWR, Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC05218** Collect Date: **02/19/2014** Collect Time: **12:40**

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	11	ug/L	EPA 200.7	2/27/14	ESTAFFORD1

EMER/COC

14W/2675

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

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

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number AC05219
 Date Received: 2-20-14
 Time Received: 8:30
 Received By: [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper landing (Downstream at Hwy 700)

1

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>14/2/14</u>		<u>2:40</u>					G

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

Temperature on arrival (°C): 14

COMMENTS :

County: ROCKINGHAM	 Division of Water Resources Final Report	Sample ID: AC05219	
River Basin: R0A1		PO Number #: 14W12675	
Report To: WSROSP		Date Received: 02/20/2014	
Collector: JIVERSON		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			
Loc. Descr.: DS-DRAPER LANDING			
Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/19/2014	Collect Time: 12:40	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	6.9	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	110	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	2.7	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	15	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	5.5	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	91	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7429-90-5	B by ICP	50	93	ug/L	EPA 200.7	2/26/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	24	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	45	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

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

1

14W12688
 Lab Number A205236
 Date Received : 2-20-16
 Time Received : 8:50
 Received By : [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: _____

Chlorinated: _____

U/B/Hg 24

Remarks: Mercury - Low Level

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>4/2/16</u>		<u>235</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		
				<input checked="" type="checkbox"/> Hg-1631	ng/L	Temperature on arrival (°C):	

COMMENTS: SE05/Hg10

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: **AC05236**
 PO Number #: **14W12688**
 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.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/19/2014	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>
MET							
7439-97-6	Hg 1631	1.00	10.8	ng/L	EPA 1631E	2/28/14	ESTAFFORD1

DIVISION OF WATER RESOURCES
Surface Water Fieldsheet

EMER/COC

14W 12708

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

1

Lab Number : AC05256
 Date Received : 2-20-14
 Time Received : 13:44
 Received By : IMP
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: _____

Chlorinated: _____

Remarks: _____

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type G
4P079NC0003468AshDan	14/02/20		1010					

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

COMMENTS:

County:	ROCKINGHAM	Sample ID:	AC05256
River Basin:	ROA01	PO Number #:	14W12708
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.: DS-DRAPER LANDING			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/20/2014
		Collect Time:	10:10
		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		2.7	°C		2/20/14	MSWIFT
MIC							
	Turbidity	1.0	75	NTU	APHA2130B-20th	2/20/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	198	mg/L	SM 2540 B-1997	2/21/14	MOVERMAN
	Residue_Suspended in liquid	6.2	121	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	9.9	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	3.4	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Total Dissolved Solids in liquid	12	79	mg/L	SM 2540 C-1997	2/21/14	CGREEN
MET							
7429-90-5	Al by ICP	50	4500	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	51	ug/L	EPA 200.7	2/26/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	80	ug/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	6.0	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	5.7	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	5700	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	2.3	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.9	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	130	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.8	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	3.5	ug/L	EPA 200.8	3/5/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	4.2	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	40	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

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: **AC05256** Collect Date: **02/20/2014** Collect Time: **10:10**

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

EMER/COC

DIVISION OF WATER RESOURCES
Surface Water Fieldsheet

14W 12709

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) : Snyder / GAZNAK

Lab Number : AC05257
 Date Received : 2-20-14
 Time Received : 13:44
 Received By : [Signature]
 Data Released :
 Date Reported :

Estimated BOD Range: _____ Station Location: DS - Draper landing (Downstream at Hwy 700)
 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>14/02/30</u>		<u>10:10</u>					G

BOD 310 mg/L	Chloride 940 mg/L	NH3 as N 610 mg/L	Li-Lithium 1132 ug/L
COD High 340 mg/L		TKN an N 625 mg/L	<input checked="" type="checkbox"/> Mg- Magnesium 927 mg/L
COD Low 335 mg/L	Chlorophyll a EPA 445.0 modified option ug/L	NO2 plus NO3 as N 630 mg/L	<input checked="" type="checkbox"/> Mn-Manganese 1055 ug/L
Coliform: MF Fecal 31616 /100ml		P: Total as P 665 mg/L	<input checked="" type="checkbox"/> Na- Sodium 929 mg/L
Coliform: MF Total 31504 /100ml	Color: True 80 c.u.	PO4 as P 70507 mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002 ug/L
Coliform: tube Fecal 31615 /100ml	Color: pH) 83 pH= c.u.	P: Dissolved as P 666 mg/L	<input checked="" type="checkbox"/> Se- Selenium 1147 ug/L
Coliform: Fecal Strep 31673 /100ml	Color: pH 7.6 82 c.u.	<input checked="" type="checkbox"/> K-Potassium mg/L	<input checked="" type="checkbox"/> Hg- Mercury 71900 ug/L
Residue: Total 500 mg/L	Cyanide 720 mg/L	<input checked="" type="checkbox"/> Cd- Cadmium 1027 ug/L	<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:	AC05257
River Basin:	ROA01	PO Number #:	14W12709
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.: DS-DRAPER LANDING			
Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/20/2014
		Collect Time:	10:10
		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		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	5.3	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	76	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	2.1	mg/L	EPA 200.7	2/25/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	15	ug/L	EPA 200.7	2/27/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.5	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	57	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	35	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

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

14612719

Lab Number : A C05267
 Date Received : 2-20-19
 Time Received : 1344
 Received By : ML
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: _____

Chlorinated: _____

Remarks: Mercury - Low Level 431 Hg 94

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>14/02/20</u>		<u>15:00</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		
				<input checked="" type="checkbox"/> Hg-1631	ng/L	Temperature on arrival (°C):	

COMMENTS: 7 EOL Hg 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: **AC05267**
 PO Number #: **14W12719**
 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.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/20/2014	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.

<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	18.6	ng/L	EPA 1631E	3/5/14	ESTAFFORD1

Coc/Emerald

14W 12796

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 1

Lab Number : AC05354
Date Received : 2-21-2014
Time Received : 14:45
Received By : JS
Data Released :
Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: Chlorinated:

Remarks:

Table with 9 columns: Station #/Location Code, Date Begin, Date End, Time Begin, Time End, Depth, Value Type, Composite, Sample Type. Row 1: 4P079NC0003468AshDan, 14/02/21, 14/02/21, 10:45, 11:10, Depth - DM, DB, DBM, Value Type - A, H, L, Composite-T, S, B, Sample Type G.

Table with 2 columns: Parameter, Unit. Rows include BOD 310, COD High 340, Coliform: MF Fecal 31616, pH 403, etc.

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

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

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

COMMENTS :

NC DWO Laboratory Section Results

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



Sample ID: **AC05354**
 PO Number #: **14W12796**
 Date Received: **02/21/2014**
 Time Received: **14:45**
 Labworks LoginID: **MSWIFT**
 Final Report Date: **3/13/14**
 Report Print Date: **03/13/2014**

Final Report

VisitID 14

Loc. Descr.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/21/2014	Collect Time: 11:10	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
MIC							
	Turbidity	1.0	60	NTU	APHA2130B-20th	2/21/14	ESTAFFORD1
WET							
	Residue_Total in liquid	12	140	mg/L	SM 2540 B-1997	2/24/14	MOVERMAN
	Residue_Suspended in liquid	6.2	66	mg/L	SM 2540 D-1997	2/24/14	RBYRD
	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	3.6	mg/L	EPA 300.0 rev2.1	2/25/14	CGREEN
	Total Dissolved Solids in liquid	12	63	mg/L	SM 2540 C-1997	2/27/14	CGREEN
MET							
7429-90-5	Al by ICP	50	3000	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	50 U	ug/L	EPA 200.7	3/3/14	ESTAFFORD1
7440-38-3	Ba by ICP	10	46	ug/L	EPA 200.7	3/6/14	ESTAFFORD1
7440-70-2	Ca by ICP	0.10	5.9	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	3.0	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7439-89-6	Fe by ICP	50	3800	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-09-7	K by ICP	0.10	2.3	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7439-95-4	Mg by ICP	0.10	2.7	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7439-96-5	Mn by ICP	10	77	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-23-5	Na by ICP	0.10	4.5	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-02-0	Ni by ICPMS	2.0	2.0	ug/L	EPA 200.8	3/6/14	ESTAFFORD1
7439-92-1	Pb by ICPMS	2.0	2.3	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	35	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	170	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/staffinfo/techassist#Data_Qualifier_Codes <<http://portal.ncdenr.org/web/wq/lab/staffinfo/techassist>>

NC DWQ Laboratory Section Results

Location ID: **4P079NC0003468ASHDAN** Sample ID: **AC05354** Collect Date: **02/21/2014** Collect Time: **11:10**

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>
7440-62-2	V by ICP	25	25 U	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-66-6	Zn by ICP	10	13	ug/L	EPA 200.7	2/28/14	ESTAFFORD1

CC/BWB

14w 12797

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
 1

Lab Number : AC05355
 Date Received : 2-21-2014
 Time Received : 1445
 Received By : ms
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS -Draper Landing

Seed: _____ Chlorinated: _____

Remarks: Dissolved metals

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
4P079NC0003468AshDan	14/02/21	14/02/21	10:45	11:10				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	x Mg- Magnesium 927	mg/L
COD Low 335	mg/L	Chlorophyll a EPA 445.0 modified option	ug/L	NO2 plus NO3 as N 630	mg/L	x Mn-Manganese 1055	ug/L
Coliform: MF Fecal 31616	/100ml			P: Total as P 665	mg/L	x Na- Sodium 929	mg/L
Coliform: MF Total 31504	/100ml	Color: True 80	c.u.	PO4 as P 70507	mg/L	x Arsenic:Total 1002	ug/L
Coliform: tube Fecal 31615	/100ml	Color: (pH) 83 pH=	c.u.	P: Dissolved as P 666	mg/L	x Se- Selenium 1147	ug/L
Coliform: Fecal Strep 31673	/100ml	Color: pH 7.6 82	c.u.	x K-Potassium	mg/L	x Hg- Mercury 71900	ug/L
Residue: Total 500	mg/L	Cyanide 720	mg/L	x Cd- Cadmium 1027	ug/L	x Ba-Barium	ug/L
Volatile 505	mg/L	Fluoride 951	mg/L	x Cr-Chromium:Total 1034	ug/L	Organochlorine Pesticides	
Fixed 510	mg/L	Formaldehyde 71880	mg/L	x Cu- Copper 1042	ug/L	Organophosphorus Pesticides	
Residue: Suspended 530	mg/L	Grease and Oils 556	mg/L	x Ni-Nickel 1067	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	Hardness Total 900	mg/L	x Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	Specific Cond. 95	umhos/cm	x Zn- Zinc 1092	ug/L		
pH 403	units	MBAS 38260	mg/L	x V-Vanadium	ug/L	Base/Neutral&Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	Phenols 32730	ug/L	Ag- Silver 1077	ug/L	TPH Diesel Range	
Acidity to pH 8.3 435	mg/L	Sulfate 945	mg/L	x Al- Aluminum 1105	ug/L		
Alkalinity to pH 8.3 415	mg/L	Sulfide 745	mg/L	Be- Beryllium 1012	ug/L	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 4.5 410	mg/L	Boron		x Ca- Calcium 916	mg/L	TPH Gasoline Range	
TOC 680	mg/L	Tannin & Lignin	ug/L	Co- Cobalt 1037	ug/L	TPH/BTEX Gasoline Range	
Turbidity 76	NTU	Hexavalent Chromium	ug/L	x Fe- Iron 1045	ug/L	Phytoplankton	
Coliform Total Tube	/100 ml	Bicarbonate	mg/L	Mo-Molybdenum	ug/L		
		Carbonate	mg/L	Sb-Antimony	ug/L		
		Total Dissolved Solids	mg/L	Sn-Tin	ug/L		
				x Tl-Thallium	ug/L		
				x Ti-Titanium	ug/L		
				Hg-1631	ng/L	Temperature on arrival (°C):	<u>25</u>

COMMENTS :

County:	ROCKINGHAM	Sample ID:	AC05355
River Basin:	ROA01	PO Number #:	14W12797
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.: DS-DRAPER LANDING	

Location ID:	4P079NC0003468ASHDAN	Collect Date:	02/21/2014	Collect Time:	11:10	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	120	ug/L	EPA 200.7	2/28/14	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	2.2	mg/L	EPA 200.7	2/28/14	ESTAFFORD1
7439-96-5	Dissolved Mn by ICP	10	10 U	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7440-23-5	Na-Dissolved Sodium by ICP	0.10	4.3	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	120	ug/L	EPA 200.7	2/28/14	ESTAFFORD1
7429-90-5	B by ICP	50	52	ug/L	EPA 200.7	3/3/14	ESTAFFORD1
7440-38-3	Ba- Dissolved Barium by ICP	10	21	ug/L	EPA 200.7	3/6/14	ESTAFFORD1
	Stronium Dissolved by ICPMS	10	36	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	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	2/28/14	ESTAFFORD1
7440-66-6	Zn-Dissolved Zinc by ICP	10	10 U	ug/L	EPA 200.7	2/28/14	ESTAFFORD1

Cod/Break

1442807

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
 1

Lab Number : AC05365
 Date Received : 2-24-14
 Time Received : 14:45
 Received By : HWL
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS -Draper Landing

Seed: _____

Chlorinated: _____

Remarks: 481 by 8/11 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	10:45	11:10				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	ug/L
Tannin & Lignin	ug/L
Hexavalent Chromium	ug/L
Bicarbonate	mg/L
Carbonate	mg/L
Total Dissolved Solids	mg/L

NH3 as N 610	mg/L
TKN an N 625	mg/L
NO2 plus NO3 as N 630	mg/L
P: Total as P 665	mg/L
P04 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
x 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 E051796

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: **AC05365**
 PO Number #: **14W12807**
 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.: **DS-DRAPER LANDING**

Location ID: 4P079NC0003468ASHDAN	Collect Date: 02/21/2014	Collect Time: 10:45	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	7.74	ng/L	EPA 1631E	3/5/14	ESTAFFORD1

Cool Pond

14 W 1298
2/21/14 7:00p

DIVISION OF WATER QUALITY
Chemistry Laboratory Report / Water Quality

COUNTY : ROCKINGHAM
RIVER BASIN : COALDICE
REPORT TO : WSRO Regional Office
Other :
COLLECTOR(S) : L SMIDER / K BOONE

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY
VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : A05565
Date Received : 2-27-2014
Time Received : 7:30
Received By : AS
Data Released :
Date Reported :

Estimated BOD Range:

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>DEARERS LAWSINKS</u>	<u>1/12/14</u>		<u>1200</u>					


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

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

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

Li-Lithium 1132	ug/L
Mg-Magnesium 927	mg/L
Mn-Manganese 1055	ug/L
Na- Sodium 929	mg/L
<input checked="" type="checkbox"/> Arsenic:Total 1002	ug/L
Se- Selenium 1147	ug/L
Hg- Mercury 71900	ug/L
Ba-Barium	ug/L
Organochlorine Pesticides	
Organophosphorus Pesticides	
Organonitrogen Pesticides	
Acid Herbicides	
Base/Neutral & Acid Extractable Organics	
TPH Diesel Range	
Purgeable Organics (VOA bottle req'd)	
TPH Gasoline Range	
TPH/BTEX Gasoline Range	
Phytoplankton	
Temperature on arrival (°C):	<u>12.2</u>

COMMENTS:

County: ROCKINGHAM	 Division of Water Resources Final Report	Sample ID: AC05565
River Basin: ROA01		PO Number #: 14W12987
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: DRAPERSLANDING	Collect Date: 02/26/2014	Collect Time: 12:00
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	77	mg/L	SM 2540 B-1997	2/28/14	CGREEN
	Residue_Suspended in liquid	6.2	14	mg/L	SM 2540 D-1997	2/27/14	MOVERMAN
MET							
7429-90-5	Al by ICP	50	780	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	1100	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

Cc/End

14W12987mp
2/21/14

DIVISION OF WATER QUALITY

Chemistry Laboratory Report / Water Quality

COUNTY : ROCKINGHAM
RIVER BASIN : ROADNOKE
REPORT TO : WSRO Regional Office

Other :
COLLECTOR(S) : LAQUITA / E BOONE

Estimated BOD Range:

Seed: _____

Chlorinated: _____

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY

VISIT ID

Station Location: _____

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY

Lab Number : AC05564
Date Received : 2-27-214
Time Received : 750
Received By : MY
Data Released :
Date Reported :

Remarks: DAN R. COALASH SALL


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>DRAPERS LANDING</u>	<u>14/2/26</u>		<u>1200</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	Color: True 80	c.u.	P: Total as P 665	mg/L	Na- Sodium 929	mg/L
Coliform: MF Total 31504	/100ml	Color: (pH) 83 pH=	c.u.	PO4 as P 70507	mg/L	<input checked="" type="checkbox"/> Arsenic: Total 1002	ug/L
Coliform: tube Fecal 31615	/100ml	Color: pH 7.6 82	c.u.	P: Dissolved as P 666	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	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> Cu- Copper 1042	ug/L	Organophosphorus Pesticides	
Residue: Suspended 530	mg/L	Hardness Total 900	mg/L	<input checked="" type="checkbox"/> Ni-Nickel 1067	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	Specific Cond. 95	umhos/cm	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	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 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		

Temperature on arrival (°C):

21.7

COMMENTS:

County: ROCKINGHAM	 Final Report	Sample ID: AC05566
River Basin: ROA01		PO Number #: 14W12988
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: DRAPERSLANDING	Collect Date: 02/26/2014	Collect Time: 12:00
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
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

14W/3163

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

PRIORITY
 AMBIENT QA
 COMPLIANCE CHAIN OF CUSTODY
 EMERGENCY VISIT ID

SAMPLE TYPE
 STREAM EFFLUENT
 LAKE INFLUENT
 ESTUARY 1

Lab Number : AC05795
 Date Received : 3.6.14
 Time Received : 7:50
 Received By : mp
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

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		208					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.	P04 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):	()

COMMENTS : _____

County: ROCKINGHAM	 Final Report	Sample ID: AC05795
River Basin: ROA01		PO Number #: 14W13163
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.: DS-DRAPER LANDING		
Location ID: 4P079NC0003468ASHDAN	Collect Date: 03/05/2014	Collect Time: 12:08
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	14	mg/L	SM 2540 D-1997	3/6/14	CGREEN
	Total Dissolved Solids in liquid	12	68	mg/L	SM 2540 C-1997	3/6/14	CGREEN
MET							
7429-90-5	Al by ICP	50	630	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	900	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/KOC

14w 13/164

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. B. / B. B.

Lab Number : AC05796
 Date Received : 3-6-14
 Time Received : 7:50
 Received By : mf
 Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS -Draper Landing

1


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		1208					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	 Final Report	Sample ID: AC05796
River Basin: ROA01		PO Number #: 14W13164
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: RIVER/STREAM	Report Print Date: 03/15/2014	
Emergency Yes/No: <u>Yes</u>	VisitID	
COC Yes/No: <u>Yes</u>		
Loc. Descr.: DS-DRAPER LANDING		
Location ID: 4P079NC0003468ASHDAN	Collect Date: 03/05/2014	Collect Time: 12:08
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 13385

AC06097 PND

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

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

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

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

1

Lab Number : AC06097
Date Received : 3-13-2014
Time Received : 7:50 PM
Received By : [Signature]

3/13/2014

Data Released :
Date Reported :

Estimated BOD Range:

Station Location: DS -Draper Landing

Seed: Chlorinated:


Remarks: Dissolved metals

Table with 9 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 of parameters and units. Includes BOD, COD, Chloride, Color, pH, Cyanide, Fluoride, Formaldehyde, Grease and Oils, Hardness, Specific Cond., MBAS, Phenols, Sulfate, Sulfide, Boron, Tannin & Lignin, Hexavalent Chromium, Bicarbonate, Carbonate, Total Dissolved Solids, NH3, TKN, NO2, P, PO4, K-Potassium, Cd, Cr, Cu, Ni, Pb, Zn, V, Ag, Al, Be, Ca, Co, Fe, Mo, Sb, Sn, Tl, Ti, Hg-1631, and various pesticides.

Temperature on arrival (°C): 17

COMMENTS :

County: ROCKINGHAM	 Division of Water Resources	Sample ID: AC06097
River Basin: ROA01		PO Number #: 14W13383
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	Final Report	
Emergency Yes/No: <u>Yes</u>	VisitID	
COC Yes/No: <u>Yes</u>		
Loc. Descr.: DS-DRAPER LANDING		
Location ID: 4P079NC0003468ASHDAN	Collect Date: 03/12/2014	Collect Time: 12:32
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>
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	160	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	140	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 13383

AC06099 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) : S. B. C.

PRIORITY

AMBIENT QA

COMPLIANCE CHAIN OF CUSTODY

EMERGENCY

VISIT ID

1

Lab Number : ~~AC06097~~
 Date Received : 3-13-2014
 Time Received : 7:50
 Received By : TR

3/18/2014

Data Released :
 Date Reported :

Estimated BOD Range:

Station Location: DS - Draper Landing (Downstream at Hwy 700)

Seed: _____ Chlorinated: _____


Remarks: _____

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
4P079NC0003468AshDan	14/3/12		17:32					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	
x Residue: Suspended 530	mg/L	Grease and Oils 556	mg/L	x Ni-Nickel 1067	ug/L	Organonitrogen Pesticides	
Volatile 535	mg/L	Hardness Total 900	mg/L	Pb- Lead 1051	ug/L	Acid Herbicides	
Fixed 540	mg/L	Specific Cond. 95	umhos/cm	x Zn- Zinc 1092	ug/L		
pH 403	units	MBAS 38260	mg/L	V-Vanadium	ug/L	Base/Neutral&Acid Extractable Organics	
Acidity to pH 4.5 436	mg/L	Phenols 32730	ug/L	Ag- Silver 1077	ug/L	TPH Diesel Range	
Acidity to pH 8.3 435	mg/L	Sulfate 945	mg/L	x Al- Aluminum 1105	ug/L		
Alkalinity to pH 8.3 415	mg/L	Sulfide 745	mg/L	Be- Beryllium 1012	ug/L	Purgeable Organics (VOA bottle req'd)	
Alkalinity to pH 4.5 410	mg/L	Boron		Ca- Calcium 916	mg/L	TPH Gasoline Range	
TOC 680	mg/L	Tannin & Lignin	ug/L	Co- Cobalt 1037	ug/L	TPH/BTEX Gasoline Range	
Turbidity 76	NTU	Hexavalent Chromium	ug/L	x Fe- Iron 1045	ug/L	Phytoplankton	
Coliform Total Tube	/100 ml	Bicarbonate	mg/L	Mo-Molybdenum	ug/L		
		Carbonate	mg/L	Sb-Antimony	ug/L		
		x Total Dissolved Solids	mg/L	Sn-Tin	ug/L		
				Tl-Thallium	ug/L		
				Ti-Titanium	ug/L		
				Hg-1631	ng/L		

Temperature on arrival (°C): 17

COMMENTS :

County:	<u>ROCKINGHAM</u>	 Division of Water Resources Final Report	Sample ID:	AC06099
River Basin:	<u>ROA01</u>		PO Number #	14W13385
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>DS-DRAPER LANDING</u>				

Location ID: 4P079NC0003468ASHDAN	Collect Date: 03/12/2014	Collect Time: 12:32	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	1100	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	ug/L	EPA 200.7	3/17/14	ESTAFFORD1
Others							
	Total Dissolved Solids in liquid	12	70	mg/L	APHA2540C-18TH	3/16/14	MOVERMAN

1461343D

DIVISION OF WATER RESOURCES

Surface Water Fieldsheet

COUNTY : Caswell
 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

1

Lab Number AC06146
 Date Received : 3-17-14
 Time Received : 7:50
 Received By : AK
 Data Released : _____
 Date Reported : _____

Estimated BOD Range:

Station Location: DS - Draper Landing


Seed: _____ Chlorinated: _____

Remarks: 42115 146 Mercury

Station #/Location Code	Date Begin (yy/mm/dd)	Date End (yy/mm/dd)	Time Begin	Time End	Depth - DM, DB, DBM	Value Type - A, H, L	Composite-T, S, B	Sample Type
4P079NC0003468AshDan	14/3/12		12:00					G

BOD 310	mg/L	Chloride 940	mg/L	NH3 as N 610	mg/L	Li-Lithium 1132	ug/L
COD High 340	mg/L			TKN 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: AC06146
River Basin: ROA01		PO Number #: 14W13430
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. Desc.: DS-DRAPER LANDING		
Location ID: 4P079NC0003468ASHDAN	Collect Date: 03/12/2014	Collect Time: 12:20
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	2.92	ng/L	EPA 1631E	3/19/14	ESTAFFORD1