Clean Water 2020 Program

CONSENT DECREE QUARTERLY REPORT

October 1, 2020 - December 31, 2020





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Section 1 Introduction

1.1 Summary of Reporting Requirements

On May 21, 2014, the City of Columbia (City) entered into a Consent Decree (CD) with the United States Environmental Protection Agency (EPA), the United States Department of Justice (DOJ) and the South Carolina Department of Health and Environmental Control (SCDHEC). To fulfill the reporting requirements as defined in Section IX.39.a of the CD, the City has prepared this *Quarterly Report* that includes the following information (as excerpted from the CD):

- A description of all projects and activities conducted during the most recently completed calendar quarter to comply with the requirements of this Consent Decree, in Gantt chart or similar format. This description shall include completion percentages of early action capital improvement projects under Paragraph 10, continuing sewer assessments under the CSAP, and the subsequent remedial actions under the IR Report;
- 2. The date, time, location, source, duration, estimated volume, receiving water (if any), cause, and actions taken to repair or otherwise resolve the cause of all SSOs for the most recently completed quarter in a tabulated electronic format;
- The anticipated projects and activities that will be performed in the next quarter to comply with the requirements of this Consent Decree, in Gantt chart or similar format;
- 4. Any additional information that demonstrates that Columbia is implementing the remedial measures required in this Consent Decree; and
- 5. The results of water quality monitoring conducted during the previous Calendar Quarter as part of the SEP described in Appendix I of the Consent Decree.

1.2 Report Organization

This Quarterly Report is organized as follows:

Section 1 - Introduction

This section includes a summary of the reporting requirements and describes the report organization.

Section 2 - Schedule of Projects and Activities

This section addresses the requirements of Sections IX.39.a.(i) and IX.39.a.(iii) of the Consent Decree. The section includes the projects and activities conducted during the most recently completed calendar

quarter to comply with the requirements of the CD as well as the anticipated projects and activities that will be performed in the next quarter to comply with the requirements of the CD. A Gantt chart schedule of these activities is provided and includes completion percentages of continuing sewer assessments under the CSAP and the subsequent remedial actions under the IR Report, as applicable.

Section 3 - Additional Information Demonstrating Implementation of Consent Decree Requirements

This section addresses the requirements of Section IX.39.a.(iv) of the Consent Decree and includes additional information that demonstrates that Columbia is implementing the remedial measures required in the CD. Information supplemental to that which is provided in Section 2 is provided in this section.

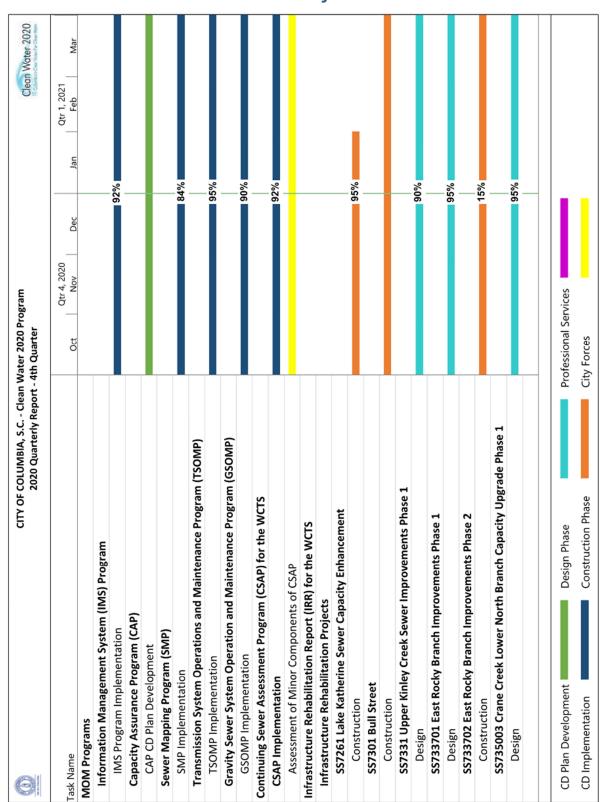
Section 4 – Quarterly SSO Report

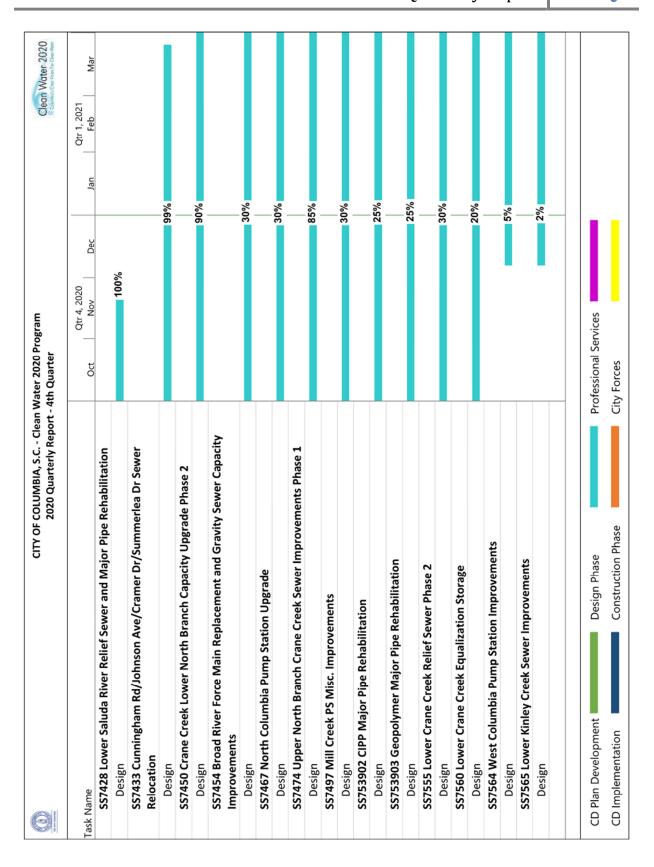
This section addresses the requirements of Section IX.39.a.(ii) of the Consent Decree and provides a tabular listing of sanitary sewer overflows (SSOs). The table includes the date, time, location, source, duration, estimated volume, receiving water (if any), cause, and actions taken to repair or otherwise resolve the cause of all SSOs that occurred during the most recently completed calendar quarter.

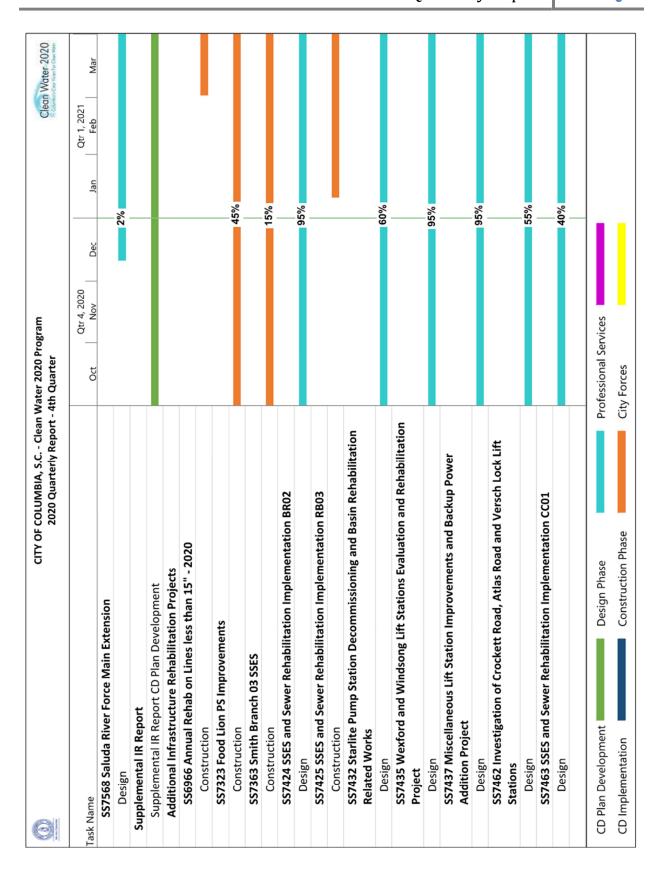
Section 5 - SEP Water Quality Monitoring Results

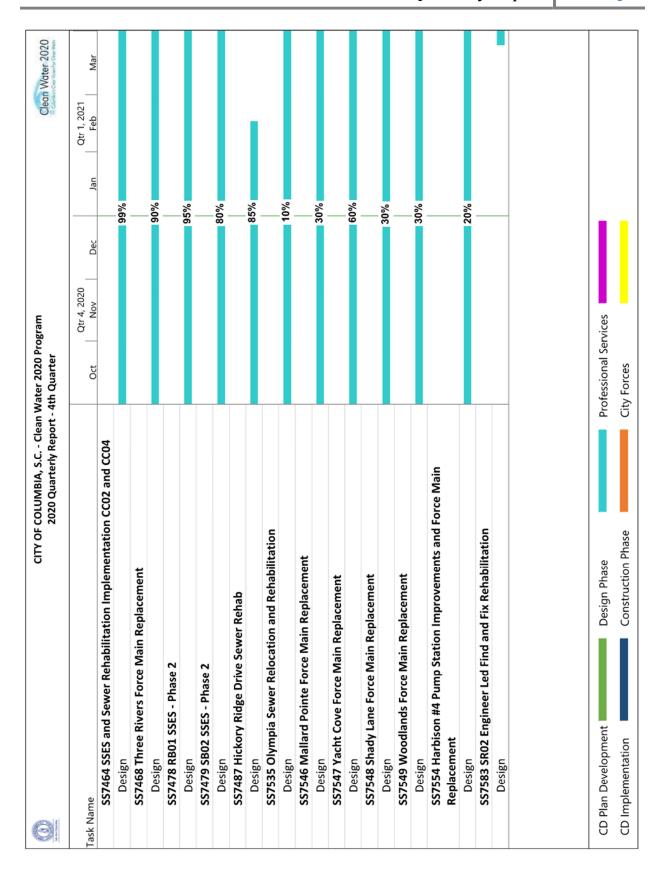
This section addresses the requirements of Section IX.39.a.(v) of the Consent Decree and provides the results of water quality monitoring conducted during the previous Calendar Quarter as part of the SEP described in Appendix I of the CD.

Section 2 Schedule of Projects and Activities









Section 3 Additional Information Demonstrating Implementation of Consent Decree Requirements

In accordance with Section IX.39.a.(iv) of the CD, the following section provides additional information that demonstrates that the City is implementing the remedial measures required in the CD.

3.1 MOM Programs

In accordance with Section V.12 of the CD, the City is developing and implementing specific Management, Operations, and Maintenance (MOM) programs. The Program elements addressed in this section provide information regarding activities involving the Metro WWTP as well as the City's Wastewater Collection and Transmission System (WCTS).

Information Management System (IMS) Program 3.1.1

The IMS Program was submitted to EPA and SCDHEC on January 4, 2016. The City received final approval of the IMS Program from EPA and SCDHEC on May 23, 2016.

The activities completed or in progress during the current reporting period are as follows:

Sewer Mapping Program – 84% Complete

Sewer Mapping Program 3.1.2

In accordance with the requirements of the CD, the City was to develop and submit a Sewer Mapping Program (SMP) to EPA and SCDHEC within 60 days of the date of entry of the CD. The City received final approval of the SMP from EPA and SCDHEC on December 9, 2014.

Projects and significant activities completed during the current reporting period:

- The City continues to complete the electronic mapping of each Sewer Basin in accordance with the approved SMP implementation plan. Progress for each WCTS Minor Gravity Mapping basin is as follows:
 - West Columbia Basin 100% complete (Mapping complete as of June 9, 2020)
 - Smith Branch Basin 89% complete
 - Saluda River Basin 97% complete
 - o Rocky Branch Basin 82% complete
 - o Mill Creek Basin 28% complete
 - o Gills Creek Basin 56% complete
 - Crane Creek Basin 71% complete
 - Broad River Basin 47% complete

3.1.3 Transmission System Operations and Maintenance Program (TSOMP)

The TSOMP was submitted to EPA and SCDHEC on May 18, 2015. The City received final approval of the TSOMP from EPA and SCDHEC on September 2, 2016.

The activities completed or in progress during the current reporting period are as follows:

 Force Main and Easement Maintenance (Easement survey and marking and initial clearing to the surveyed limits, where practical) – 85% Complete

3.1.4 Gravity Sewer System Operation and Maintenance Program (GSOMP)

The GSOMP was submitted to EPA and SCDHEC on November 20, 2015. The City received final approval of the GSOMP from EPA and SCDHEC on May 23, 2016. The GSOMP was revised and resubmitted to EPA and SCDHEC on May 8, 2019.

The activities completed or in progress during the current reporting period are as follows:

 Gravity Sewer Easement survey and marking and initial clearing to survey the limits, where practical – 70% Complete

3.2 Continuing Sewer Assessment Program (CSAP) for the WCTS

The CSAP was submitted to EPA and SCDHEC on June 9, 2015. The City received final approval of the CSAP from EPA and SCDHEC on May 23, 2016. The CSAP was revised and resubmitted to EPA and SCDHEC on October 3, 2018. The City received approval of the revised CSAP from EPA and SCDHEC on February 6, 2019.

The activities under the Minor Components of the CSAP completed or in progress during the current reporting period are as follows:

- Minor Gravity Sewer and Manholes Condition Assessment 77% Complete
- Minor Pump Stations Condition Assessment 77% Complete
- Minor Force Mains Field Assessment 77% Complete

3.3 Infrastructure Rehabilitation Report (IRR) for the WCTS

In accordance with Section V.16 of the CD, the City shall submit an Infrastructure Rehabilitation Report (IRR) summarizing the results of the CSAP of the major components of the WCTS and a description of proposed rehabilitation projects. The IRR was submitted to EPA and SCDHEC on November 22, 2019. The City is awaiting EPA and SCDHEC review and approval of the IRR.

As rehabilitation projects are identified through the assessments described in Section 3.2 and in the normal course of operations and maintenance, the City is proceeding with design and construction of those projects. Completion percentages of projects currently in progress are as follows:

- SS7261 Lake Katherine Sewer Capacity Enhancement Construction 95% Complete
- SS7289 Rivermont Drive Pump Station and Force Main Project has been cancelled due to
 further assessment of available flow data. Upon further analysis it was determined the project is
 no longer needed from a capacity standpoint. The implementation of SS7568 Saluda River Force
 Main Extension will provide the required capacity improvements within the limits of this project.
- SS7301 Bull Street Construction in Progress; a completion percentage cannot be provided due to a varying scope of work and timeline for this project.
- SS7331 Upper Kinley Creek Sewer Improvements Phase 1 Design 90% Complete
- SS733701 East Rocky Branch Improvements Phase 1 Design 95% Complete
- SS733702 East Rocky Branch Improvements Phase 2 Construction 15% Complete
- SS735003 Crane Creek Lower North Branch Capacity Upgrade Phase 1 Design 95% Complete
- SS7428 Lower Saluda River Relief Sewer and Major Pipe Rehabilitation Design 100% Complete
- SS7433 Cunningham Rd/Johnson Ave/Cramer Dr/Summerlea Dr Sewer Relocation Design 99% Complete
- SS7450 Crane Creek Lower North Branch Capacity Upgrade Phase 2 Design 90% Complete
- SS7454 Broad River Force Main Replacement and Gravity Sewer Capacity Improvements –
 Design 30% Complete
- SS7467 North Columbia Pump Station Upgrade Design 30% Complete
- SS7474 Upper North Branch Crane Creek Sewer Improvements Phase 1 Design 85% Complete
- SS7497 Mill Creek Pump Station Miscellaneous Improvements 30% Design Complete
- SS753902 CIPP Major Pipe Rehabilitation 25% Design Complete
- SS753903 Geopolymer Major Pipe Rehabilitation 25% Design Complete
- SS7555 Lower Crane Creek Relief Sewer Phase 2 Design 30% Complete
- SS7560 Lower Crane Creek Equalization Storage 20% Design Complete
- SS7564 West Columbia Pump Station Improvements 5% Design Complete
- SS7565 Lower Kinley Creek Sewer Improvements 2% Design Complete
- SS7568 Saluda River Force Main Extension 2% Design Complete

In accordance with Section V.16.c of the CD, the City shall submit a Supplemental Infrastructure Rehabilitation Report (SIRR) which shall update all portions of the IRR to reflect additional information developed by the City through completion of the CSAP of the minor components of the WCTS. The SIRR is to be submitted within six months after the City has assessed the remainder of the entire WCTS pursuant to the CSAP. As rehabilitation projects are identified through the assessments described in Section 3.2 and in the normal course of operations and maintenance, the City is proceeding with design and construction of those projects. Completion percentages of projects currently in progress are as follows:

SS6966 Annual Rehab on Lines less than 15" – 2020 Construction 0% Complete

- SS7323 Food Lion PS Improvements Construction 45% Complete
- SS7363 Smith Branch 03 SSES Construction 15% Complete
- SS7424 SSES and Sewer Rehabilitation Implementation BR02 Design 95% Complete
- SS7425 SSES and Sewer Rehabilitation Implementation RB03 Construction 0% Complete
- SS7432 Starlite PS Decommissioning and Basin Rehabilitation Related Works Design 60%
 Complete
- SS7435 Wexford and Windsong Lift Stations Evaluation and Rehabilitation Project Design 95%
 Complete
- SS7437 Miscellaneous Lift Station Improvements and Backup Power Addition Project Design 95% Complete
- SS7462 Investigation of Crockett Road, Atlas Road and Versch Lock Lift Stations Design 55%
 Complete
- SS7463 SSES and Sewer Rehabilitation Implementation CC01 Design 40% Complete
- SS7464 SSES and Sewer Rehabilitation Implementation CC02 and CC04 Design 99% Complete
- SS7468 Three Rivers Force Main Replacement Design 90% Complete
- SS7478 Rocky Branch 01 SSES Phase 2 Design 95% Complete
- SS7479 Smith Branch 02 SSES Phase 2 Design 80% Complete
- SS7487 Hickory Ridge Drive Sewer Rehab Design 85% Complete
- SS7535 Olympia Sanitary Sewer Relocation and Rehabilitation 10% Design Complete
- SS7546 Mallard Pointe Force Main Replacement 30% Design Complete
- SS7547 Yacht Cove Force Main Replacement 60% Design Complete
- SS7548 Shady Lane Force Main Replacement 30% Design Complete
- SS7549 Woodlands Force Main Replacement 30% Design Complete
- SS7554 Harbison #4 Pump Station Improvements and Force Main Replacement Design 20%
 Complete
- SS7583 Saluda River 02 Engineer Led Find and Fix Rehabilitation Design 0%

3.4 Sewer System Hydraulic Model

The Hydraulic Model Report was submitted to EPA and SCDHEC on August 21, 2020. The City is awaiting EPA and SCDHEC review and approval of the Hydraulic Model Report.

Quarterly SSO Report Section 4

In accordance with Section IX.39.a.(ii) of the CD, the City is to provide a list of all SSOs that occurred during the reporting period in a tabular format along with information on the date, time, location, source, duration, estimated volume, receiving water, cause, and actions taken to resolve the SSO.

Table 1 - SSO Report, 4th Quarter 2020

					City of Co	lumbia, SC			
						SSO Listing			
					4th Qua	rter 2020			
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
10/2/2020	23:00	343 Wycombe Rd, Columbia, SC 29212	Cleanout	TE	BD	1676	Storm Drain	Roots	Main Line Wash To Remove Stoppage And Resume Normal Flow. Main Line Repair.
10/4/2020	10:15	7402 Fairfield Rd, Columbia, SC 29203	Manhole	10/8/2020	09:00	2454	Trib To Crane Creek	Debris	Removed Stoppage To Resume Normal Flow. Main Line Wash.
10/5/2020	13:50	2731 Prince Charles Ct, Columbia, SC 29209	Line Segment	10/8/2020	12:00	315000	Trib To Mill Creek	Collapsed Line	Removed Stoppage To Unblock The Main Line Main Line Repair.
10/7/2020	09:04	88 Ridge Lake Dr, Columbia, SC 29209	Manhole	10/7/2020	10:00	53900	Unnamed Pond And Trib To Mill Creek	Equipment Failure	Deflated Plug In Line And Allowed Flow To Resume. Replaced Bypass Pump And Relocated Plug.
10/8/2020	06:45	88 Ridge Lake Dr, Columbia, SC 29209	Manhole	10/8/2020	07:30	15750	Unnamed Pond And Trib To Mill Creek	Equipment Failure	Replaced Fuel Filter On Bypass Pump And Restarted Pump.
10/9/2020	09:04	1844 Tall Pines Cir, Columbia, SC 29205	Cleanout	10/9/2020	10:30	55		Debris	Removed Blockage To Resume Normal Flow. Washed Service Line To Remove Blockage.
10/12/2020	10:15	349 Wycombe Rd, Columbia, SC 29212	Cleanout	10/12/2020	10:45	38		Roots	Removed Stoppage To Resume Normal Flow. Washed Service Line To Remove Roots.
10/14/2020	12:45	631 S Assembly St, Columbia, SC 29201	Manhole	10/15/2020	09:00	900	Storm Drain	Grease	Removed Stoppage To Resume Normal Flow. Washed Main Line To Remove Grease Deposits.
10/16/2020	11:35	900 Gregg St, Columbia, SC 29201	Cleanout	10/19/2020	11:45	10	Storm Water Ditch	Roots	Removed Stoppage To Resume Normal Flow. Service Line Root Cut.
10/16/2020	15:20	196 Upper Wing Trl, Blythewood, SC 29016	Manhole	10/16/2020	16:30	516		Grease	Removed Blockage To Resume Normal Flow. Main Line Wash To Remove Grease.
10/19/2020	12:28	1100 Butler St, Columbia, SC 29205	Cleanout	TE	SD.	15		Roots	Removed Stoppage To Resume Normal Flow. Service Line Repair.
10/26/2020	14:40	331 Killian Rd, Columbia, SC 29203	Forcemain	10/27/2020	16:11	140	Storm Drain	Force Main	Shut Down Pump Station. Force Main Repair.
10/28/2020	09:45	226 Wren Creek Cir, Columbia, SC 29016	Manhole	TE	D	425	Lot Branch	Roots	Removed Stoppage To Resume Normal Flow. Main Line Root Cut.
10/30/2020	11:00	204 Kemsing Rd, Columbia, SC 29212	Cleanout	TE	BD.	25		Roots	Removed Blockage To Resume Normal Flow. Cleanout Repair.
11/3/2020	14:30	100 Northeast Dr, Columbia, SC 29203	Manhole	TE	BD	30		Roots	Removed Blockage To Resume Normal Flow. Main Line Repair.
11/7/2020	15:00	511 Alcott Dr, Columbia, SC 29203	Manhole	11/7/2020	15:15	118	Storm Drain	Grease	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Blockage.
11/9/2020	12:30	6825 Pennington Rd, Columbia, SC 29209	Manhole	TE	SD.	35		Collapsed Line	Removed Stoppage To Resume Normal Flow. Main Line Repair.
11/12/2020	16:05	7504 Teague Rd, Columbia, SC 29209	Manhole	TE	BD	10085	Sunview Lake (Mill Creek)	Roots	Removed Blockage To Resume Normal Flow. Manhole Repair.
11/17/2020	16:30	104 Overland Dr, Columbia, SC 20203	Cleanout	TE	SD.	54	Storm Drain	Collapsed Line	Removed Stoppage To Resume Normal Flow. Emergency Service Line Repair.
11/20/2020	16:05	3028 Richfield Dr, Columbia, SC 29201	Cleanout	11/21/2020	13:30	180	Storm Drain	Collapsed Line	Removed Stoppage To Resume Normal Flow. Emergency Service Line Repair.
11/19/2020	08:45	4700 Devereaux Rd, Columbia, SC 29205	Cleanout	11/19/2020	08:45	10		Roots	Removed Blockage To Resume Normal Flow. Service Line Root Cut.
11/29/2020	14:10	409 Old Woodlands Rd, Columbia, SC 29209	Manhole	12/1/2020	09:00	3000		Roots	Removed Blockage To Resume Normal Flow. Main Line Repair.
11/30/2020	10:20	409 Old Woodlands Rd, Columbia, SC 29209	Manhole	12/1/2020	09:00	860		Roots	Removed Blockage To Resume Normal Flow. Main Line Repair.
12/2/2020	16:00	7628 N Woodrow St, Irmo, SC 29063	Manhole, Cleanout	IBD			Storm Drain	Roots	Removed Blockage To Resume Normal Flow. Tap Renewal On Multiple Taps.
12/6/2020	15:30	712 Irby Ave, Columbia, SC 29203	Manhole	12/6/2020	17:00	900		Debris	Removed Stoppage To Resume Normal Flow. Washed Main Line To Remove Debris.
12/8/2020	16:00	3001 Millwood Ave, Columbia, SC 29205	Cleanout	12/9/2020	00:00	51	Storm Drain	3rd Party Responsibility	Removed Blockage To Resume Normal Flow. Service Line Repair.

					City of Col	umbia, SC			
					Quarterly:	SSO Listing			
					4th Quar	ter 2020			
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
12/8/2020	10:30	810 Pelican Cir, Columbia, SC 29203	Manhole	12/16/2020	07:16	15		Collapsed Line	Removed Blockage To Resume Normal Flow Main Line Repair.
12/9/2020	14:00	124 Harbison Blvd, Columbia, SC 29212	Manhole	12/9/2020	15:30	120		Roots	Removed Blockage To Resume Normal Flow Washed Main Line 60 Feet To Remove Roots
12/20/2020	11:05	133 Crossbow Ct, Columbia, SC 29212	Manhole	TE	BD	714		Roots	Removed Blockage To Resume Normal Flow Main Line Repair To Remove Root Ball.
12/13/2020	12:00	2936 Stratford Rd, Columbia, SC 29204	Cleanout	12/14/2020	13:00	8	Storm Drain	3rd Party Responsibility	Removed Stoppage To Resume Normal Flov Emergency Clean Out Install/Service Line Repair.
12/14/2020	17:30	7309 Patterson Rd, Columbia, SC 29209	Cleanout	ТЕ	BD	22		3rd Party Responsibility	Removed Blockage To Resume Normal Flow Service Line Repair.
12/15/2020	16:44	1601 Assembly St, Columbia, SC 29201	Manhole	N/	/A	5	Storm Drain	Collapsed Line	Removed Stoppage To Resume Normal Flow Repair To Be Done By A Contractor.
12/21/2020	07:40	7321 Fontana Dr, Columbia, SC 29209	Cleanout	ТВ	BD	675	Trib To Mill Creek	Collapsed Line	Removed Blockage To Resume Normal Flow Main Line Repair.
12/21/2020	18:00	18 Thistle Ct, Irmo, SC 29063	Forcemain	12/21/2020	21:00	6069	Swygert Branch	Force Main	Emergency Force Main Repair.
12/21/2020	15:07	409 Old Woodlands Rd, Columbia, SC 29209	Manhole	12/23/2020	12:00	9565	Storm Water Ditch	Roots	Removed Blockage To Resume Normal Flow Main Line Repair.
12/22/2020	19:00	3513 Moss Ave, Columbia, SC 29205	Cleanout	ТЕ	BD	15		Roots	Removed Stoppage To Resume Normal Flow Tap Renewal.
12/29/2020	13:00	4412 Palmetto Ave, Columbia, SC 29205	Cleanout	12/29/2020	13:20	200		Collapsed Line	Removed Blockage From Manhole. Washed Main Line 350 Feet.

As noted in Section IV.8.a of the CD, a Building Backup is defined as a release of wastewater into a building or onto private property that is caused by blockages, flow conditions, or other malfunctions in the WCTS.

No building backups were identified within the City's system for the current reporting period.

Section 5 SEP Water Quality Monitoring Results

In accordance with Section IX.39.a.(v) of the CD, the following section provides a summary of the results of water quality monitoring conducted during the previous calendar quarter as part of the Supplemental Environmental Project (SEP) described in Appendix I of the CD.

5.1 Sampling Conducted and Results

As a part of the SEP requirements established in Section VIII and Appendix I of the CD, the City is to conduct water quality monitoring at three locations to assist in evaluation of the environmental benefits of the SEP in improving water quality in Smith Branch and Gills Creek. The City is to implement a program for ambient monitoring of dissolved oxygen (DO), total suspended solids (TSS), temperature, and E. coli at the following monitoring sites:

- Gills Creek at Garner's Ferry Road
- Smith Branch at North Main Street
- Gills Creek at Bluff Road

In accordance with the requirements of the CD, the City was to submit a Quality Assurance Project Plan (QAPP) to SCDHEC within 60 days of the date of entry of the CD. The City originally submitted the QAPP to SCDHEC on July 18, 2014 in advance of the deliverable deadline. The City subsequently received comments from SCDHEC and resubmitted the QAPP to SCDHEC on January 13, 2015. The City received final approval of the QAPP from EPA and SCDHEC on January 15, 2016. The QAPP was revised and resubmitted to SCDHEC on May 31, 2017 and on December 19, 2018 to reflect changes in City personnel. The revised QAPP was approved on January 9, 2019. The QAPP was subsequently revised and resubmitted to SCDHEC on January 22, 2019 to reflect a change in the testing laboratory. Following comments from SCDHEC and additional resubmittals, the City received approval of the revised QAPP from EPA and SCDHEC on April 2, 2019.

The City monitored quarterly for the first three years under the CD (through January 15, 2019) and will monitor monthly (or every other month at the Gills Creek at Bluff Road site) from years four through six under the CD.

Water quality monitoring for 2020 Q3 was completed on October 29, 2020, November 25, 2020, and December 28, 2020. Monitoring results are provided below for the following samples:

C-001: Gills Creek at Garner's Ferry Road

B-280: Smith Branch at North Main Street

C-017: Gills Creek at Bluff Road

<u>City of Columbia Quality Assurance Project Plan (QAPP) Data</u> <u>Verification and Validation Form</u>

City of Columbia Supplemental Environmental Projects QAPP

November 2015, Revised May 2017, Revised December 2018, Revised January 2019

Laboratory Report Date: 10-29-2020	_
The undersigned verifies the data in the above	e referenced report, per the QAPP requirements.
Miranda S. Styles	11/09/2020
Project Verifier/QA Manager	Date
Miranda S. Staples Printed Name	
The undersigned validates the data in the abo	ve referenced report, per the QAPP requirements.
AJ Jessee	11/9/2020
Project Manager/Project Validator	Date

Printed Name





Laboratory Services

Laboratory Report

Received:

Client Woolpert Inc. - City of Columbia

Michael Long

2000 Center Point Road Ste 2200

Columbia, SC 29210

Project: Water Quality Testing

Work Order: 0101210

10/22/2020 12:50

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on October 22, 2020. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Lauren Hollister, your Project Manager, at lhollister@rcenviro.com, (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

Lauren Hollister

Lauren Hollister Project Manager





South Carolina Greenville Laboratory Identification 23105 South Carolina Columbia Laboratory Identification 40572 North Carolina Laboratory Certification Number 27 North Carolina Drinking Water Lab Number 45710 NELAP Utah Certificate Number SC000042014-1 Georgia Drinking Water Lab ID 880

Client Woolpert Inc. - City of Columbia

Certificate of Analysis

Michael Long

2000 Center Point Road Ste 2200

Columbia, SC 29210

Water Quality Testing Project:

Work Order: 0101210

Received: 10/22/2020 12:50

Sample Number	Sample Description	Matrix	Sampled	Type
0101210-01	DHEC B-280 Smith Branch @ N. Main St	Wastewater	10/22/20 11:19	Grab
0101210-02	DHEC B-280 Smith Branch @ N. Main St	Wastewater	10/22/20 11:20	Grab
0101210-03	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	10/22/20 11:52	Grab
0101210-04	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	10/22/20 11:53	Grab
0101210-05	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	10/22/20 12:22	Grab
0101210-06	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	10/22/20 12:23	Grab



Woolpert Inc. - City of Columbia 2000 Center Point Road Ste 2200

Columbia, SC 29210

Project:

Water Quality Testing

Work Order: Reported: 0101210 10/29/20 09:56

Sample Data

Sample Number

0101210-01

Sample Description

DHEC B-280 Smith Branch @ N. Main St collected on 10/22/20 11:19

Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		8.1	0.1	mg/L	1.00	10/22/20 11:21	SM 4500 OG-2011		MBW	B0J1109	RC-C
Grab		Complete				10/22/20 11:19	Grab		MBW	B0J1109	RC-C
Temperature		20.7	0.0	°C	1.00	10/22/20 11:21	SM 2550B-2010		MBW	B0J1109	RC-C
Sample Number Sample Description	0101210-02 DHEC B-280 S	Smith Branc	h @ N. Maiı	n St collected	l on 10/2	2/20 11:20					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Paran	neters										
E. Coli		4962	20	MPN/100 mL	20.0	10/22/20 15:07	SM 9223B-2004		MBW	B0J1182	RC-C
General Chemistry Pa	rameters										
Total Suspended Solids		2.0	1.0	mg/L	1.00	10/27/20 09:00	SM 2540D-2011		SMN	B0J1260	RC-C
Sample Number Sample Description	0101210-03 DHEC C-001	Gills Creek (@ Garners F	erry Rd colle	ected on 1	10/22/20 11:52					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		8.1	0.1	mg/L	1.00	10/22/20 11:54	SM 4500 OG-2011		MBW	B0J1109	RC-C
Temperature		23.9	0.0	°C	1.00	10/22/20 11:54	SM 2550B-2010		MBW	В0J1109	RC-C
Sample Number Sample Description	0101210-04 DHEC C-001	Gills Creek (@ Garners F	erry Rd colle	ected on 1	10/22/20 11:53					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Paran	neters										
E. Coli		828	20	MPN/100 mL	20.0	10/22/20 15:07	SM 9223B-2004		MBW	В0J1182	RC-C
General Chemistry Pa	rameters										
Total Suspended Solids		8.4	1.4	mg/L	1.40	10/27/20 09:00	SM 2540D-2011		SMN	B0J1260	RC-C



Woolpert Inc. - City of Columbia 2000 Center Point Road Ste 2200 Columbia, SC 29210

Project:

Water Quality Testing

Flag

Analyst

Batch

Lab

Work Order: Reported:

Analyzed

0101210 10/29/20 09:56

Method

Sample Number

Parameter

0101210-05

Sample Description

DHEC C-017 Gills Creek @ Bluff Road collected on 10/22/20 12:22

Reporting

Limit

Result

Units

Field Parameters											
Dissolved Oxygen	7	7.0	0.1	mg/L	1.00	10/22/20 12:24	SM 4500 OG-2011		MBW	В0J1109	RC-C
Temperature	2	5.5	0.0	°C	1.00	10/22/20 12:24	SM 2550B-2010		MBW	B0J1109	RC-C
Sample Number Sample Description	0101210-06 DHEC C-017 Gills C	Creek @ B	luff Road	l collected or	n 10/22/2	0 12:23					
		_									
Parameter	Re		porting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Parameter Microbiological Parameter				Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
	ters			Units MPN/100 mL	DF 20.0	Analyzed 10/22/20 15:07	Method SM 9223B-2004	Flag	Analyst MBW	Batch B0J1182	Lab RC-C
Microbiological Parame	ters 2	esult	Limit	MPN/100		•		Flag			

DF

10/29/2020 09:56



Woolpert Inc. - City of Columbia 2000 Center Point Road Ste 2200 Columbia, SC 29210

Water Quality Testing Project:

Work Order: 0101210 10/29/20 09:56 Reported:

Data Qualifiers and Definitions

Analyte NOT DETECTED at or above the reporting limit ND

NR Not reported

Laboratory Reference:

RC-G = Rogers and Callcott, 426 Fairforest Way, Greenville, SC 29607 / SC Lab ID 23105 RC-C = Rogers and Callcott, 215B Stoneridge Drive, Columbia, SC 29210 / SC Lab ID 40572

10/29/2020 09:56

WORK ORDER OID 1310	Filtered (Yes/No)	Cooled (Yes/No)	Container Type (Plastic/Glass)	Container Volume (mL)	Sample Type (Grab/Composite)	Sample Source (WW, GW, DW, SW, S, Other)		Preservation Code(s) A - None F - HCl	F - Na ₂ S ₂ O ₃	C - H ₂ SO ₄ G - Boric Acid K - NaH ₂ PO ₄ D - NaOH H - Ascorbic Acid L - NH ₄ C		> 0 COMMENTS	D.O 8.04 mg/L	Temp-20.7 °C	Collected @ 1119	Analyzed @ 1121	d d	Weather 76° F / Cloudy		Composite Start Date/Time:	Composite End Date/Time:	Time or Flow (Circle one) Initials:	Temperature of blank or representative sample	At time of collection At time of lab receipt O. 3
' RECORD																				DATE/TIME:	DATE/TIME:	de a laby at the a few	DATE/TIME:	DATE/TIME:
CHAIN OF CUSTODY RECORD	z	>	<u>а</u>	0.56 120	9	ww ww	4		↑ (s)	ter(Par TSS	Т	H										
	ENVIRONMENTAL		7	Fax (864) 232-6140 Phone (803) 509-8999	olumbia		 	luoo		e de la composición dela composición dela composición de la composición dela composición dela composición de la composición de la composición de la composición de la composición dela composición de la composición del composición dela co	Project # Water Quality Testing	SAMPLE DESCRIPTION	DHEC B-280 (Smith Branch @ N. Main St)	DHEC B-280 (Smith Branch @ N. Main St)						DATE/TIME: RECEIVED BY:	ME:		DATE/TIME: RECEIVED BY:	DATE/TIME: RECEIVED BY:
Rogers & Callcott	ENVIRONMENTAL S Continue of Commitment and Outlift		Shipping Address:	Phone (864) 232-1556 Fax (Client Name Woolpert – City of Columbia	Address 2000 Center Point Road Suite 2200	Columbia, SC 29210	Report To: Michael Long	Email Address Michael.long@woolpert.com	Telephone # 803-214-5936		R & C YR 2D WORK ORDER DATE TIME	0211 72:01	0211 22:01						SAMPLER – RELINDUISHED BY:	RELINQUISHED BY:		RELINQUISHED BY: 5.	RELINQUISHED BY:

3

Form Revised March, 2019

O Poison O Unknown O Other_

Skin Irritant

Possible Hazards associated with samples: O Non-Hazard Flammable

CHAIN OF CUSTODY RECORD

WORK ORDER CICIBIO

Sample Source (WW, GW, DW, SW, S, Other) 200 to I - Zn Acetate K - NaH₂PO₄ Temperature of blank or representative sample J - H₃PO₄ H - Ascorbic Acid L - NH4Cl 4 mg/L Sample Type (Grab/Composite) Preservation Code(s) Collected @ 1153 Container Type (<u>P</u>lastic/<u>G</u>lass) Analyzed @ 1154 COMMENTS of Initials: 0 G - Boric Acid Weather-78*F Container Volume (mL) Q - - Na₂S₂O₃ 23.9 E-HCI D.O. 8.09 Filtered (Yes/No) Cooled (Yes/No) Time or Flow (Circle one) Composite Start Date/Time: Page At time of lab receipt Composite End Date/Time: At time of collection Temp-C - H₂SO₄ D - NaOH 103 Form Revised March, 2019 A - None B - HNO₃ 022 W220 DATE/TIME: DATE/TIME: DATE/TIME: DATE/TIME: Possible Hazards associated with samples: O Non-Hazard O Flammable O Skin Irritant O Poison O Unknown O Other 120 ≷ E. Coli \leftarrow 9 ш ≶ 0.56 SST 9 ⋖ > Parameter(s) 🗸 \leftarrow Total Number of Containers DHEC C-001 (Gills Creek @ Garners Ferry Rd) DHEC C-001 (Gills Creek @ Garners Ferry Rd) RECEIVED BY: RECEIVED BY: RECEIVED BY: RECEIVED BY: Project # Water Quality Testing 215B Stoneridge Drive Phone (803) 509-8999 Columbia, SC 29210 SAMPLE DESCRIPTION 4 0501 02.22.01 DATE/TIME: DATE/TIME: DATE/TIME: DATE/TIME: 2000 Center Point Road Suite 2200 JAHABEZONESAM Half a century of commitment and quality Shipping 426 Fairforest Way Address: Greenville, SC 29607 Fax (864) 232-6140 Woolpert - City of Columbia Michael.long@woolpert.com Columbia, SC 29210 150 150 803-214-5936 SAMPYER - RELINGUISHED BY: Michael Long 2750 Phone (864) 232-1556 DATE Greenville, SC 29606 RELINQUISHED BY: 5. RELINQUISHED BY: RELINQUISHED BY: PO Box 5655 **Email Address WORK ORDER** Telephone # Client Name Report To: 30 るい Address Address: # Od

WORK ORDER OLD 1910 **CHAIN OF CUSTODY RECORD**

Sample Source (WW, GW, DW, SW, S, Other) 700 I - Zn Acetate K - NaH₂PO₄ Temperature of blank or representative sample JN 8 W 92.22.91 ပ がなっている。 J-H₃PO₄ H - Ascorbic Acid L - NH₄Cl mg/L Sample Type (Grab/Composite) Preservation Code(s) 10.22:20 M. B. M. Analyzed @ +2+ Container Type (<u>P</u>lastic/<u>G</u>lass) Collected @ 424 COMMENTS $^{\circ}$ Initials: 9 Weather- 80° F / G - Boric Acid Container Volume (mL) F - Na₂S₂O₃ Ó Temp- 25. S D.O.- 6.98 E-HCI Filtered (Yes/No) Cooled (Yes/No) Time or Flow (Circle one) Composite Start Date/Time: At time of lab receipt Composite End Date/Time: At time of collection 50, A - None C - H₂SO₄ D - NaOH B - HNO₃ 12-22-20 1230 DATE/TIME: DATE/TIME: DATE/TIME: DATE/TIME: 120 ≶ 9 E. Coli \vdash Δ. ш > 0.56 ≷ Z 9 **SST** Δ \triangleleft Parameter(s) 🗸 Total Number of Containers DHEC C-017 (Gills Creek @ Bluff Road) DHEC C-017 (Gills Creek @ Bluff Road) Project # Water Quality Testing RECEIVED BY: RECEIVED BY: RECEINED BY: RECEIVED BY: 215B Stoneridge Drive Phone (803) 509-8999 Columbia, SC 29210 SAMPLE DESCRIPTION 4. 6 0521 02-22 Ol DATE/TIME: DATE/TIME: DATE/TIME: DATE/TIME: 2000 Center Point Road Suite 2200 Half a century of commitment and quality Shipping 426 Fairforest Way Address: Greenville, SC 29607 ENVIRONMENTAL Fax (864) 232-6140 Woolpert -- City of Columbia Michael.long@woolpert.com Columbia, SC 29210 2 22 TIME 803-214-5936 Michael Long SAMPLER - RELINQUISHED BY 10.22 10:55 Phone (864) 232-1556 YR 28 Greenville, SC 29606 RELINQUISHED BY: RELINQUISHED BY: 5. RELINQUISHED BY: PO Box 5655 **Email Address WORK ORDER** Telephone # Client Name 201 و ۵ ۱ Report To: Mailing Address:

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Form Revised March, 2019

Possible Hazards associated with samples: O Non-Hazard O Flammable O Skin Irritant O Poison O Unknown O Other



Sample Receipt Verification

Client: \\\\	olpert			Date ceived:	10	. 2	9 · 5	00	Work Order:	010121	٥
Carrier Name: (to Columbia)	Client Tracking		JPS	USI	Mail		Cou	rier Fie	ld Services	Other:	
Carrier Name: (to Greenville)	Client Tracking	FedEx U	JPS	US I	8		Cou	rier Fie	ld Services	Other:	
Receipt Criteria					Y e s	No	N A	Comment	s		
Shipping container	/ cooler intact?				X			Damaged	Leaking (Other:	
Custody seals intac	et?						×				
COC included with	samples?				x						
COC signed when	relinquished and rec	eived?			×						
Sample bottles inta	ict?				×			Damaged	Leaking (Other:	
Sample ID on COC	agree with label or	n bottle(s)?			×						
Date / time on COO	C agree with label o	n bottle(s)?			Х						
Number of bottles	on COC agrees with	number of bottles re	ceived?		×						
Samples received v	within holding time?	,			×						·····
Sample volume suf	fficient for analysis?	,			×						
VOA vials free of l	headspace (<6mm b	ubble)?					X				
Note: Samples for Note: Samples for	r O&G and VOA anal	be preserved upon receipysis – preservation chec	ked at ben	ıch.			×				
of sample collection	on?	requiring chlorine rerumples requiring Bacteri			×						
Samples cooled wh	nen received in	Temp at time of receipt Temp measured with IR	O · . SN: 363010		×			Ice	Cold Packs	Dry Ice	None
Samples cooled wh	nen received in	Temp at time of receipt Temp measured with IR	N A SN: 97050					Ice	Cold Packs	Dry Ice	None
		If in-	house pre	eservation	used	– rec	ord L	ot#			
HCL				H ₃ I				···			
H ₂ SO ₄				Na Otl							
Comments: Were non-conformance issues noted at initial sample receipt? Yes or No											
Non-Conforman	ce issue other than	1 noted above:						_			

Note: Samples received initially in Columbia Facility. Sample preservation checks performed at Columbia Facility.

Revised March 2019

Completed by: MBL

<u>City of Columbia Quality Assurance Project Plan (QAPP) Data</u> <u>Verification and Validation Form</u>

City of Columbia Supplemental Environmental Projects QAPP

November 2015, Revised May 2017, Revised December 2018, Revised January 2019

Laboratory Report Date: 11/25/2020)
The undersigned verifies the data in the	above referenced report, per the QAPP requirements.
Muranda S. Styples	12/14/2020
Project Verifier/QA Manager	Date
Miranda Staples Printed Name	
The undersigned validates the data in the	e above referenced report, per the QAPP requirements.
as Dessee	12/14/2020
Project Manager/Project Validator	Date
AJ Jessee	

Printed Name





Laboratory Services

Laboratory Report

Client Woolpert Inc. - City of Columbia

Michael Long

2000 Center Point Road Ste 2200

Columbia, SC 29210

Project: Water Quality Testing

Work Order: 0111119

Received: 11/20/2020 10:21

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on November 20, 2020. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Lauren Hollister, your Project Manager, at lhollister@rcenviro.com, (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

Lauren Hollister

Lauren Hollister Project Manager





Certificate of Analysis

Client Woolpert Inc. - City of Columbia

Michael Long

2000 Center Point Road Ste 2200

Columbia, SC 29210

South Carolina Greenville Laboratory Identification 23105 South Carolina Columbia Laboratory Identification 40572 North Carolina Laboratory Certification Number 27 North Carolina Drinking Water Lab Number 45710 NELAP Utah Certificate Number SC000042014-1 Georgia Drinking Water Lab ID 880

Water Quality Testing Project:

Work Order: 0111119

Received: 11/20/2020 10:21

Sample Number	Sample Description	Matrix	Sampled	Type
0111119-01	DHEC B-280 Smith Branch @ N. Main St	Wastewater	11/20/20 07:45	Grab
0111119-02	DHEC B-280 Smith Branch @ N. Main St	Wastewater	11/20/20 07:40	Grab
0111119-03	DHEC B-280 Smith Branch @ N. Main St	Wastewater	11/20/20 07:42	Grab
0111119-04	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	11/20/20 09:40	Grab
0111119-05	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	11/20/20 09:35	Grab
0111119-06	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	11/20/20 09:37	Grab
0111119-07	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	11/20/20 09:17	Grab
0111119-08	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	11/20/20 09:12	Grab
0111119-09	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	11/20/20 09:15	Grab



Woolpert Inc. - City of Columbia 2000 Center Point Road Ste 2200 Columbia, SC 29210

Project:

Water Quality Testing

Work Order: Reported:

0111119 11/25/20 08:59

Sample Data

Sample Number

0111119-01

Sample Description

DHEC B-280 Smith Branch @ N. Main St collected on 11/20/20 07:45

Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		9.3	0.1	mg/L	1.00	11/20/20 07:45	SM 4500 OG-2011		CDT	B0K1016	RC-C
Grab		Complete				11/20/20 07:45	Grab		CDT	B0K1016	RC-C
Temperature		10.7	0.0	°C	1.00	11/20/20 07:45	SM 2550B-2010		CDT	B0K1016	RC-C
Sample Number Sample Description	0111119-02 DHEC B-280 S	Smith Branc	h @ N. Mair	1 St collected	d on 11/20	0/20 07:40					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Para	ımeters										
Total Suspended Solids		ND	1.0	mg/L	1.00	11/23/20 13:55	SM 2540D-2011		SMN	B0K1075	RC-C
Sample Number Sample Description	0111119-03 DHEC B-280 S	Smith Branc	h @ N. Maiı	n St collected	d on 11/20	0/20 07:42					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parame	ters										
E. Coli		482	20	MPN/100 mL	20.0	11/20/20 12:12	SM 9223B-2004		HBB	B0K1091	RC-C
Sample Number Sample Description	0111119-04 DHEC C-017	Gills Creek (@ Bluff Roa	d collected o	on 11/20/2	20 09:40					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		8.8	0.1	mg/L	1.00	11/20/20 09:40	SM 4500 OG-2011		CDT	B0K1016	RC-C
Temperature		12.0	0.0	°C	1.00	11/20/20 09:40	SM 2550B-2010		CDT	B0K1016	RC-C



Woolpert Inc. - City of Columbia 2000 Center Point Road Ste 2200

Columbia, SC 29210

Project:

Water Quality Testing

Work Order: Reported: 0111119 11/25/20 08:59

Sample Number 0111119-05

Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 11/20/20 09:35

Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Pa	rameters										
Total Suspended Solids		7.1	1.0	mg/L	1.00	11/23/20 13:55	SM 2540D-2011		SMN	B0K1075	RC-C
Sample Number Sample Description	0111119-06 DHEC C-017 Gil	ls Creek	@ Bluff Road	d collected o	n 11/20/2	20 09:37					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Paran	neters										
E. Coli		170	20	MPN/100 mL	20.0	11/20/20 12:12	SM 9223B-2004		HBB	B0K1091	RC-C
Sample Number Sample Description	0111119-07 DHEC C-001 Gil	lls Creek	@ Garners Fe	erry Rd colle	ected on 1	1/20/20 09:17					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		9.3	0.1	mg/L	1.00	11/20/20 09:17	SM 4500 OG-2011		CDT	B0K1016	RC-C
Temperature		13.4	0.0	°C	1.00	11/20/20 09:17	SM 2550B-2010		CDT	B0K1016	RC-C
Sample Number Sample Description	0111119-08 DHEC C-001 Gil	lls Creek	@ Garners Fe	erry Rd colle	ected on 1	1/20/20 09:12					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Pa	rameters										
Total Suspended Solids		68.4	4.0	mg/L	4.00	11/23/20 13:55	SM 2540D-2011		SMN	B0K1075	RC-C
Sample Number Sample Description	0111119-09 DHEC C-001 Gil	lls Creek	@ Garners Fe	erry Rd colle	ected on 1	1/20/20 09:15					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Paran	neters										
E. Coli		126	20	MPN/100 mL	20.0	11/20/20 12:12	SM 9223B-2004		HBB	B0K1091	RC-C



Woolpert Inc. - City of Columbia 2000 Center Point Road Ste 2200 Columbia, SC 29210

Water Quality Testing Project:

Work Order: 0111119 11/25/20 08:59 Reported:

Data Qualifiers and Definitions

Analyte NOT DETECTED at or above the reporting limit ND

NR Not reported

Laboratory Reference:

RC-G = Rogers and Callcott, 426 Fairforest Way, Greenville, SC 29607 / SC Lab ID 23105 RC-C = Rogers and Callcott, 215B Stoneridge Drive, Columbia, SC 29210 / SC Lab ID 40572

11/25/2020 08:59

CHAIN OF CUSTODY RECORD

CORD WORK ORDER OIL 1119

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ENVIRONMENTAL	ENVIRONMENTAL	Z	z	Filtered (Yes/No)	(<u>N</u> o)
		>	>	Cooled (Yes/No)	(o <u>N</u>)
Mailing PO Box 5655 Shipping Address: Greenville, SC 29606 Address:	Greenville, SC 29607 Columbia, SC 29210	Д	Ь	Container Ty	Container Type (Plastic/Glass)
(864	Fax (864) 232-6140 Phone (803) 509-8999	0.5G	120	Container Volume (mL)	olume (mL)
Client Name Woolpert – City of Columbia	of Columbia	9	9	Sample Type	Sample Type (Grab/Composite)
Address 2000 Center Point Road Suite 2200	Road Suite 2200	MM	MM	Sample Source	Sample Source (WW. GW. DW. SW. S. Other)
Columbia, SC 29210	0				
Report To: Michael Long					Preservation Code(s)
Email Address <u>Michael.long@woolpert.com</u>	olpert.com	r of 0		B - HNO ₃ F	
Telephone # 803-214-5936					G - Boric Acid K - NaH2PO4 H - Ascorbic Acid L - NH4Cl
#Od	Project # Water Quality Testing	uN la	ilo		
R&C YRZZ	SAMPLE DESCRIPTION		E. C		COMMENTS
0 22 0	DHEC B-280 (Smith Branch @ N. Main St)	1		D.O 9	9,32 mg/L
240 1 004	DHEC B-280 (Smith Branch @ N. Main St)	t) 1		Temp- /0,7	J. L'01
				Collected @	m/m/, 520 @ pa
				Analyzed @	06/00/11 8/10 @ pa
				Weather-	1-39° Suna
					The state of the s
SAMPLER - KELINQUISHED BY:	(DATE/TIME: 1021 RECEIVED-BY:	X	DATE/TIME:	Composite Start Date/Time:	le:
RELINQUISHED BY:	DATE/TIME: " RECEIVED BY.		DATE/TIME:	Composite End Date/Time: _	e: no) Initials:
	<u>:</u>			TILLE OF TOW (CITCLE)	

Temperature of blank or representative sample

DATE/TIME:

RECEIVED BY: 6.

DATE/TIME:

RELINQUISHED BY: 5.

RELINQUISHED BY: 7.

RECEIVED BY: 8.

DATE/TIME:

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At time of lab receipt

At time of collection

DATE/TIME:

of

Form Revised March, 2019 Page

Oother

Skin Irritant Poison Unknown

O Non-Hazard O Flammable

Possible Hazards associated with samples:

CHAIN OF CUSTODY RECORD

WORK ORDER ON 119

ENVIRONMENTAL		ENVIRONMENTAL			Z	z		Filtered (Yes/No)
			Out O Carlos Out Out		>	>		Cooled (Yes/No)
Mailing PO Box 5655 Address: Greenville, SC 29606	Snipping 6 Address:	Greenville, SC 29607	Columbia, SC 29210		۵	Д		Container Type (Plastic/Glass)
864	950	140	Friorie (803) 503-6333		0.56	120		Container Volume (mL)
Client Name Wool	pert City	Woolpert – City of Columbia			9	9		Sample Type (Grab/Composite)
Address 2000 (Center Poin	2000 Center Point Road Suite 2200		Sue	MW.	MW W		Sample Source (WW, GW, DW, SW, S, Other)
Colun	Columbia, SC 29210	110		onis:	⋖	ш		
Report To: Micha	Michael Long					-		
Email Address Micha	ael.long@w@	Michael.long@woolpert.com				,		F - Na ₂ S ₂ O ₃
Telephone # 803-2	803-214-5936							C - H ₂ SO ₄ G - Boric Acid K - NaH ₂ PO ₄
		Project # Water Quality Testing		ams.	(ilo		
MORK ORDER DATE	TIME	SAMPLE DESCRIPTION			SST	E. (COMMENTS
	0	DHEC C-017 (Gills Creek @ Bluff	ek @ Bluff Road)	\leftarrow	←			D.O 7.85 mg/L
1	CAN	DHEC C-017 (Gills Creek @ Bluff	ek @ Bluff Road)			—	And the state of t	Temp- /2.0 °C
								Collected @ 0940 11/26/20
								Analyzed @ UGyo U(20/20)
								Weather- 48° Sunny
								1200 Dete
								1 465/122
SAMPLEB - RELINQUISHED BY:	SHED BY:	11/DATE/TIME:	RECEIVED BY?				DATE/TIME:	Composite Start Date/Time:
RELINQUISHED BY:		DATE/TIME:	RECEIVED BY:	The state of the s			DATE/TIME:	Composite End Date/Time:
3.		THE PROPERTY OF THE PROPERTY O	4.					Time or Flow (Circle one) Initials:
RELINQUISHED BY:		DATE/TIME:	RECEIVED BY:				DATE/TIME:	Temperature of blank or representative sample
٠,			—					ומווויסמומות כי מימייי ליייליים ומייי

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Form Revised March, 2019 Page

Oother

Unknown

Skin Irritant Poison

Possible Hazards associated with samples: O Non-Hazard Flammable

RELINQUISHED BY: 7.

RECEIVED BY: 8.

DATE/TIME:

At time of lab receipt At time of collection

DATE/TIME:

CHAIN OF CUSTODY RECORD

WORK ORDER (0) | 1119

SON ONDER	Filtered (Yes/No)	Cooled (Yes/No)	Container Type (Plastic/Glass)	Container Volume (mL)	Sample Type (Grab/Composite)	Sample Source (WW, GW, DW, SW, S, Other)		Preservation Code(s)	5203	C - H ₂ SO ₄ G - Boric Acid K - NaH ₂ PO ₄ D - NaOH H - Ascorbic Acid L - NH ₄ Cl		COMMENTS	D.O 9,33 mg/L	Temp- (3.4 °C	Collected @ 09/7 "(24/22	Analyzed @ 0917 4720/20		Weather-43° Summy			Composite Start Date/Time:	Composite End Date/Time: Time or Flow (Circle one) Initials:	mperature of blank or representative sar	At time of lab receipt Crs °C	Form Revised March, 2019 Page of
																		And the state of t			DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:	Other
	Z	>	<u>а</u>	0.56 120	9	%%	onis:) to 1; ↓ (s)		me.	i s q	П	H H							V		- to the control of t	and the second s	O Poison O Unknown
		Outro Chambing Drive	Columbia, SC 29210	ne (803) 303-8333							Project # Water Quality Testing	CRIPTION	@ Garners Ferry Rd)	@ Garners Ferry Rd)					- management		RECEIVED BY:	RECEIVED BY:	RECEIVED BY: 6.	RECEIVED BY: 8.	O Skin Irritant
	ENVIRONMENTAL ment and allocative		Greenville, SC 29607 Col	140	Columbia	oad Suite 2200			pert.com		Project # Water	SAMPLE DESCRIPTION	DHEC C-001 (Gills Creek @ Garners Ferry Rd)	DHEC C-001 (Gills Creek @ Garners Ferry Rd)	- And Andrews and					discount of the state of the st	MONTE/TIME: 102	DATE/TIME:	DATE/TIME:	DATE/TIME:	Non-Hazard C Flammable
いるとなりなっていると思い	ENVIRONMENTAL		Snipping Address:	Phone (864) 232-1556 Fi	Woolpert – City of Columbia	2000 Center Point Road Suite 2200	Columbia, SC 29210	Michael Long	Michael.long@woolpert.com	803-214-5936		YR 24 DATE TIME	2160	0 3//50							SAMPLER RELINQUISHED BY:	BY:	· BY:	BY:	Doceilla Hazzarde accoriated with camples:
			ddress: Greenville, SC 29606	Phone (864	lient Name	ddress		eport To:	imail Address	elephone #	# 00	R & C WORK ORDFR	90	8)		A COLUMN TO THE				SAMPLER (REI	RELINQUISHED BY: 3.	RELINQUISHED BY: 5.	RELINQUISHED BY: 7.	



Sample Receipt Verification

Client:	Woc	Dert		Dat Recei		1	12		20_	Work Order:		19
Carrier Na	ame:	Client	FedEx UP	PS	US	Mail		Cou	rier Fie	ld Services	Other:	
(to Colum		Tracking	Number:									
Carrier Na (to Greenv		Client Tracking	FedEx UP		US	Mail	A	Cou	rier Fie	ld Services	Other:	
Receipt C	Criteria					Y e s	No	N A	Comment	s		
Shipping co	ontainer / c	ooler intact?				X			Damaged	Leaking Oth	ner:	
Custody sea	als intact?							X				
COC includ	ded with sa	mples?				X		/				
COC signed	d when reli	nquished and rec	eived?			X						
Sample bot	ttles intact?				1	V			Damaged	Leaking Otl	ner:	
Sample ID	on COC ag	gree with label or	bottle(s)?	· · · · · · · · · · · · · · · · · · ·		X						
Date / time	on COC ag	gree with label or	n bottle(s)?			X						
Number of	bottles on	COC agrees with	number of bottles rece	eived?		X						
Samples re	ceived with	nin holding time?				X						
Sample vol	lume suffic	ient for analysis?				X						
VOA vials	free of hea	dspace (<6mm b	ubble)?					X				
Note: Sa Note: Sa	mples for moments	&G and VOA anal	be preserved upon receipt ysis – preservation checke	ed at bench.				X				
Samples de	echlorinated collection? Inlorine chec	d for parameters	requiring chlorine remo	oval at the		X						
	ooled when	received in	Temp at time of receipt Temp measured with IR SM	<u>),5</u> N: 36301069'	°C WŞ	X			(Ice)	Cold Packs	Dry Ice	None
Samples co Greenville	ooled when	received in	Temp at time of receipt Temp measured with IR SN	1: 97050067	/ ₽c				Ice	Cold Packs	Dry Ice	None
			If in-ho	ouse preser	rvation	used	– rec	ord L	ot#			
HCL						PO ₄	\perp					
H ₂ SO ₄						OH her						
HNO ₃					- 01	1101						
Commen	nts:											
Wore non	conform	ance issues not	ed at initial sample re	eceint?	Ye	es or	/K	Vo /				
		issue other than		Т					/			
							-	-				

Note: Samples received initially in Columbia Facility. Sample preservation checks performed at Columbia

Facility. Revised March 2019

Completed by:

<u>City of Columbia Quality Assurance Project Plan (QAPP) Data</u> <u>Verification and Validation Form</u>

City of Columbia Supplemental Environmental Projects QAPP

November 2015, Revised May 2017, Revised December 2018, Revised January 2019

Laboratory Report Date:12-28	8-2020
The undersigned verifies the data in	the above referenced report, per the QAPP requirements.
Miranda S. Styles	1/5/2021
Project Verifier/QA Manager	Date
Miranda S. Staples Printed Name The undersigned validates the data	in the above referenced report, per the QAPP requirements.
Dessee	1/5/2021
Project Manager/Project Validator	Date
AJ Jessee	

Printed Name





Laboratory Services

Laboratory Report

Client Woolpert Inc. - City of Columbia

Michael Long

2000 Center Point Road Ste 2200

Columbia, SC 29210

Project: Water Quality Testing

Work Order: 0121069

Received: 12/21/2020 14:20

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on December 21, 2020. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Lauren Hollister, your Project Manager, at lhollister@rcenviro.com, (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

Lauren Hollister

Lauren Hollister Project Manager

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com





Certificate of Analysis

South Carolina Greenville Laboratory Identification 23105 South Carolina Columbia Laboratory Identification 40572 North Carolina Laboratory Certification Number 27 North Carolina Drinking Water Lab Number 45710 NELAP Utah Certificate Number SC000042014-1 Georgia Drinking Water Lab ID 880

Client Woolpert Inc. - City of Columbia

Michael Long

2000 Center Point Road Ste 2200

Columbia, SC 29210

Water Quality Testing Project:

Work Order: 0121069

Received: 12/21/2020 14:20

Sample Number	Sample Description	Matrix	Sampled	Type
0121069-01	DHEC B-280 Smith Branch @ N. Main St	Wastewater	12/21/20 12:44	Grab
0121069-02	DHEC B-280 Smith Branch @ N. Main St	Wastewater	12/21/20 12:45	Grab
0121069-03	DHEC B-280 Smith Branch @ N. Main St	Wastewater	12/21/20 12:46	Grab
0121069-04	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	12/21/20 13:19	Grab
0121069-05	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	12/21/20 13:20	Grab
0121069-06	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	12/21/20 13:21	Grab
0121069-07	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	12/21/20 13:50	Grab
0121069-08	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	12/21/20 13:51	Grab
0121069-09	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	12/21/20 13:52	Grab



Woolpert Inc. - City of Columbia 2000 Center Point Road Ste 2200 Columbia, SC 29210

Project:

Water Quality Testing

Work Order: Reported:

0121069 12/28/20 16:35

Sample Data

Sample Number

0121069-01

Sample Description

DHEC B-280 Smith Branch @ N. Main St collected on 12/21/20 12:44

Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		8.3	0.1	mg/L	1.00	12/21/20 12:46	SM 4500 OG-2011		MBW	B0L1026	RC-C
Grab		Complete				12/21/20 12:44	Grab		MBW	B0L1026	RC-C
Temperature		20.2	0.0	°C	1.00	12/21/20 12:46	SM 2550B-2010		MBW	B0L1026	RC-C
Sample Number Sample Description	0121069-02 DHEC B-280	Smith Branc	h @ N. Maiı	n St collected	d on 12/2	1/20 12:45					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Par	ameters										
Total Suspended Solids		1.5	1.0	mg/L	1.00	12/22/20 11:12	SM 2540D-2011		SMN	B0L1052	RC-C
Sample Number Sample Description	0121069-03 DHEC B-280	Smith Branc	h @ N. Maiı	n St collected	d on 12/2	1/20 12:46					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Paramo	eters										
E. Coli		1248	5	MPN/100 mL	5.00	12/21/20 15:26	SM 9223B-2004		MBW	B0L1122	RC-C
Sample Number Sample Description	0121069-04 DHEC C-001	Gills Creek (@ Garners F	erry Rd colle	ected on 1	12/21/20 13:19					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		8.6	0.1	mg/L	1.00	12/21/20 13:24	SM 4500 OG-2011		MBW	B0L1026	RC-C
Temperature		20.1	0.0	°C	1.00	12/21/20 13:24	SM 2550B-2010		MBW	B0L1026	RC-C



Woolpert Inc. - City of Columbia 2000 Center Point Road Ste 2200

Columbia, SC 29210

Project:

Water Quality Testing

Work Order: Reported:

0121069 12/28/20 16:35

Sample Number

0121069-05

Sample Description

DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 12/21/20 13:20

Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Par	rameters										
Total Suspended Solids		30.0	3.3	mg/L	3.33	12/22/20 11:12	SM 2540D-2011		SMN	B0L1052	RC-C
Sample Number Sample Description	0121069-06 DHEC C-001 G	ills Creek	@ Garners F	erry Rd colle	ected on 1	12/21/20 13:21					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	eters										
E. Coli		168	5	MPN/100 mL	5.00	12/21/20 15:26	SM 9223B-2004		MBW	B0L1122	RC-C
Sample Number Sample Description	0121069-07 DHEC C-017 G	ills Creek	@ Bluff Roa	d collected o	n 12/21/2	20 13:50					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters											
Dissolved Oxygen		9.7	0.1	mg/L	1.00	12/21/20 13:54	SM 4500 OG-2011		MBW	B0L1026	RC-C
Temperature		22.0	0.0	°C	1.00	12/21/20 13:54	SM 2550B-2010		MBW	B0L1026	RC-C
Sample Number Sample Description	0121069-08 DHEC C-017 G	ills Creek	@ Bluff Roa	d collected o	n 12/21/2	20 13:51					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Par	rameters										
Total Suspended Solids		10.0	1.7	mg/L	1.67	12/22/20 11:12	SM 2540D-2011		SMN	B0L1052	RC-C
Sample Number Sample Description	0121069-09 DHEC C-017 Gi	ills Creek	@ Bluff Roa	d collected o	n 12/21/2	20 13:52					
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Param	eters										
E. Coli		240	5	MPN/100 mL	5.00	12/21/20 15:26	SM 9223B-2004		MBW	B0L1122	RC-C

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 | rogersandcallcott.com



Woolpert Inc. - City of Columbia 2000 Center Point Road Ste 2200 Columbia, SC 29210

Water Quality Testing Project:

Work Order: 0121069 12/28/20 16:35 Reported:

Data Qualifiers and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported

Laboratory Reference:

RC-G = Rogers and Callcott, 426 Fairforest Way, Greenville, SC 29607 / SC Lab ID 23105 RC-C = Rogers and Callcott, 215B Stoneridge Drive, Columbia, SC 29210 / SC Lab ID 40572

12/28/2020 16:35

Mailing Address:

Od

Sample Source (WW, GW, DW, SW, S, Other) I - Zn Acetate K - NaH₂PO₄ J - H₃PO₄ H - Ascorbic Acid L - NH₄Cl WORK ORDER (DIZION) Sample Type (Grab/Composite) Preservation Code(s) Container Type (Plastic/Glass) G - Boric Acid Container Volume (mL) F - Na₂S₂O₃ E-HCI Filtered (Yes/No) Cooled (Yes/No) C - H₂SO₄ D - NaOH B - HNO₃ A - None CHAIN OF CUSTODY RECORD ≶ Coli G ۵ ட 0.56 S ≶ G ۵ ⋖ rameter(s) 🛧 tal Number of Containers Project # Water Quality Testing 215B Stoneridge Drive Phone (803) 509-8999 Columbia, SC 29210 2000 Center Point Road Suite 2200 Half a century of commitment and quality Greenville, SC 29607 Fax (864) 232-6140 Shipping 426 Fairforest Way Woolpert - City of Columbia Michael.long@woolpert.com Columbia, SC 29210 Address: 803-214-5936 Michael Long Phone (864) 232-1556 Greenville, SC 29606 PO Box 5655 **Email Address** Client Name Telephone # Report To: Address

R & C WORK ORDER	YR 22 DATE	TIME	SAMPLE DESCRIPTION	NOTION	JOT	I 69 SST	E' (→○\ COMMENTS
00	12.21	<u>z</u>	DHEC B-280 (Smith Branch @ N. Main St)	ر N. Main St)	\vdash	Н			D.O 8.34 mg/L
Q	12:21	37.7	DHEC B-280 (Smith Branch @ N. Main St)	າ @ N. Main St)	\vdash		\vdash		Temp- w.C
									Collected @ 12 44
									Analyzed @ 12 4\p
									(
									Weather- 54° F / Cloud
SAMPLER - RELINGUISHED BY	Nounshe Counshe	7	DATE/TIME:	RECEIVED BY:	/]			DATE/TIME:	Composite Start Date/Time:
RELINQUISHED BY:	}Y:		DATE/TIME:	RECEIVED BY:			-3	DÁTE/TIME:	Composite End Date/Time:
'n.		1		4.					Time or Flow (Circle one) Initials:
A RELINQUISHED BY:	3 Y :		DATE/TIME:	RECEIVED BY:				DATE/TIME:	
ge				6.					Temperature of blank or representative sample
o PRELINQUISHED BY:	3Y:		DATE/TIME:	RECEIVED BY:				DATE/TIME:	v <
9				.∞					At time of lab receipt

Page

Form Revised March, 2019

bssible Hazards associated with samples: O Non-Hazard O Flammable O Skin Irritant O Poison O Unknown O Other_

	ogers &	Rogers & Callcott	CHAIN OF CUSTODY RECORD	OF C	UST	DDY R	ECORD	WORK ORDER $O(2/C)$	BR
Half a century	of commitme	ENVIRONMENTAL a century of commitment and quality			z	z		Filtered (Yes/No)	
, J G C G	,	WWW tourborner	215B Ctonoridge Drive		>	>		Cooled (Yes/No)	
Address: Greenville, SC 29606	SC 29606 Address:		Columbia, SC 29210		م	Ь		Container Type (Plastic/Glass)	ss)
864	. 232-1556	Fax (864) 232-6140	Friorie (803) 203-233		0.56	120		Container Volume (mL)	
ame	Woolpert – City of Columbia	or columbia			ŋ	9		Sample Type (Grab/Composite)	site)
Address	2000 Center Poir	2000 Center Point Road Suite 2200		S.I.	%	MM		Sample Source (WW, GW, DW, SW, S, Other)	V, SW, S, Other)
	Columbia, SC 29210	210		əuis	⊲	L			
Report To:	Michael Long			tuo:		-			e(s)
ess	Michael.long@woolpert.com	oolpert.com		of C • Of C				A - None E - HCl B - HNO ₃ F - Na ₂ S ₂ O ₃	I - Zn Acetate J - H₃PO₄
Telephone #	803-214-5936			nber ter(s					K - NaH ₂ PO ₄
# Od		Project # W	Project # Water Quality Testing			ilo)
R & C	YR 20	SAMPLE	SAMPLE DESCRIPTION		SST	E. C		COMMENTS	5
4	6000	DHEC C-001 (Gills Cr	DHEC C-001 (Gills Creek @ Garners Ferry Rd)	\vdash	Н			D.O 8.56 mg	mg/L
2	75.2	DHEC C-001 (Gills Cr	DHEC C-001 (Gills Creek @ Garners Ferry Rd)	H		\leftarrow		Temp- 20.1 °C	
								Collected @ 1319	7000
								Analyzed @1324	
A LANGE OF THE PROPERTY OF THE								Weather-55°F	Sugar Sugar
A CANADA									
		C							
SAMPLER - RELINOMENED BY	NOWISHED BY	DATE/TIME:	E: RECEIVED BY:	\ \		J. C. Z.	DATE/TIME:	Composite Start Date/Time:	
RELINQUISHED BY:	BY:	DATE/TIME:	E: RECEIVED BY:			ď	DATE/TIME: Co	Composite End Date/Time:	

Temperature of blank or representative sample

Initials:

Time or Flow (Circle one)

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0 (n

At time of lab receipt At time of collection

DATE/TIME:

DATE/TIME:

RECEIVED BY: 6.

DATE/TIME:

RECEIVED BY: 8.

DATE/TIME:

abe 5.

by Relinquished BY:

containing the bound of the

Form Revised March, 2019

Skin Irritant O Poison O Unknown O Other_

ossible Hazards associated with samples: O Non-Hazard Flammable

WORK ORDER O(210)

CHAIN OF CUSTODY RECORD

ENVENONMENTAL

Sample Source (WW, GW, DW, SW, S, Other) SENER I - Zn Acetate K - NaH₂PO₄ Temperature of blank or representative sample ပ H - Ascorbic Acid L - NH4Cl J - H₃PO₄ Preservation Code(s) mg/l Sample Type (<u>G</u>rab/<u>C</u>omposite) Container Type (Plastic/Glass) COMMENTS Analyzed @ 1354 Collected @ 1350 0 Initials: Weather- Sャド G - Boric Acid Container Volume (mL) F - Na₂S₂O₃ Temp- 22.♡ 9 60 60 E-HC Filtered (Yes/No) Cooled (Yes/No) Time or Flow (Circle one) Composite Start Date/Time: Form Revised March, 2019 Page Composite End Date/Time: At time of lab receipt At time of collection D:0:-C - H₂SO₄ D - NaOH DATE/TIME: DATE/TIME: DATE/TIME: DATE/TIME: pssible Hazards associated with samples: O Non-Hazard O Flammable O Skin Irritant O Poison O Unknown O Other_ 120 ≶ G E. Coli ۵ ப 0.56 ≶ G Z SST ⋖ Parameter(s) ↓ Total Number of Containers DHEC C-017 (Gills Creek @ Bluff Road) DHEC C-017 (Gills Creek @ Bluff Road) RECEIVED BY: 8. RECEIVED BY: Project # Water Quality Testing RECEIVED BY: RECEIVED BY: 215B Stoneridge Drive hone (803) 509-8999 Columbia, SC 29210 SAMPLE DESCRIPTION 10.2.2 LES DATE/TIME: DATE/TIME: DATE/TIME: DATE/TIME: 2000 Center Point Road Suite 2200 Greenville, SC 29607 Half a century of commitment and quality Fax (864) 232-6140 Shipping 426 Fairforest Way Woolpert – City of Columbia Michael.long@woolpert.com Columbia, SC 29210 138.7 Address: TIME S 803-214-5936 Michael Long SAMPLER - RELINQUISHED I N YR 2 Phone (864) 232-1556 5 Greenville, SC 29606 RELINQUISHED BY: RELINQUISHED BY: RELINQUISHED BY: PO Box 5655 **Email Address WORK ORDER** Client Name Telephone # 78 С Report To: Address Mailing Address: PO # Page 8 of 9



Sample Receipt Verification

Client: Woolpe	1 /	Date eived:	12	12		Work Order:	1121	XOI
Carrier Name: Client FedEx UPS US Mail Courier Field Services Other: (to Columbia) Tracking Number:								
Carrier Name: Client FedEx UPS US Mail Courier Field Services Other:								
Receipt Criteria		Y e s	No	N A	Comments	\$		
Shipping container / cooler intact?					Damaged	Leaking Otl	ner:	
Custody seals intact?				X				
COC included with samples?								
COC signed when relinquished and received?								
Sample bottles intact?			7		Damaged	Leaking Otl	ner:	
Sample ID on COC agree with label on bottle(s)?								
Date / time on COC agree with label on bottle(s)?					,			
Number of bottles on COC agrees with number of bottles received?								
Samples received within holding time?								
Sample volume sufficient for analysis?		\ \		<i>j</i> -				
VOA vials free of headspace (<6mm bubble)?				X				
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&G and VOA analysis – preservation checked at bench.				X				
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.								
Samples cooled when received in Columbia ?	Temp at time of receipt Temp measured with IR SN: 3630100	5 °C / > 69WS /			Ice	Cold Packs	Dry Ice	None
Samples cooled when received in Greenville ?	Temp at time of receipt Temp measured with IR SN: 9705000	/- →°C 67			Ice	Cold Packs	Dry Ice	None
If in-house preservation used — record Lot #								
HCL		H ₃ PO ₄						
11/2004		NaOH Other		·				
Comments:								
Were non-conformance issues noted at initial sample receipt? Yes or No								
Non-Conformance issue other than noted above:								

Note: Samples received initially in Columbia Facility. Sample preservation checks performed at Columbia Facility. Revised March 2019

Completed by: