Field Testing and Evaluation Report

Norweco, Inc.
Singulair® 960 Bio-Kinetic HKBFR
Residential Wastewater Treatment System
Report #NWE250119VDH
March 12, 2020

North American Testing, LLC
201A Plank Road
PO Box 323
Norwalk, OH, USA 44857

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Field Test Report

Norweco, Inc.
Singulair® 960 Bio-Kinetic HKBFR
Residential Wastewater Treatment System

Under the provisions of

Virginia Department of Health
Guidance Memorandum and Policy (GMP) 2016-03:
Implementation of 12VAC5-613-70,
the Regulations for Alternative Onsite Sewage Systems (AOSS)
(Revision: May 6, 2016)

March 12, 2020

Preface

The purpose of this project was to field verify the performance of the Singulair Model 960 with Hydro-Kinetic Bio-Film Reactor (Singulair 960 HKBFR) residential wastewater treatment system manufactured by Norweco, Inc. The Virginia Regulations for Alternative Onsite Sewage Systems addresses verification of all proprietary and non-proprietary components of an onsite sewage system, as defined and regulated under Guidance Memorandum Protocol (GMP) #2016-03, Implementation of 12VAC5-613-70, the Regulations for Alternative Onsite Sewage Systems (the AOSS Regulations). The program consists of an application, entering into a memorandum of understanding with the VDH, an agreement with a third-party testing agency, followed by field testing and completion of the agreements.

The Singulair 960 system has been evaluated by NSF International and North American Testing under NSF/ANSI Standard 40 (Residential Wastewater Treatment), and is currently classified as a Class I unit. The overall average performance from the system during the NSF/ANSI Standard 40 evaluation was 6 mg/L $CBOD_5$ and 10 mg/L TSS.

The Hydro-Kinetic Bio-Film Reactor (HKBFR) is an attached growth media tertiary treatment tank and the final treatment component of the Singulair R3 system. The Singulair 960 HKBFR is a slight variation of the Singulair R3 system. The Singulair R3 system has been evaluated and certified by North American Testing under NSF/ANSI Standards 245 (Nitrogen Reduction) and 350 (Water Reuse).

North American Testing, LLC is an independent, third party organization which is accredited by the American National Standards Institute to certify wastewater treatment products under the scope of Sewage Water (13.060.30) and applicable NSF/ANSI Standards. The information reported is certified to be correct and true copies of the data collected during the testing described herein.

The Virginia Regulations require the testing agency to provide the manufacturer of a residential wastewater treatment system with a report including significant data and appropriate commentary relative to the performance evaluation of the system. NAT policy specifies provision of performance evaluation reports to appropriate state regulatory agencies at their request. Subsequent direct distribution of the report by NAT is made only at the specific request of, or by permission of, the manufacturer.

The following report contains results of the entire testing program, a description of the system, its operation and key process control equipment, and a narrative summary of the test program, including test locations, procedures and significant occurrences.

Executive Summary

Testing of the Norweco, Inc. Singulair Model 960 Bio-Kinetic with Hydro-Kinetic Bio-Film Reactor (Singulair 960 HKBFR) Residential Wastewater Treatment System was conducted under the provisions of Virginia Department of Health Guidance Memorandum and Policy (GMP) 2016-03: Implementation of 12VAC5-613-70, the Regulations for Alternative Onsite Sewage Systems (AOSS).

The Norweco Singulair 960 HKBFR system was installed and tested at twenty-five sites across the State of Pennsylvania. Each site was sampled for a minimum of four quarters annually to evaluate the variations in the effluent quality that are likely to occur based on the influent sewage strength, flow rate and temperature. All of the systems were sampled in the months of June, August, and October of 2019 and February of 2020. Four data sets were collected from each site for a total of 100 data sets. Effluent samples were collected quarterly and analyzed for specific parameters outlined in the Quality Assurance and Quality Control plan (QA/QC), which included the typical wastewater measurements (BOD_5, $CBOD_5$, TSS, pH, Dissolved Oxygen and Temperature). Sampling started in the summer and continued through the fall and winter, covering a wide range of operating temperatures.

Over the course of the field evaluation the average effluent BOD_5 was 8 mg/L, the average effluent $CBOD_5$ was 4 mg/L, and the average effluent total suspended solids (TSS) was 5.8 mg/L. The median effluent BOD_5 was 6 mg/L, the median effluent $CBOD_5$ was 3 mg/L, and the median effluent total suspended solids (TSS) was 3.4 mg/L. Statistical analysis of the log transformed data yielded an effluent BOD_5 value of 7.5 mg/L and an effluent TSS value of 5.2 mg/L using a 99% confidence interval. These values meet and exceed the parameters for effluent BOD_5 and TSS of less than or equal to 10 mg/L each as set by the VDH GMP #2016-03 for TL-3 general approval.

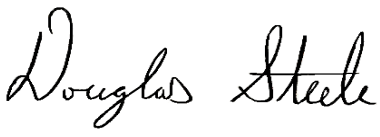
The average effluent pH for all sites and samples ranged between 6.37 and 8.82 with an average of 7.40 and a median of 7.39.

The influent BOD_5 concentrations ranged from 46 mg/L to 1,692 mg/L with a average of 427 mg/L and a median of 343 mg/L. The influent TSS concentrations ranged from 12 mg/L to 6,950 mg/L with a average of 528 mg/L and a median of 235 mg/L. The influent strength met the general requirements of residential strength wastewater.

North American Testing has determined by performance evaluation under the provisions of Virginia Department of Health Guidance Memorandum and Policy (GMP) 2016-03: “Implementation of 12VAC5-613-70, the Regulations for Alternative Onsite Sewage Systems (AOSS)” that the Singulair Bio-Kinetic with Hydro-Kinetic Bio-Film Reactor System manufactured by Norweco, Inc. has fulfilled the performance requirements of the VDH regulations for TL-3 general approval and listing.

The observations and analyses included in this report are certified to be correct and true copies of the data secured during the performance tests conducted by NAT on the wastewater treatment system described herein. The manufacturer has agreed to present the data in this certification in its entirety whenever it is used in advertising, prospectuses, bids or similar uses.

Nianfa Tang, Ph.D., P.E.
President
North American Testing, LLC



Douglas Steele
Program Manager
North American Testing, LLC

ALTERNATIVE SYSTEMS, P.L.C.

ONSITE WASTEWATER TREATMENT AND DISPOSAL ENGINEERING

May 16, 2019

Marcia J. Degen, Ph.D., P.E.
Onsite Water and Sewage, Marina and Engineering Programs
Virginia Department of Health
109 Governor Street, 5th Floor
Richmond, Virginia 23219

RE: Norweco Singulair TL-3 Certification, State of Virginia

Dear Ms. Degen:

This certification accompanies the Wastewater Treatment Technology Listing for TL-3 Evaluation Requested application submitted by Norweco, Inc.

As a Virginia licensed Professional Engineer and based on experience designing and specifying numerous Singulair systems in Virginia, in my professional opinion, when properly installed, operated and maintained, and with influent reflecting average or normal values for residential wastewater, the Norweco Singulair treatment unit can be expected to produce effluent that will likely meet the following end-of-pipe treatment expectations:

Upper 99% Confidence Interval of Log-Transformed data,
converted back to native units:

$BOD_5 \leq 10$ mg/l
TSS ≤ 10 mg/l

Additionally, I have reviewed the Norweco Singulair Operations and Maintenance manual submitted with this application. In my professional opinion, this manual provides appropriate operation, servicing and maintenance guidance for the system.

Sincerely,

Robert J. Shaffer, P.E.
Principal Engineer

www.altsys-engineering.com
email: altsys.pe@gmail.com

P.O. BOX 1603; MIDLOTHIAN, VIRGINIA 23113 (804) 641-3342

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1.0 INTRODUCTION

1.1 Project Objectives

The purpose of this project was to field verify the performance of the Singulair 960 HKBFR wastewater treatment system at representative sites across the State of Pennsylvania. The field test project followed the requirements of Virginia Department of Health Guidance Memorandum and Policy (GMP) 2016-03: Implementation of 12VAC5-613-70, the Regulations for Alternative Onsite Sewage Systems (AOSS).

1.2 Key Participants

The entire technology verification process was coordinated with the VDH. It is the responsibility of VDH to determine how technologies that complete field verification may be used in Virginia. The key VDH contact for this program is:

Marcia J. Degen, Ph.D., P.E.
Environmental Technical Services Manager
Division of Water and Wastewater Services
c/o VDH - Environmental Health
Civic Mall 2nd Floor
1502 Williamson Road, SE.
Roanoke, VA 24012
Cell: 804-387-1883
E-mail: marcia.degen@vdh.virginia.gov

1.2.1 Manufacturer

Norweco, Inc. provided the Singulair 960 HKBFR technology at the selected test sites. The key contact at Norweco for this project is:

Brett Wieber
Sales Manager
Norweco, Inc.
220 Republic Street
Norwalk, Ohio 44857
Phone: 419-668-4471
E-mail: bwieber@norweco.com

1.2.2 Test Agency

North American Testing, LLC was responsible for conducting the field test, collecting data, ensuring QA/QC was being met, taking field notes, and preparing this final report. The key contact at NAT for this project is:

Douglas Steele
Program Manager
North American Testing
201 A Plank Road
Norwalk, Ohio 44857
Phone: 419-668-1895
E-mail: dsteele@northamericantesting.org

1.2.3 Laboratory

The North American Testing Laboratory was responsible for the sampling, field analysis, and lab analysis of all samples. The key contact at NAT for this project is:

Nianfa Tang, Ph.D. P.E.
President and Laboratory Manager
North American Testing
201 A Plank Road
Norwalk, Ohio 44857
Phone: 419-668-1895
E-mail: ezhang@yahoo.com

1.2.4 Installer/Maintenance Provider

Delaware Concrete Products, a licensed distributor of Norweco products, installed the systems at the sites. Micsky Septic Systems, a subsidiary of Delaware Concrete Products, was responsible for scheduled maintenance and service of the systems. The key contact at Delaware Concrete for this project is:

Joseph Micsky
Manager
Delaware Concrete Products
980 Mercer Road
Greenville, Pennsylvania 16125
Phone: 724-475-4625
E-mail: deenjoe@windstream.net

1.2.5 Homeowner

The homeowners participating in this project granted permission for involvement in this VDH program. They agreed to allow their systems to be tested for a one-year period. They also received instruction regarding disposal of septic system safe chemicals/products.

1.3 Test Process

1.3.1 Test Protocol

Protocol for this field test was conducted per Virginia Department of Health Guidance Memorandum and Policy (GMP) 2016-03: Implementation of 12VAC5-613-70, the Regulations for Alternative Onsite Sewage Systems (AOSS).

1.3.2 Selection of Test Sites

All systems selected for this field test program were installed independently of considerations of this field test by the local distributor. The conditions of each site were later reviewed by the manufacturer and the test agency. The selection of each site for the field test program was based primarily upon the criteria outlined by VDH. All treatment systems must be in operation for at least 3 months before sampling begins. The systems must be used at a single family residential dwelling that is permanently occupied for 12 months; seasonal occupancy is not accepted.

Systems were excluded from the field test program for the following reasons: part-time occupied homes (summer or weekend homes), no maintenance agreement in place, homeowner permission not granted, incorrect system model type, systems installed, or started, or pumped within the previous 3-months, or homeowner non-compliance with the manufacturers operation instructions. Systems meeting the requirements of the VDH Regulations and selected for the project are listed in Table I. See Table II for systems excluded from the program.

Table I
List of Sites Selected for the Project

Site #	Address	County	Effluent Disposal Method	Installation Date
1	980 Mercer Rd., Greenville PA 16125	Mercer	At Grade Leach Bed	8/21/2017
2	1602 Mercer Rd., Freedonia, PA	Mercer	At Grade Leach Bed	9/20/2017
8	439 Tieline Rd., Grove City, PA	Mercer	At Grade Leach Bed	8/25/2017
11	105 Arberg Lane, Slippery Rock, PA	Butler	Direct Discharge (SRSTP)	6/28/2017
12	476 Methodist Rd., Greenville, PA	Mercer	Direct Discharge (SRSTP)	5/31/2017
13	102 Gibson Rd., Greenville, PA	Mercer	At Grade Leach Bed	8/16/2017
14	1090 Linn Tyro Rd., Hadley, PA	Mercer	Direct Discharge (SRSTP)	4/3/2017
15	151 Schaller Rd., Fredonia, PA	Mercer	Spray Irrigation	6/9/2016
16	1643 Rutledge Rd., Transfer, PA	Mercer	Direct Discharge (SRSTP)	6/14/2017
17	2068 Lake Rd., Sharpsville, PA	Mercer	Direct Discharge (SRSTP)	4/21/2017
18	579 Yankee Ridge Rd., Mercer, PA	Mercer	Direct Discharge (SRSTP)	9/28/2017
19	799 Orchard Rd., Mercer, PA	Mercer	Spray Irrigation	5/26/2016
22	211 Gearhart Rd., Pulaski, PA	Mercer	Direct Discharge (SRSTP)	10/10/2016
23	2599 Harlansburg Rd., New Castle, PA	Lawrence	At Grade Leach Bed	4/6/2016
25	2031 Marble Strobleton Rd., Fryburg, PA	Clarion	Direct Discharge (SRSTP)	6/15/2017
26	1182 East Lake Rd., Transfer, PA	Mercer	Direct Discharge (SRSTP)	7/6/2018
27	1993 Mercer-West Middlesex Rd., Mercer, PA	Mercer	Direct Discharge (SRSTP)	7/11/2018
28	2108 Mercer Rd., Fredonia, PA	Mercer	Direct Discharge (SRSTP)	11/15/2017
29	1010 Leesburg Station Rd., Mercer, PA	Mercer	At Grade Leach Bed	11/9/2017
30	29 South Good Hope Rd., Greenville, PA	Mercer	Direct Discharge (SRSTP)	5/11/2018
32	151 Etna Rd., Slippery Rock, PA	Butler	Direct Discharge (SRSTP)	6/22/2017
33	89 Patterson School Rd., Grove City, PA	Mercer	Direct Discharge (SRSTP)	8/24/2018
35	19304 Cole Rd., Conneautville, PA	Crawford	Direct Discharge (SRSTP)	12/6/2017
36	852 Beatty School Rd., Greenville, PA	Mercer	Direct Discharge (SRSTP)	3/20/2019
39	1136 Bugtown Rd., Titusville, PA	Warren	Direct Discharge (SRSTP)	3/1/2019

1.4 Test System Construction and Installation

Delaware Concrete Products, a licensed distributor of Norweco products and independent licensed operator, installed the Singulair 960 HKBFR treatment system at the sites in accordance with Norweco's installation instructions. Installation dates are listed in Table I. All systems are constructed of concrete. All tank chambers are equipped with a plastic riser extended to grade. Each aeration chamber riser lid is equipped with an integral air vent. Effluent disposal methods varied. Seventeen of the systems directly discharged to a natural stream or ditch. Two of the systems discharged to spray irrigation. The other seven systems discharged to an underground leach field. Refer to Figures V and VI (photos) for a typical installation appearance of the treatment system.

Table II.
List of Systems Excluded from the Program

Site #	Homeowner	Reason for Exclusion from Program
3	217 Line Rd., Mercer, PA	No service contract in place
4	555 W. Cornell Rd., Mercer, PA	Maintenance issues. Recently pumped completely.
5	20 Lenape Trail, Mercer, PA	Homeowner permission not granted
6	1378 Mercer-Grove City Rd., Mercer, PA	Homeowner permission not granted
7	227 Uber Rd., Mercer, PA	Homeowner receiving at-home kidney dialysis
9	1380 Barkeyville Rd., Grove City, PA	Vacant rental house.
10	111 Hilltop Acres, Slippery Rock, PA	Homeowner permission not granted
20	1049 Hartford Rd., Sharpsville, PA	Homeowner permission not granted
21	745 New Bedford-Sharon Rd., West Middlesex, PA	No service contract in place
24	10063 Pine Rd., Conneaut Lake, PA	Homeowner permission not granted
31	6480 Lakeside Dr., Sharpsville, PA	Plastic tank. Singulair Green + Green HK BFR
34	133 Buckwalter Rd., New Wilmington, PA	System not yet full of water at time of project initiation.
37	725 Mercer Rd., Greenville, PA	Weekend home
38	1450 Fisherman's Cove Rd., Polk, PA	Summer home
40	1242 Nebraska Rd., Tionesta, PA	Weekend home
41	154 Quarry Rd., Greenville, PA	Not in operation for the required 3 months

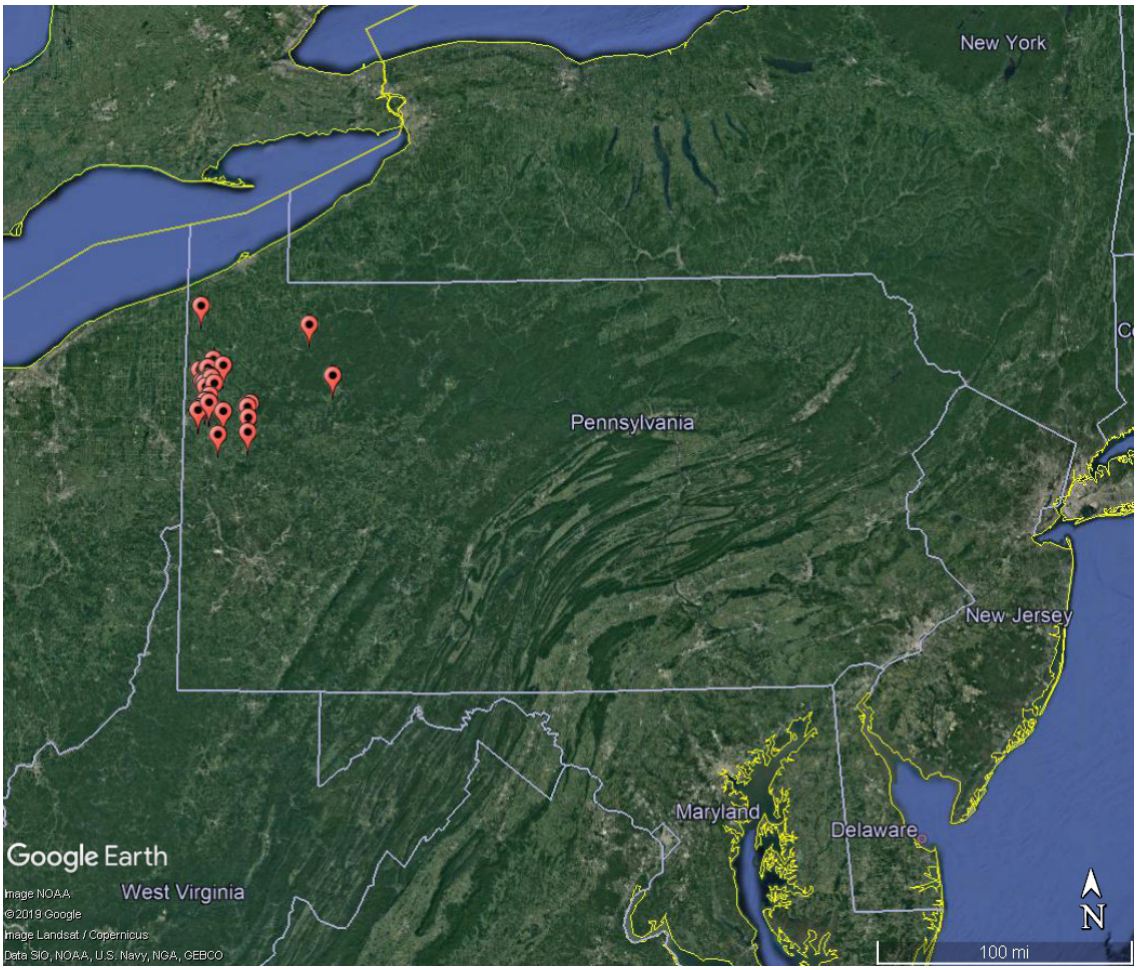
1.5 System Process Description

The Norweco Singulair 960 HKBFR wastewater treatment system utilizes extended aeration, activated sludge and filtration processes to achieve treatment. The system achieves treatment by a flow equalized, flow through process, starting with a pretreatment chamber, followed by an aeration chamber provided with an infused air system operating on a timed run cycle. Settling of solids is accomplished in a clarification chamber following the aeration chamber. A Bio-Kinetic tertiary treatment device (system), located in the clarification chamber, provides flow equalization, filtration, and settling. Final polishing of the effluent takes place in a tertiary treatment chamber known as a Hydro-Kinetic Bio-Film Reactor.

The Singulair 960 HKBFR system is made up of four treatment chambers. Flow from the home enters the system through a 4” inlet tee. The incoming wastewater flows into the pretreatment chamber for removal of easily separated solids. Anaerobic bacteria break down the solids and begin to solubilize the organic particles. A tee at the chamber outlet provides for retention of floating solids in the chamber. Primary settled wastewater is transferred from the pretreatment chamber by hydraulic displacement into the aeration chamber through the transfer tee.

Flow enters the aeration chamber through an inlet tee. The inlet tee prevents the loss of activated sludge to the pretreatment chamber. Aeration is achieved by release of air through a rapidly spinning aspirator shaft submerged in the center of the aeration chamber. The centrifugal force of the aspirator shaft in the wastewater draws air down the shaft, releasing small bubbles that cause the wastewater to rise in the chamber, establishing a circulation pattern. The circulation pattern causes mixing of the wastewater with the bacteria and extends the retention period. The infused air provides oxygen for the aerobic bacteria and growth of activated sludge. The aeration chamber provides a retention time of at least 24 hours.

Figure I
Location of Singulair HKBFR Evaluation Sites (Regional)

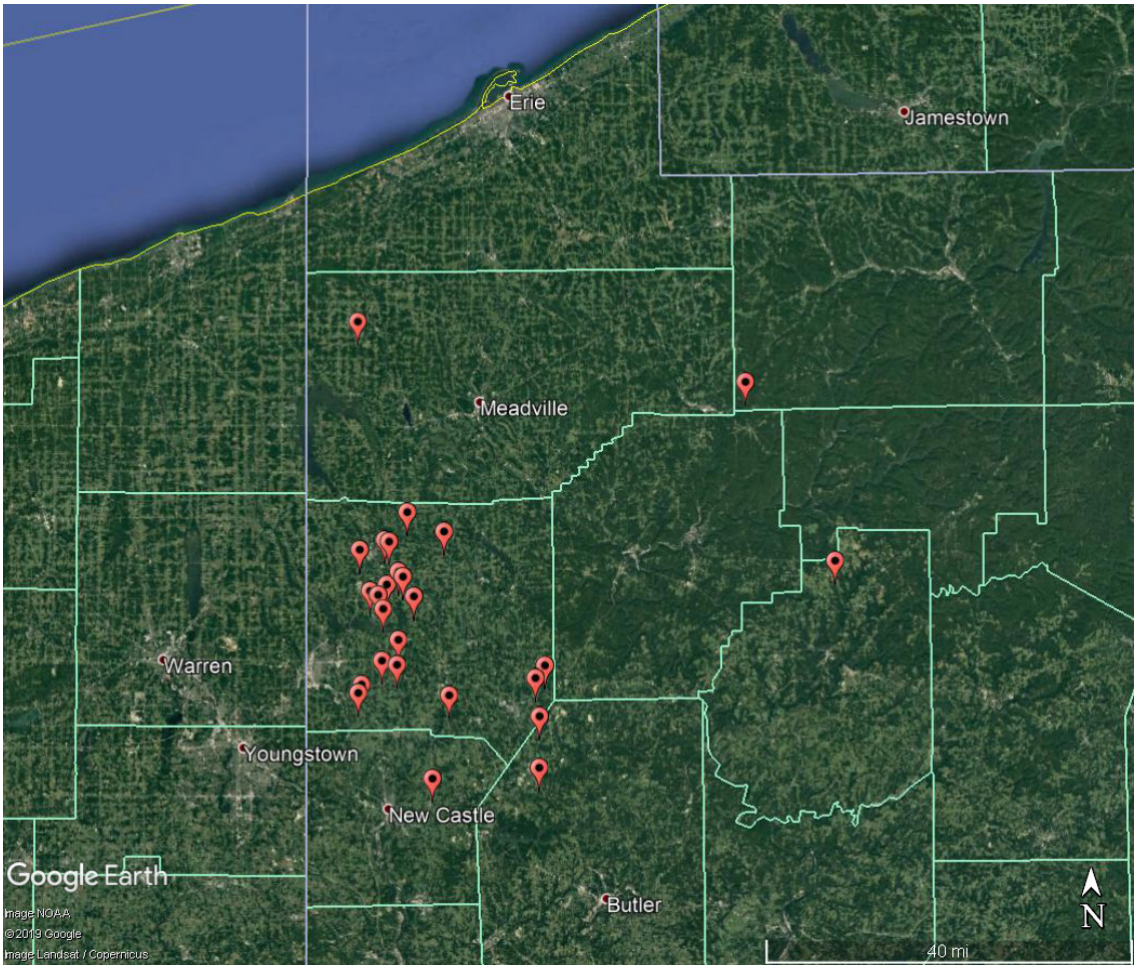


The aerator run cycle is controlled by the use of a time clock. The aeration cycle can be adjusted based upon the flow and loading at the particular residence. The aeration on cycle provides an aerobic environment for the digestion of BOD_5 and organic solids, the nitrification of ammonia, and the digestion of organic nitrogen. The off cycle allows dissolved oxygen to deplete, creating a temporary anoxic condition which allows for the conversion of nitrates into nitrogen gas.

From the aeration chamber, the wastewater passes by hydraulic displacement into the clarification chamber through a cast-in-place transfer port located at the bottom of the wall between the aeration chamber and the clarification chamber. Initial separation of solids takes place in the clarification chamber. The quiescent design of the clarification chamber allows gravity settling of the solids and sludge. Three of the four side walls in the clarifier are sloped to form a hopper. The 60° sloped walls of the clarification chamber help direct settled solids back toward the transfer opening between the two chambers so solids can be returned to the aeration chamber. A Bio-Static stationary sludge return device, located in the clarifier, utilizes hydraulic currents from the aeration chamber to return settled activated sludge from the bottom of the clarifier back to the aeration chamber.

A Bio-Kinetic system, connected to the outlet coupling in the tank, accomplishes tertiary treatment. The system is located in the center of the clarification chamber and extends down into the chamber. The outlet coupling allows for installation and service of the system from the ground level. The system is made up of three filtration zones, eight settling zones and three pairs of flow equalization ports. Settled supernatant liquid in the clarification chamber enters the Bio-Kinetic system where it passes though the design flow filter media that extends around the baffled perimeter settling zone. The design flow filter media provides for initial filtration and entrapment of solids. Peak flow filter media is located above the design flow media.

Figure II
Location of Singulair HKBFR Evaluation Sites (Local)



Flow control through the system is provided by two 1/4" diameter design flow equalization ports and two 1/4" diameter sustained flow equalization ports. The ports become submerged orifices as the water level in the chamber rises, equalizing the flow rate through the entire system. Extreme hydraulic flows are processed through a pair of 1" diameter peak flow equalization ports, that act to return the system to normal operating levels. All flow passing through the flow equalization ports falls onto an inclined deck that directs flow vertically downward to the unbaffled perimeter settling zone. From this area, flow is displaced to the retention basin and then into the baffled chamber plates. A continuous baffle on each of the 42 plates acts as a kinetic filtration weir with a 1/16-inch opening provided between plates. A larger open area immediately downstream of the baffle provides for additional settling and storage of solids. The clarified water then passes to an effluent stilling well, final settling zone, and discharge zone.

The treated effluent then flows into the Hydro-Kinetic Bio-Film Reactor (HKBFR) where additional settling of solids and bio-filtration takes place in a final polishing filter. The Bio-Film Reactor is made up of two filtration zones and three settling zones. Initial settling of residual solids particles takes place in the inlet settling zone where a baffle wall directs flow to the bottom of the chamber and evenly distributes the flow. Biologically stabilized solids are retained in the bottom solids retention zone which provides for the initial filtration of the flow. The retained solids form an anoxic sludge blanket creating an additional denitrification zone for the further reduction of nitrates. Flow then rises into the bio-film media filtration zone which is occupied by the reactor elements. The elements contain synthetic media designed to maximize biological surface area and grow bio-film. Flow travels up through the media and enters a large effluent zone downstream of the media where further settling and storage of solids occurs. A tee connected to the outlet of the HKBFR prevents any floating particles from leaving the system.

1.6 System Maintenance

Systems were operated and maintained according to the manufacturer's Operation and Maintenance manual. All maintenance and repairs were performed according to the prescribed schedule and as required by the operator/maintenance provider Micsky Septic Systems. Copies of operation and maintenance logs for each site are included in Appendix D.

Figure III
Typical Installation #30

Figure IV
Typical Installation #41

2.0 Sampling

All sample collection methods were in accordance with APHA's Standard Methods for the Examination of Water and Wastewater unless otherwise specified.

2.1 Sampling Frequency

Four consecutive quarterly influent and effluent samples shall be collected for 12 months from each of the treatment units. The regulation states that quarters shall run from January 1 to March 31, April 1 to June 30, July 1 to September 30, and October 1 to December 31. Samples were collected in the month of June for the 1st quarter, collected in August for the 2nd quarter, collected in October for the 3rd quarter, and collected in February for the 4th quarter.

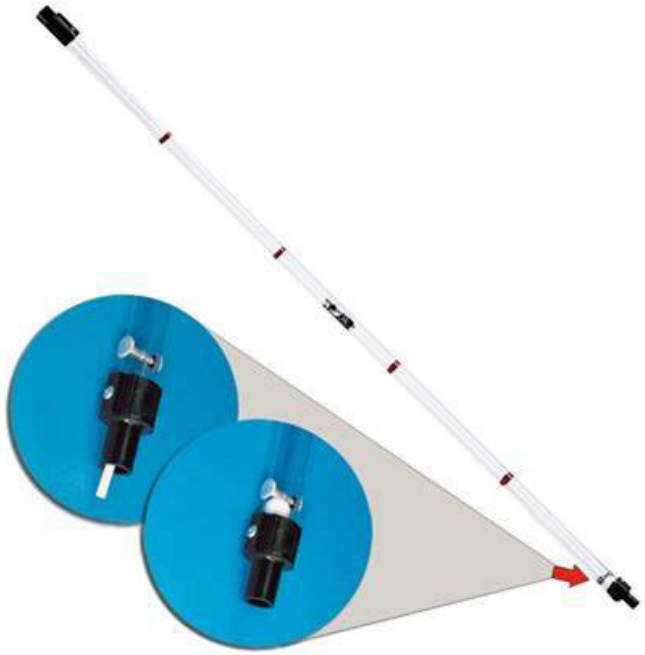
2.2 Influent Wastewater Collection

Raw influent wastewater grab samples were collected quarterly for a one-year time period on the same day that the effluent sample was collected. A subsurface grab sampler known commercially

as a sludge judge manufactured by Nasco, shown in Figure III, was used to pull samples from the clear zone in the pretreatment chamber at the “influent sample” point indicated in Appendix A.

The sludge judge sampler was inserted into the clear zone of the pretreatment tank, to a depth of 12 – 24” as measured from the top of the water. The sampler was manually pumped to fill the sludge judge tube with liquid from this depth and withdrawn from the tank. The sampler is equipped with a check valve which automatically closes when the water pressure is greater inside the tube. The influent sample was typically collected by extending the sludge judge tube through the inlet tee of the chamber. Several systems were not equipped with a pretreatment inlet tee. If a scum mat had developed on the surface of the water an opening was made in the scum mat in order to extend the sampler into the clear zone. Care was taken to collect only the supernatant liquid, excluding and avoiding both the floating scum mat and the settled sludge in the bottom.

Figure V
Sludge Judge for Influent Sampling

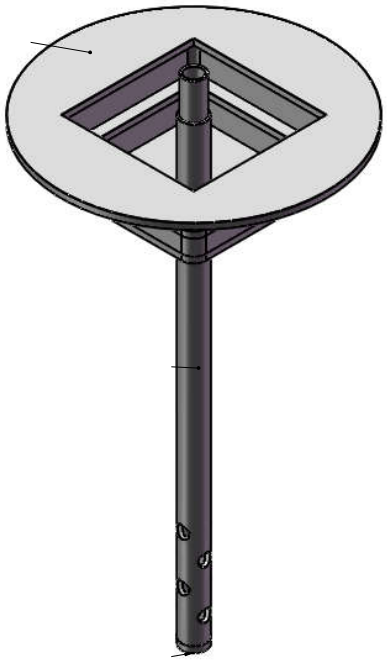


2.3 Final Effluent Collection

Final effluent samples were collected quarterly for a one-year time period. Samples collected in June 2019 were grab type samples. All other effluent sampling events were composite type samples. Effluent samples were collected by pumping a sample directly from the inside of the outlet tee of the Bio-Film Reactor chamber. A sample strainer equipped with a centering flange was inserted into the system outlet tee. Plastic tubing connected the strainer to a peristaltic type pump of an ISCO brand composite sampler.

Logistically, composite sampling was initiated in the early afternoon of day #1 and the composite sample was collected in the morning of day #2.

Figure VI
Sample Strainer for Effluent Composite Sampling



2.4 Chain of Custody

All samples were collected by employees of North American Testing. Samples were transported by NAT employees to the NAT Laboratory daily. All samples remained in the custody of NAT from collection to analysis to disposal. Chain of Custody records are included in Appendix E.

3.0 ANALYTICAL RESULTS

3.1 General

Analysis of samples collected during the evaluation were completed using the procedures in Standard Methods for the Examination of Water and Wastewater. Copies of data generated during the evaluation are included in Appendix B. Results of the analyses and on-site observations and measurements made during the evaluation are summarized in Table III. All analysis and measurements were performed by the North American Testing Laboratory. No collected samples or data was excluded for the selected 25 sites from the statistical calculations or this final report.

For the purposes of data averaging and statistical calculations, data reported as greater than (>) or less than (<) a certain value, as determined by the limitations of the method, will be calculated using that value. For the purposes of determining the pass/fail results for the VDH requirements, values below the method detection level (MDL) of the laboratory are treated as one-half of the MDL, per the VDH regulations. This is referred to as “cleaned data” in the VDH data spreadsheet.

The influent samples were analyzed for five-day Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS). The effluent samples were analyzed for five-day Biochemical Oxygen Demand (BOD_5), Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), and Total Suspended Solids (TSS). Influent and effluent grab samples were collected and analyzed for pH, effluent temperature and dissolved oxygen (DO). These parameters were measured on site.

Summary of Analytical Results

Singulair 960 Bio-Kinetic HKBFR

TABLE III

	Data Points	Average	Standard Deviation	Minimum	Maximum	Median	Interquartile Range
Biochemical Oxygen Demand (mg/L)							
Influent (BOD_5)	100	427	296	46	1,692	343	229 - 590
Effluent (BOD_5)	100	8	7	2*	48	6	4 - 9
Effluent ($CBOD_5$)	100	4	3	2*	21	3	2 - 4
Total Suspended Solids (mg/L)							
Influent	100	528	931	12	6,950	235	82 - 595
Effluent	100	5.8	5.4	2.0*	31.0	3.4	2.0 - 7.2
pH (SU)							
Influent	100	7.01	0.53	5.65	8.85	7.02	6.65 - 7.33
Effluent	100	7.40	0.39	6.37	8.82	7.39	7.17 - 7.65
Dissolved Oxygen (mg/L)							
Effluent	100	1.26	1.26	0.22	6.44	0.79	0.52 - 1.24
Temperature (°C)							
Effluent	100	16.5	5.6	3.5	23.9	18.4	12.8 - 20.5

* Minimum result below the method detection limit.

Notes: The median is the point where half of the values are greater and half are less.
The interquartile range is the range of values above the median between the upper and lower 25 percent of all values.

3.2 Biochemical Oxygen Demand (BOD_5 / $CBOD_5$)

The five-day biochemical oxygen demand (BOD_5) and five-day carbonaceous biochemical oxygen demand ($CBOD_5$) analysis were completed using Method 5210B of Standard Methods. The Method Detection Level for BOD_5 and $CBOD_5$ was 2 mg/L. Data from this analysis is summarized in Table III. The BOD_5 and $CBOD_5$ data for the evaluation are shown in Appendix B.

Influent BOD_5 :

The influent BOD_5 ranged from 46 to 1,692 mg/L for all sites and samples, with an average concentration of 427 mg/L and a median concentration of 343 mg/L. Influent BOD_5 values were consistent with residential strength wastewater.

3.2.1 Biochemical Oxygen Demand (BOD_5) vs. Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)

Per the Virginia regulations, the effluent must be tested for BOD_5 and the pass/fail criteria for the effluent is based on BOD_5. According to Standard Methods for the Examination of Water and Wastewater, “Microorganisms can oxidize reduced forms of nitrogen, such as ammonia and organic nitrogen, thus exerting nitrogenous demand. Nitrogenous demand historically has been considered an interference in BOD testing; adding ammonia to dilution water contributes an external source of nitrogenous demand. The interference from nitrogenous demand can now be prevented by an inhibitory chemical, but if it isn’t used, the measured oxygen demand is the sum of carbonaceous and nitrogenous demands. Measurements that include nitrogenous demand generally are not useful for assessing the oxygen demand associated with organic material. Samples that may require nitrification inhibition include, but are not limited to, biologically treated effluents, samples seeded with biologically treated effluents, and river waters.”

To satisfy the requirements of the VDH regulations, all effluent samples were tested for Biochemical Oxygen Demand (BOD_5). To satisfy the requirements of Standard Methods, all effluent samples were also tested for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$). Both values are reported and compared in this report.

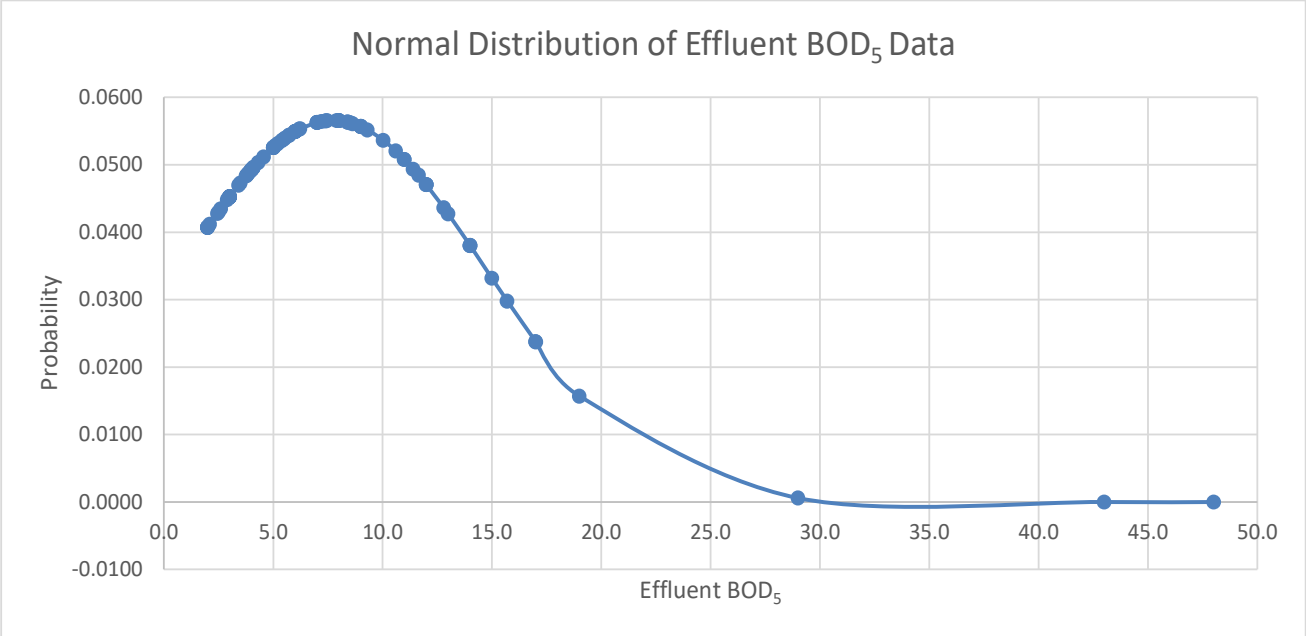
Effluent BOD_5:

The effluent BOD_5 concentrations ranged from <2 to 48 mg/L for all sites and samples, with an average concentration of 8 mg/L and a median concentration of 6 mg/L. Statistical analysis of the log transformed data yielded an effluent BOD_5 of 7.5 mg/L using a 99% confidence interval which meets the requirements of the regulations of ≤10 mg/L. The normal distribution of effluent BOD_5 data is shown in Chart I.

Effluent $CBOD_5$:

The effluent $CBOD_5$ concentrations ranged from <2 to 21 mg/L for all sites and samples, with an average concentration of 4 mg/L and a median concentration of 3 mg/L. Statistical analysis of the log transformed data yielded an effluent BOD_5 of 4.0 mg/L using a 99% confidence interval which meets the requirements of the regulations of ≤10 mg/L.

Chart I



3.3 Total Suspended Solids

TSS analysis was completed using Method 2540D of Standard Methods. Data from this analysis is summarized in Table III. The Method Detection Level for this analysis was 2.0 mg/L. The TSS data for the evaluation are shown in Appendix B.

Influent TSS:

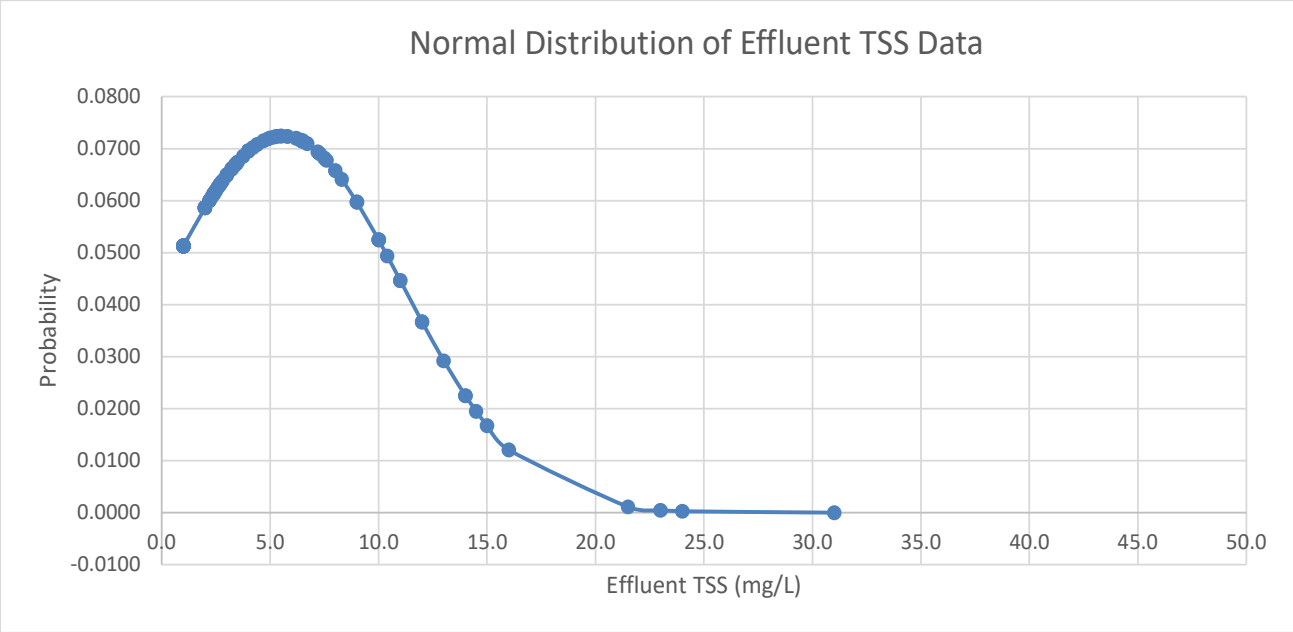
The influent TSS ranged from 12 mg/L to 6,950 mg/L for all sites and samples, with an average concentration of 528 mg/L and a median concentration of 235 mg/L. Influent TSS values were consistent with residential strength wastewater.

Effluent TSS:

The effluent TSS concentrations ranged from <2.0 to 31.0 mg/L for all sites and samples, with an

average concentration of 5.8 mg/L and a median concentration of 3.4 mg/L. Statistical analysis of the log transformed data yielded an effluent TSS of 5.2 mg/L using a 99% confidence interval which meets the requirements of the regulations of ≤10 mg/L.

Chart II



3.4 pH

pH analysis was completed using Method 4500-H B of Standard Methods. Data from this analysis is summarized in Table III. The pH data for the evaluation are shown in Appendix B.

Influent pH:

The influent pH ranged from 5.65 SU to 8.85 SU for all sites and samples, with an average value of 7.01 SU and median of 7.02 SU.

Effluent pH:

The effluent pH ranged from 6.37 SU to 8.82 SU for all sites and samples, with an average value of 7.40 SU and median value of 7.39 SU.

3.5 Temperature

Temperature analysis was completed with a digital thermometer using Method 2550 of Standard Methods. Data from this analysis is summarized in Table III. The temperature data for the evaluation is shown in Appendix B.

Effluent Temperature:

Effluent temperatures ranged from 3.5 °C to 23.9 °C, with an average value of 16.5 °C and a median of 18.4 °C.

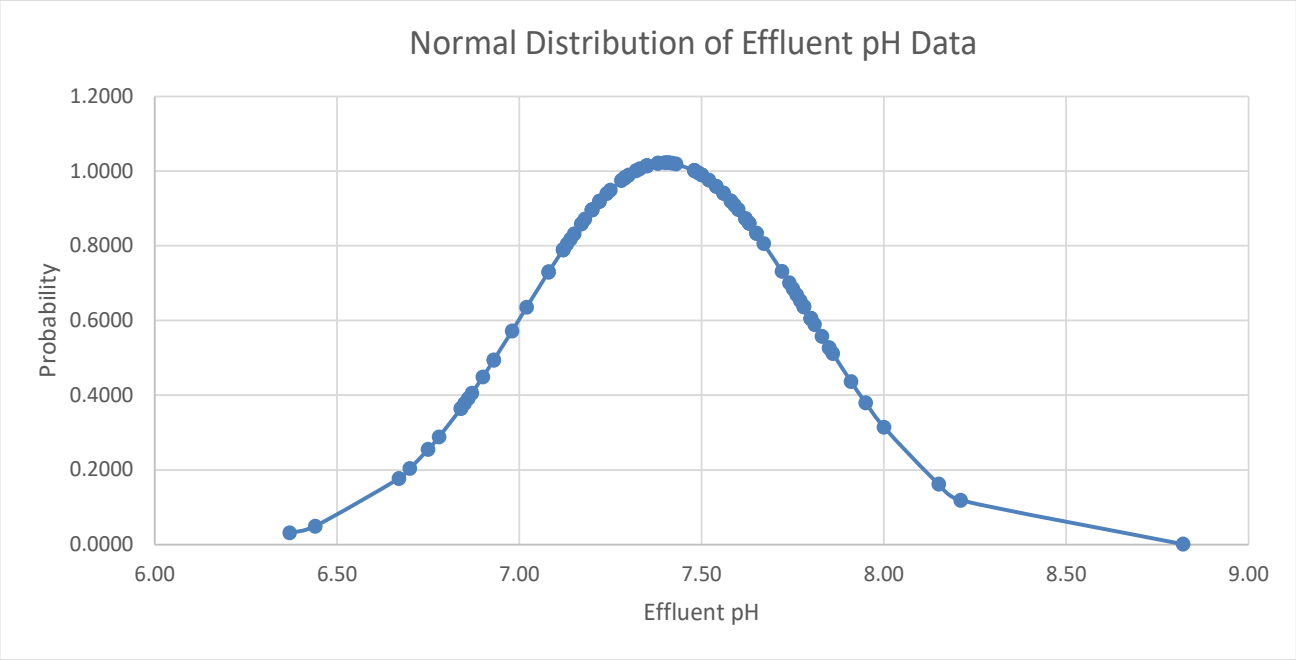
3.6 Dissolved Oxygen

Dissolved oxygen analysis was completed using Method 4500-O G of Standard Methods. Data from this analysis is summarized in Table III. The dissolved oxygen data for the evaluation is shown in Appendix B.

Effluent DO:

The effluent DO ranged between 0.22 mg/L to 6.44 mg/L, with an average concentration of 1.26 mg/L and a median concentration of 0.79 mg/L.

Chart III



3.7 Hydraulic Loading

Flow was estimated and based upon number of occupants in the home. Flow estimates are based upon a rate of 75 gallons per day (GPD) use per occupant.

4.0 References

- Standard Methods for the Examination of Water and Wastewater, 21st Edition
- NSF/ANSI Standard 40 – 2018 “Residential Wastewater Treatment Systems”
- Memorandum of Understanding Agreement, VDH - Norweco, June 21, 2019
- Third Party Testing Agreement, Norweco - NAT, May 9, 2019
- NAT Project Quality Assurance and Quality Control Plan, May 9, 2019
- Virginia Department of Health Guidance Memorandum and Policy (GMP) 2016-03: Implementation of 12VAC5-613-70, the Regulations for Alternative Onsite Sewage Systems (AOSS)

Table IV
Log Transformed Effluent BOD_5 / $CBOD_5$ / TSS Data

	BOD5 mg/L	CBOD5 mg/L	TSS mg/L
Count (N) =	25	25	25
Degrees of Freedom (N-1) =	24	24	24
Mean =	1.78	1.14	1.32
Std Dev =	0.46	0.46	0.65
Std Err =	0.09	0.09	0.13
Upper 99% T (1-tailed) =	2.49	2.49	2.49
Upper 99% T Conf Int =	2.01	1.38	1.65
Upper 99% T Conf Int =	7.5	4.0	5.2
Color Code =	Native Values		
	Log-Transformed Values		

APPENDIX A

SYSTEM SPECIFICATIONS AND DRAWINGS

PLANT SPECIFICATIONS

Norweco, Inc.

Singulair® Model 960 Bio-Kinetic HKBFR
Residential Wastewater Treatment System

Plant Capacity

Design Flow	**500**	**600**	**GPD**
System Hydraulic Capacity			
Pretreatment Chamber	450	450	gallons
Aeration Chamber	600	600	gallons
Clarification Chamber	250	250	gallons
Effluent Filter Chamber	420	420	gallons
Total Hydraulic Capacity	**1720**	**1720**	**gallons**
Hydraulic Retention Time			
Pretreatment Chamber	21.6	18.0	hours
Aeration Chamber	28.8	24.0	hours
Clarification Chamber	12.0	10.0	hours
Effluent Filter Chamber	20.2	16.8	hours
Total Hydraulic Retention	**82.6**	**68.8**	**hours**

*Note: The flow equalization provided by the Bio-Kinetic system results is an increased retention time for each chamber. The amount of flow control and exact increases in retention time is dependent upon the specific daily flow pattern.

Component Requirements

Singulair 206C Aerator	1
Singulair Bio-Kinetic System	1
Singulair Bio-Kinetic Sludge Return	1
Bio-Film Rector Elements	2
Singulair Control Panel	1

Model and Component Drawings

System Drawing	PC-5-1221
Simplex Outlet Coupling	PC-5-8014

PLANT SPECIFICATIONS

Norweco, Inc.

Singulair® Model 960 Bio-Kinetic HKBFR
Residential Wastewater Treatment System

Aerator Specifications

Model 206C aerator	UL Listed, CSA Certified
Motor	1/6 HP, 1725 RPM, 115V, 60Hz 1 Ph 4.0 full load amps
Air Delivery	3 CFM

Bio-Kinetic System Specifications

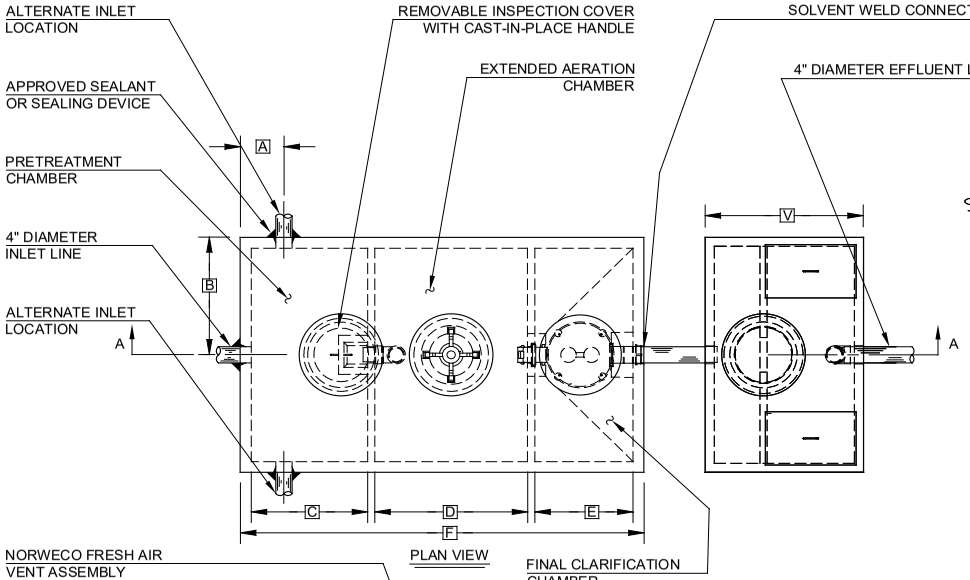
Total Volume	11.5 gallons
Material	Polyethylene

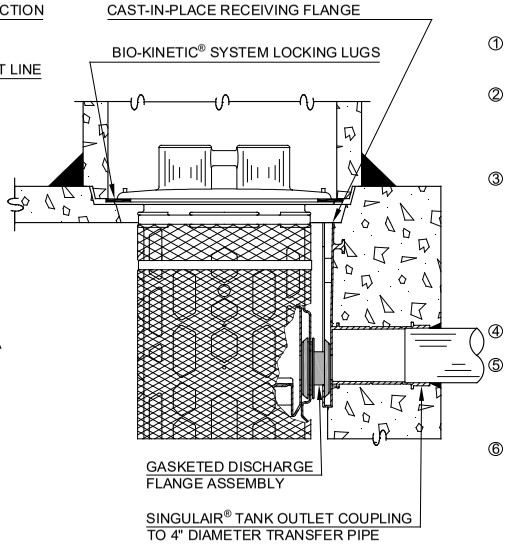
Hydro-Kinetic Bio-Film Reactor Element Specifications

Media:	Random pack arrangement
Shape	Proprietary engineered design
Size	4.125" dia. max.
Material	Synthetic polymer

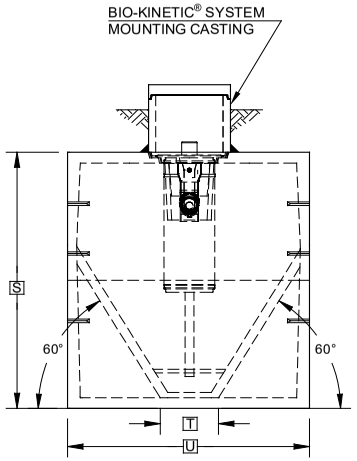
Control Center Specifications

Service Pro Models MCD Control Center	115V, 60Hz, 1 phase
Audible and visual alarms	Standard Run setting adjustable from 30 minutes per hour minimum to continuous run.
Service Pro WASP 11P/11F Control Center	115V, 60Hz, 1 phase
Audible and visual alarms	Standard Run setting adjustable from 30 minutes per hour minimum to continuous run.





BIO-KINETIC® SYSTEM DISCHARGE DETAIL



OUTLET END VIEW

NOTE: SOME CRITICAL DIMENSIONS ARE INTENTIONALLY LEFT BLANK TO BE FILLED IN PER INDIVIDUAL JOB SITE SPECIFICATIONS.

NOTE: TOTAL SYSTEM CAPACITY: 1,720 GALLONS
RATED CAPACITY: 500/600 GALLONS PER DAY

GENERAL NOTES:

① SINGULAIR® AERATOR, AS TESTED AND ACCEPTED BY NSF AND NAT.

② FALL THROUGH SINGULAIR® PLANT FROM INLET INVERT TO OUTLET INVERT IS FIVE INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.

③ ON DEEPER INSTALLATIONS, RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING, BIO-FILM REACTOR RISER, AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE. INSPECTION COVER ON PRETREATMENT CHAMBER MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.

④ TANK REINFORCED PER ACI STD. 318.

⑤ REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.

⑥ CONTACT THE LOCAL, LICENSED SINGULAIR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

PROJECT ENGINEER'S APPROVAL:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE: _____

NAME: _____

CONTRACTOR'S CERTIFICATION:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE: _____

NAME: _____

CRITICAL DIMENSIONS

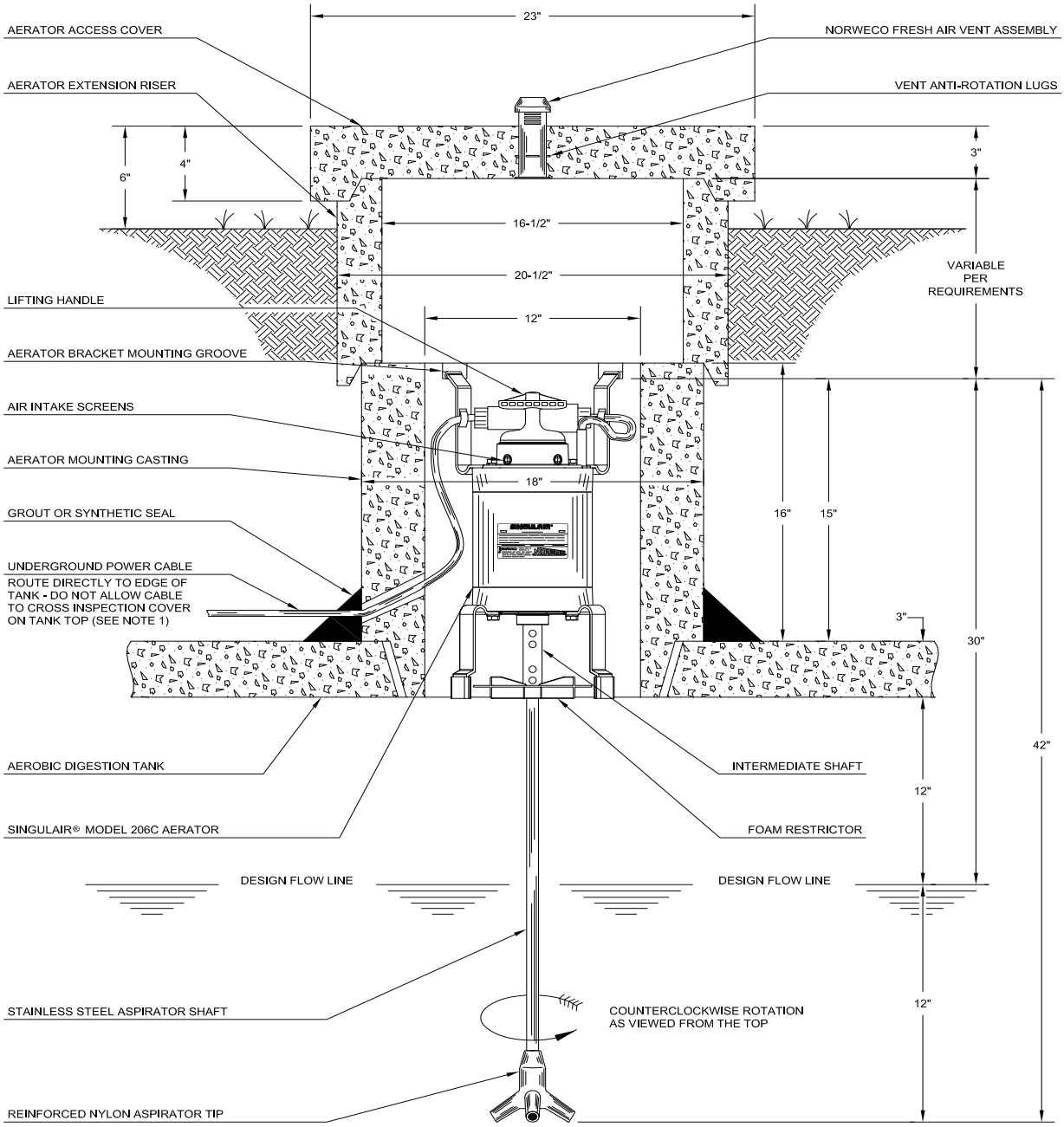
A	1'- 0"	N	0'- 3"
B	2'- 9"	O	0'- 6"
C	2'- 8"	P	0'- 2 1/2"
D	3'- 7"	Q	1'- 5"
E	2'- 3"	R	4'- 7"
F	9'- 3"	S	6'- 0"
G	1'- 0"	T	1'- 0"
H	5'- 0"	U	5'- 6"
I	0'- 3"	V	3'- 7 1/2"
J	0'- 3"	W	6'- 0"
K	1'- 0"	X	
L	0'- 2"	Y	
M	4'- 6"	Z	

U.S. AND FOREIGN PATENTS PENDING

norweco

SINGULAIR® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM MODEL 960 - 500 GPD WITH HKBFR

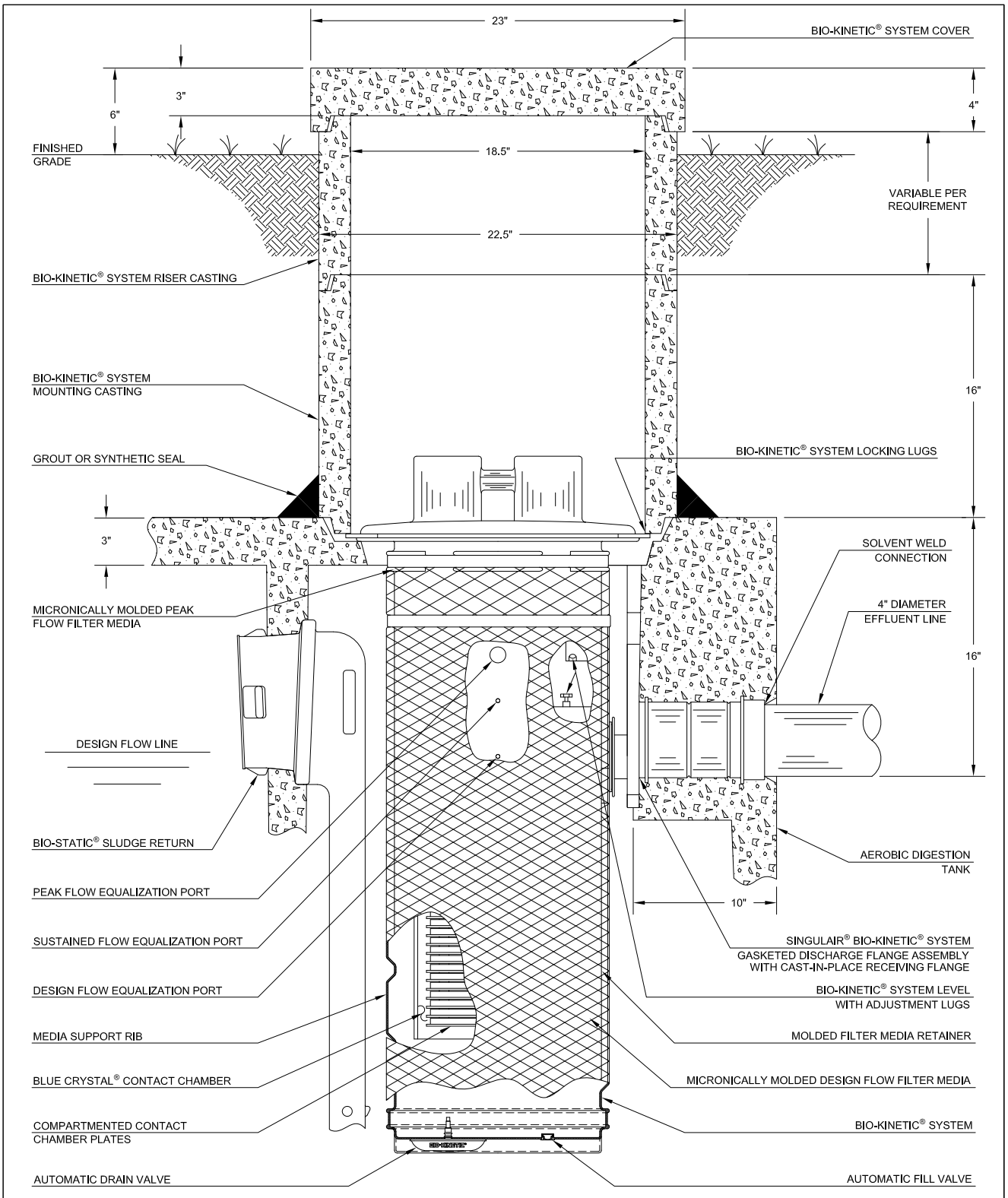
REVISION DATE	REVISION
DRAWN BY	MT
APPROVED BY	JMM
DATE	03-18-2020
SCALE	NTS
DRAWING NO.	PC-5-1221



GENERAL NOTES:

1. UNDERGROUND POWER SUPPLY MUST BE WIRED INTO AN APPROVED SINGULAIR ® CONTROL CENTER.
2. SINGULAIR® CONTROL CENTER MUST BE WIRED INTO A SEPARATE 10 AMP CIRCUIT BREAKER AT MAIN ELECTRICAL SERVICE PANEL IN THE FACILITY.
3. AERATOR AND AERATOR CONTROL CENTER MUST BE PROPERLY GROUNDED.
4. THE LOCAL, LICENSED NORWECO DISTRIBUTOR WILL PLACE THE AERATOR INTO SERVICE.

U.S. AND FOREIGN PATENTS PENDING © MMXIII	norweco	revision date: 04-08-2013	revision: H
	MODEL 206C SINGULAIR® AERATOR MOUNTING AND INSTALLATION DETAIL	drawn by: JMM	
		approved by: GJS	
		date: 1-8-95	
		scale: NTS	
	THIS DRAWING IS THE PROPERTY OF NORWALK WASTEWATER EQUIPMENT COMPANY, AND MAY NOT BE REPRODUCED, COPIED OR ASSIGNED TO ANY THIRD PARTY WITHOUT WRITTEN PERMISSION FROM NORWECO.	drawing no.: PC-5-7600	



GENERAL NOTES:

① AFTER INSTALLATION, ALL CHAMBERS OF THE SINGULAIR TANK SHOULD BE FULL TO THE FLOW LINE WITH CLEAN HOLD DOWN WATER.

② INTERNAL AND EXTERNAL PRESSURE EQUALIZATION ON THE BIO-KINETIC SYSTEM IS MANAGED AUTOMATICALLY BY THE DRAIN VALVE AND FILL VALVE.

U.S. AND FOREIGN PATENTS PENDING

© MMXVII

norweco

BIO-KINETIC® MOUNTING AND INSTALLATION DETAIL

REVISION DATE	REVISION
DRAWN BY	JMM
APPROVED BY	JMM
DATE	10-12-2017
SCALE	NTS
DRAWING NO.	PC-5-8509

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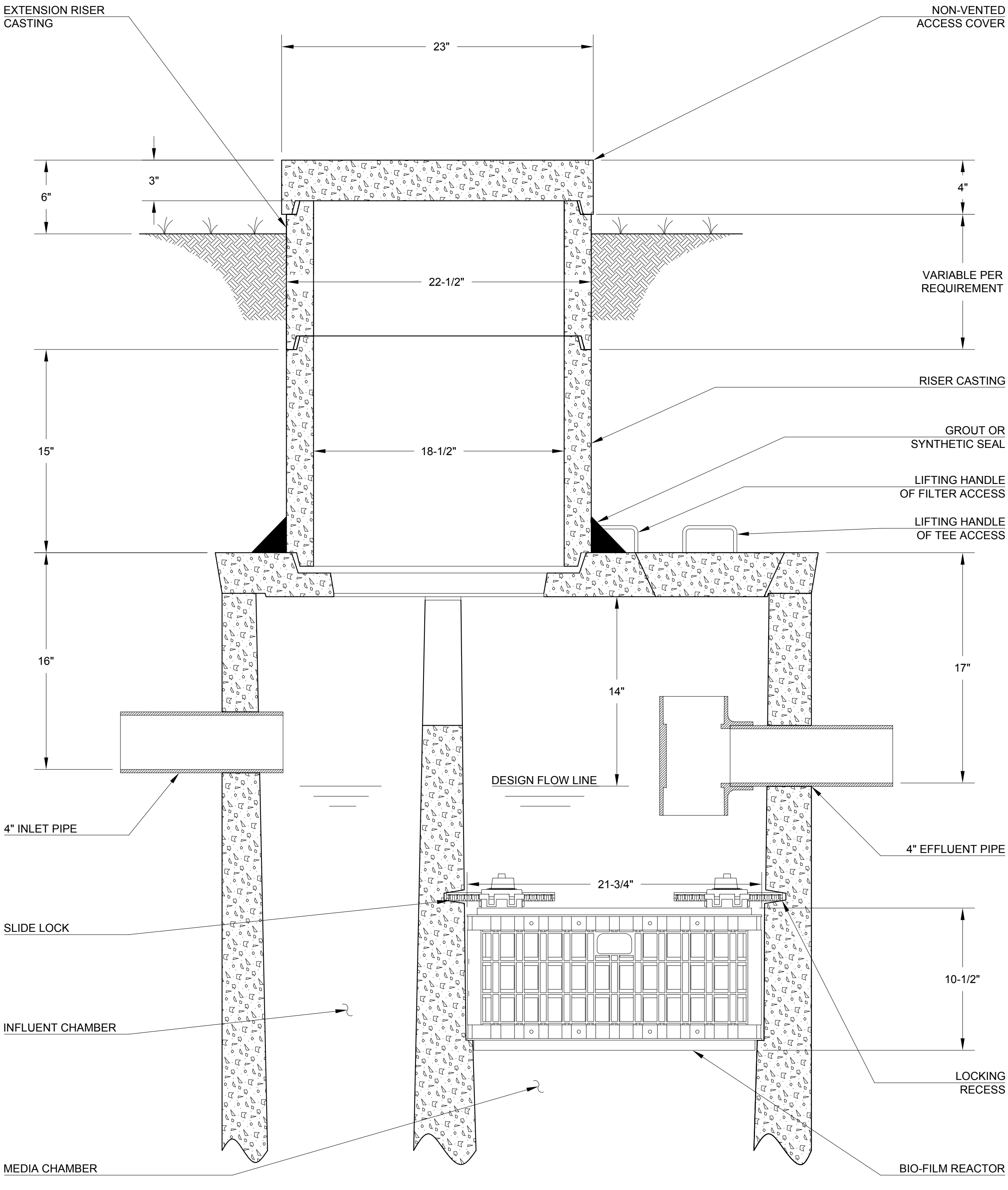

GENERAL NOTES:

1. BIO-FILM REACTORS SHOULD BE INSERTED THROUGH THE RECTANGULAR OPENINGS ON THE TOP OF THE TANK.
2. CENTER BIO-FILM REACTORS SO THEY ARE TOUCHING AND EXTEND LOCKING LUGS INTO THE RECESSES IN THE TANK.
3. THE INLET PIPE SHOULD ONLY EXTEND THREE INCHES INTO THE HYDRO-KINETIC® FILTER.

U.S. AND FOREIGN PATENTS PENDING

norweco

HYDRO-KINETIC®
BIO-FILM REACTOR
INSTALLATION DETAIL

REVISION DATE	6-23-14
REVISION	B
DRAWN BY	SSS
APPROVED BY	JMM
DATE	8-26-13
SCALE	NTS
DRAWING NO.	PC-5-1024

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APPENDIX B

ANALYTICAL RESULTS

Site #	Address	Model	Occupancy	Estimated Flow (GPD)	Sample Date	Lab Report
1	980 Mercer Rd., Greenville PA 16125	Singulair 960-500 HKBFR	2	150	6/26/2019	NWE070919
					8/13/2019	NWE082819
					10/15/2019	NWE110419
					2/18/2020	NWE030220
2	1602 Mercer Rd., Freedonia, PA	Singulair 960-500 HKBFR	1	75	6/24/2019	NWE070919
					8/13/2019	NWE082819
					10/22/2019	NWE110719
					2/11/2020	NWE022520
8	439 Tieline Rd., Grove City, PA	Singulair 960-500 HKBFR	5	375	6/27/2019	NWE070919
					8/15/2019	NWE082819
					10/24/2019	NWE110719
					2/13/2020	NWE022520
11	105 Arberg Lane, Slippery Rock, PA	Singulair 960-500 HKBFR	2	150	6/27/2019	NWE070919
					8/21/2019	NWE090419
					10/23/2019	NWE110719
					2/12/2020	NWE022520
12	476 Methodist Rd., Greenville, PA	Singulair 960-500 HKBFR	2	150	6/26/2019	NWE070919
					8/13/2019	NWE082819
					10/15/2019	NWE110419
					2/18/2020	NWE030220
13	102 Gibson Rd., Greenville, PA	Singulair 960-500 HKBFR	1	75	6/26/2019	NWE070919
					8/13/2019	NWE082819
					10/15/2019	NWE110419
					2/18/2020	NWE030220
14	1090 Linn Tyro Rd., Hadley, PA	**Singulair 960-750 HKBFR**	3	225	6/26/2019	NWE070919
					8/22/2019	NWE090419
					10/16/2019	NWE110419
					2/19/2020	NWE030220
15	151 Schaller Rd., Fredonia, PA	Singulair 960-500 HKBFR	1	75	6/26/2019	NWE070919
					8/20/2019	NWE090419
					10/22/2019	NWE110719
					2/11/2020	NWE022520
16	1643 Rutledge Rd., Transfer, PA	Singulair 960-500 HKBFR	2	150	6/26/2019	NWE070919
					8/20/2019	NWE090419
					10/22/2019	NWE110719
					2/11/2020	NWE022520
17	2068 Lake Rd., Sharpsville, PA	Singulair 960-500 HKBFR	2	150	6/24/2019	NWE070919
					8/20/2019	NWE090419
					10/22/2019	NWE110719
					2/11/2020	NWE022520
18	579 Yankee Ridge Rd., Mercer, PA	Singulair 960-500 HKBFR	3	225	6/24/2019	NWE070919
					8/20/2019	NWE090419
					10/17/2019	NWE110419
					2/20/2020	NWE030220
19	799 Orchard Rd., Mercer, PA	Singulair 960-500 HKBFR	3	225	6/24/2019	NWE070919
					8/14/2019	NWE082819
					10/17/2019	NWE110419
					2/20/2020	NWE030220

Site #	Address	Model	Occupancy	Estimated Flow (GPD)	Sample Date	Lab Report
22	211 Gearhart Rd., Pulaski, PA	Singulair 960-500 HKBFR	2	150	6/24/2019	NWE070919
					8/14/2019	NWE082819
					10/17/2019	NWE110419
					2/20/2020	NWE030220
23	2599 Harlansburg Rd., New Castle, PA	Singulair 960-500 HKBFR	2	150	6/27/2019	NWE070919
					8/21/2019	NWE090419
					10/23/2019	NWE110719
					2/12/2020	NWE022520
25	2031 Marble Strobleton Rd., Fryburg, PA	Singulair 960-500 HKBFR	6	450	6/27/2019	NWE070919
					8/15/2019	NWE082819
					10/24/2019	NWE110719
					2/13/2020	NWE022520
26	1182 East Lake Rd., Transfer, PA	Singulair 960-500 HKBFR	3	225	6/26/2019	NWE070919
					8/20/2019	NWE090419
					10/22/2019	NWE110719
					2/11/2020	NWE022520
27	1993 Mercer-West Middlesex Rd., Mercer, PA	Singulair 960-500 HKBFR	6	450	6/24/2019	NWE070919
					8/14/2019	NWE082819
					10/17/2019	NWE110419
					2/20/2020	NWE030220
28	2108 Mercer Rd., Fredonia, PA	Singulair 960-500 HKBFR	1	75	6/26/2019	NWE070919
					8/13/2019	NWE082819
					10/15/2019	NWE110419
					2/18/2020	NWE030220
29	1010 Leesburg Station Rd., Mercer, PA	Singulair 960-500 HKBFR	2	150	6/24/2019	NWE070919
					8/21/2019	NWE090419
					10/23/2019	NWE110719
					2/12/2020	NWE022520
30	29 South Good Hope Rd., Greenville, PA	Singulair 960-500 HKBFR	2	150	6/26/2019	NWE070919
					8/22/2019	NWE090419
					10/16/2019	NWE110419
					2/19/2020	NWE030220
32	151 Etna Rd., Slippery Rock, PA	Singulair 960-500 HKBFR	2	150	6/27/2019	NWE070919
					8/21/2019	NWE090419
					10/23/2019	NWE110719
					2/12/2020	NWE022520
33	89 Patterson School Rd., Grove City, PA	Singulair 960-500 HKBFR	3	225	6/27/2019	NWE070919
					8/15/2019	NWE082819
					10/24/2019	NWE110719
					2/13/2020	NWE022520
35	19304 Cole Rd., Conneautville, PA	Singulair 960-500 HKBFR	4	300	6/26/2019	NWE070919
					8/22/2019	NWE090419
					10/16/2019	NWE110419
					2/19/2020	NWE030220
36	852 Beatty School Rd., Greenville, PA	Singulair 960-500 HKBFR	2	150	6/26/2019	NWE070919
					8/22/2019	NWE090419
					10/16/2019	NWE110419
					2/19/2020	NWE030220
39	1136 Bugtown Rd., Titusville, PA	Singulair 960-500 HKBFR	2	150	6/27/2019	NWE070919
					8/15/2019	NWE082819
					10/24/2019	NWE110719
					2/13/2020	NWE022520

Test Site No.	Test Site Name	Daily Flow** (GPD)	Sample Type	Sample Date	RAW DATA Influent BOD5 (mg/L)	Influent TSS (mg/L)	Influent pH (SU)	Effluent BOD5 (mg/L)	Effluent CBOD5 (mg/L)	Effluent TSS (mg/L)	Effluent pH (SU)	CLEAN DATA* Effluent BOD5 (mg/L)	Effluent CBOD5 (mg/L)	Effluent TSS (mg/L)	LOG-TRANSFORMED DATA Effluent BOD5 (mg/L)	Effluent CBOD5 (mg/L)	Effluent TSS (mg/L)	TEST UNIT AVERAGES Effluent BOD5 (mg/L)	Effluent CBOD5 (mg/L)	Effluent TSS (mg/L)
1	980 Mercer Rd., Greenville PA 16125 Singulair 960-500GPD + Hydro-Kinetic Bio-Film Reactor	150	grab	6/26/19	332	175	7.24	4	2	3.8	7.72	4	2	3.8	1.402	0.693	1.322			
			composite	8/13/19	95	62	Lab Error	6	4	7.3	7.58	6	4	7.3	1.792	1.386	1.988			
			composite	10/15/19	374	720	7.53	6	3	7.5	7.77	6	3	7.5	1.829	1.099	2.015			
			composite	2/18/20	192	27	7.65	6	2	16.0	7.80	6	2	16.0	1.792	0.693	2.773			
																		1.704	0.968	2.024
2	1602 Mercer Rd., Freedonia, PA 16137 Singulair 960-500GPD + Hydro-Kinetic Bio-Film Reactor	75	grab	6/24/19	622	108	5.65	4	3	3.2	7.38	4	3	3.2	1.325	1.099	1.179			
			composite	8/13/19	> 790	82	5.84	9	4	6.5	6.98	9	4	6.5	2.197	1.386	1.872			
			composite	10/22/19	737	270	6.06	4	3	2.2	7.48	4	3	2.2	1.336	1.099	0.788			
			composite	2/11/20	800	396	6.60	8	5	8.3	7.86	8	5	8.3	2.079	1.609	2.116			
																		1.734	1.298	1.489
8	439 Tieline Rd., Grove City, PA 16127 Singulair 960-500GPD + Hydro-Kinetic Bio-Film Reactor	375	grab	6/27/19	422	110	7.21	5	3	2.7	7.38	5	3	2.7	1.504	1.099	0.981			
			composite	8/15/19	407	158	7.02	14	9	23.0	7.29	14	9	23.0	2.639	2.197	3.135			
			composite	10/24/19	543	876	7.08	8	2	12.0	7.48	8	2	12.0	2.079	0.693	2.485			
			composite	2/13/20	199	400	7.25	43	9	31.0	7.50	43	9	31.0	3.761	2.197	3.434			
																		2.496	1.547	2.509
11	105 Arberg Ln., Slippery Rock, PA 16057 Singulair 960-500GPD + Hydro-Kinetic Bio-Film Reactor	150	grab	6/27/19	248	420	6.77	2	< 2	10.0	7.32	2	1	10.0	0.742	0.000	2.303			
			composite	8/21/19	> 1,133	1,750	6.67	7	3	< 2.0	7.76	7	3	1.0	1.946	1.099	0.000			
			composite	10/23/19	344	130	6.87	5	2	2.4	6.70	5	2	2.4	1.628	0.693	0.875			
			composite	2/12/20	724	984	7.41	14	3	< 2.0	7.43	14	3	1.0	2.639	1.099	0.000			
																		1.739	0.723	0.795
12	476 Methodist Rd., Greenville, PA 16125 Singulair 960-500GPD + Hydro-Kinetic Bio-Film Reactor	150	grab	6/26/19	235	238	6.65	< 2	< 2	2.0	7.42	1	1	2.0	0.000	0.000	0.693			
			composite	8/13/19	235	48	6.86	4	4	2.7	7.35	4	4	2.7	1.386	1.386	0.993			
			composite	10/15/19	570	495	6.90	4	3	12.0	7.12	4	3	12.0	1.411	1.099	2.485			
			composite	2/18/20	358	84	6.80	5	4	10.0	7.20	5	4	10.0	1.609	1.386	2.303			
																		1.102	0.968	1.618
13	102 Gibson Rd., Greenville, PA 16125 Singulair 960-500GPD + Hydro-Kinetic Bio-Film Reactor	75	grab	6/26/19	232	57	6.62	< 2	2	2.0	7.80	1	2	2.0	0.000	0.693	0.693			
			composite	8/13/19	146	36.7	7.10	4	2	< 2.0	7.83	4	2	1.0	1.386	0.693	0.000			
			composite	10/15/19	199	137	7.93	2	2	< 2.0	6.93	2	2	1.0	0.693	0.693	0.000			
			composite	2/18/20	295	49	6.67	3	3	< 2.0	7.08	3	3	1.0	1.099	1.099	0.000			
																		0.795	0.795	0.173
14	1090 Linn Tyro Rd., Hadley, PA 16130 Singulair 960-**750**GPD + Hydro-Kinetic Bio-Film Reactor	225	grab	6/26/19	172	53	7.20	10	3	15.0	6.44	10	3	15.0	2.305	1.099	2.708			
			composite	8/22/19	887	1,336	7.19	4	2	< 2.0	7.41	4	2	1.0	1.386	0.693	0.000			
			composite	10/16/19	619	850	7.33	3	< 2	2.6	7.25	3	1	2.6	1.099	0.000	0.956			
			composite	2/19/20	286	184	7.28	8	2	< 2.0	7.30	8	2	1.0	2.079	0.693	0.000			
																		1.717	0.621	0.916
15	151 Schaller Rd., Fredonia, PA 16124 Singulair 960-500GPD + Hydro-Kinetic Bio-Film Reactor	75	grab	6/26/19	46	15	7.59	6	2	2.0	7.85	6	2	2.0	1.822	0.693	0.693			
			composite	8/20/19	102	144	7.73	8	3	2.2	8.00	8	3	2.2	2.079	1.099	0.788			
			composite	10/22/19	73	63	7.86	3	< 2	< 2.0	7.95	3	1	1.0	0.916	0.000	0.000			
			composite	2/11/20	54	44	8.18	15	8	3.5	7.91	15	8	3.5	2.708	2.079	1.253			
																		1.882	0.968	0.684
16	1643 Rutledge Rd., Transfer, PA 16154 Singulair 960-500GPD + Hydro-Kinetic Bio-Film Reactor	150	grab	6/26/19	236	250	7.17	9	2	14.0	7.54	9	2	14.0	2.156	0.693	2.639			
			composite	8/20/19	298	95	7.20	3	2	11.0	7.78	3	2	11.0	1.099	0.693	2.398			
			composite	10/22/19	336	255	7.54	4	2	5.8	8.15	4	2	5.8	1.411	0.693	1.758			
			composite	2/11/20	388	187	7.67	3	2	< 2.0	7.81	3	2	1.0	1.099	0.693	0.000			
																		1.441	0.693	1.699

*The Singulair 960-500 GPD tank is NSF Certified for up to 600 GPD treatment and is referenced as 960-600 GPD as well.

17	2068 Lake Rd.,	150	grab	6/24/19	342	128	7.23	2	2	3.0	7.20	2	2	3.0	0.894	0.693	1.099			
	Sharpsville, PA 16150		composite	8/20/19	> 1,185	3,520	7.04	3	2	6.2	7.29	3	2	6.2	1.099	0.693	1.825			
	Singulair 960-500GPD + Hydro-		composite	10/22/19	830	970	7.20	2	< 2	2.4	7.35	2	1	2.4	0.693	0.000	0.875			
	Kinetic Bio-Film Reactor		composite	2/11/20	398	456	7.38	4	4	4.9	7.13	4	4	4.9	1.386	1.386	1.589			
																		1.018	0.693	1.347
18	579 Yankee Ridge Rd., Mercer,	225	grab	6/24/19	326	120	6.14	3	2	3.2	6.75	3	2	3.2	1.227	0.693	1.179			
	PA 16137		composite	8/20/19	> 1,109	400	6.50	6	3	5.0	6.78	6	3	5.0	1.792	1.099	1.609			
	Singulair 960-500GPD + Hydro-		composite	10/17/19	678	880	5.71	7	6	14.0	6.86	7	6	14.0	2.001	1.792	2.639			
	Kinetic Bio-Film Reactor		composite	2/20/20	586	312	6.62	17	10	9.0	6.67	17	10	9.0	2.833	2.303	2.197			
																		1.963	1.472	1.906
19	799 Orchard Rd., Mercer,	225	grab	6/24/19	263	600	7.23	< 2	< 2	2.7	7.12	1	1	2.7	0.000	0.000	1.012			
	PA 16137		composite	8/14/19	224	407	7.17	5	2	2.8	6.93	5	2	2.8	1.609	0.693	1.030			
	Singulair 960-500GPD + Hydro-		composite	10/17/19	320	1033	7.12	4	3	< 2.0	7.24	4	3	1.0	1.253	1.099	0.000			
	Kinetic Bio-Film Reactor		composite	2/20/20	369	280	7.33	3	2	2.0	7.65	3	2	2.0	1.099	0.693	0.693			
																		0.990	0.621	0.684
22	211 Gearhart Rd.,	150	grab	6/24/19	344	96	6.96	6	5	2.0	7.62	6	5	2.0	1.748	1.609	0.693			
	Pulaski, PA 16143		composite	8/14/19	221	54	7.44	6	3	4.7	7.50	6	3	4.7	1.792	1.099	1.548			
	Singulair 960-500GPD + Hydro-		composite	10/17/19	406	476	7.54	16	8	7.2	7.75	16	8	7.2	2.754	2.079	1.974			
	Kinetic Bio-Film Reactor		composite	2/20/20	195	12	7.55	5	2	5.5	7.78	5	2	5.5	1.609	0.693	1.705			
																		1.976	1.370	1.480
23	2599 Harlansburg Rd., New	150	grab	6/27/19	170	56	7.60	7	2	2.0	7.40	7	2	2.0	2.009	0.693	0.693			
	Castle, PA 16101		composite	8/21/19	77	128	7.52	3	2	< 2.0	7.62	3	2	1.0	1.099	0.693	0.000			
	Singulair 960-500GPD + Hydro-		composite	10/23/19	97	155	7.75	9	2	3.2	7.48	9	2	3.2	2.230	0.693	1.163			
	Kinetic Bio-Film Reactor		composite	2/12/20	144	150	8.09	19	6	8.0	7.85	19	6	8.0	2.944	1.792	2.079			
																		2.071	0.968	0.984
25	2031 Marble Strobleton Rd., Fryburg,	450	grab	6/27/19	354	593	6.36	17	17	24.0	7.63	17	17	24.0	2.833	2.833	3.178			
	PA 16326		composite	8/15/19	261	103	6.58	13	11	21.5	6.87	13	11	21.5	2.565	2.398	3.068			
	Singulair 960-500GPD + Hydro-		composite	10/24/19	554	733	6.64	6	3	4.0	6.85	6	3	4.0	1.740	1.099	1.386			
	Kinetic Bio-Film Reactor		composite	2/13/20	357	430	6.92	14	5	7.6	7.18	14	5	7.6	2.639	1.609	2.028			
																		2.444	1.985	2.415
26	1182 East Lake Rd.,	225	grab	6/26/19	737	640	6.13	11	9	11.0	7.56	11	9	11.0	2.425	2.197	2.398			
	Transfer, PA 16154		composite	8/20/19	612	3,370	6.15	12	6	5.2	7.28	12	6	5.2	2.485	1.792	1.649			
	Singulair 960-500GPD + Hydro-		composite	10/22/19	1692	3530	6.22	5	4	10.4	7.63	5	4	10.4	1.684	1.386	2.342			
	Kinetic Bio-Film Reactor		composite	2/11/20	605	680	6.70	7	5	13.0	7.22	7	5	13.0	1.946	1.609	2.565			
																		2.135	1.746	2.238
27	1993 Mercer-West Middlesex Rd.,	450	grab	6/24/19	296	68	6.58	29	21	9.0	7.65	29	21	9.0	3.367	3.045	2.197			
	Mercer, PA 16137		composite	8/14/19	501	313	6.56	3	3	6.7	7.29	3	3	6.7	1.099	1.099	1.902			
	Singulair 960-500GPD + Hydro-		composite	10/17/19	970	1073	6.71	11	8	10.0	7.78	11	8	10.0	2.434	2.079	2.303			
	Kinetic Bio-Film Reactor		composite	2/20/20	451	312	7.00	6	4	6.5	7.56	6	4	6.5	1.792	1.386	1.872			
																		2.173	1.902	2.068
28	2108 Mercer Rd., Fredonia,	75	grab	6/26/19	160	240	6.86	13	13	2.0	7.14	13	13	2.0	2.565	2.565	0.693			
	PA 16124		composite	8/13/19	123	46	6.57	7	3	3.4	6.37	7	3	3.4	1.946	1.099	1.224			
	Singulair 960-500GPD + Hydro-		composite	10/15/19	120	253	6.65	4	3	2.6	7.35	4	3	2.6	1.459	1.099	0.956			
	Kinetic Bio-Film Reactor		composite	2/18/20	148	27	7.08	12	7	6.5	7.22	12	7	6.5	2.485	1.946	1.872			
																		2.114	1.677	1.186

*The Singulair 960-500 GPD tank is NSF Certified for up to 600 GPD treatment and is referenced as 960-600 GPD as well.

29	1010 Leesburg Station Rd., Mercer, PA 16137	150	grab	6/24/19	1,190	6,950	6.48	11	7	4.0	7.67	11	7	4.0	2.398	1.946	1.386			
			composite	8/21/19	> 439	1,260	6.13	9	4	2.7	7.38	9	4	2.7	2.197	1.386	0.993			
	Singulair 960-500GPD + Hydro-		composite	10/23/19	309	256	7.09	8	2	2.4	7.12	8	2	2.4	2.128	0.693	0.875			
	Kinetic Bio-Film Reactor		composite	2/12/20	633	488	7.62	7	4	2.3	7.59	7	4	2.3	1.946	1.386	0.833			
																		2.167	1.353	1.022
30	29 South Good Hope Rd., Greenville, PA 16125	150	grab	6/26/19	270	79	7.00	5	2	2.0	7.74	5	2	2.0	1.516	0.693	0.693			
			composite	8/22/19	326	780	6.60	3	2	4.2	7.60	3	2	4.2	1.099	0.693	1.435			
	Singulair 960-500GPD + Hydro-		composite	10/16/19	285	370	7.08	7	3	4.4	7.49	7	3	4.4	1.974	1.099	1.482			
	Kinetic Bio-Film Reactor		composite	2/19/20	334	56	6.83	9	< 2	4.0	7.08	9	1	4.0	2.197	0.000	1.386			
																		1.696	0.621	1.249
32	151 Etna Rd., Slippery Rock, PA 16057	150	grab	6/27/19	209	144	6.65	8	8	3.4	7.20	8	8	3.4	2.079	2.079	1.224			
			composite	8/21/19	186	170	6.76	3	2	3.0	6.84	3	2	3.0	1.099	0.693	1.099			
	Singulair 960-500GPD + Hydro-		composite	10/23/19	196	96	6.98	3	4	<2.0	7.02	3	4	1.0	1.065	1.386	0.000			
	Kinetic Bio-Film Reactor		composite	2/12/20	287	36	7.02	4	3	<2.0	7.35	4	3	1.0	1.386	1.099	0.000			
																		1.407	1.314	0.581
33	89 Patterson School Rd., Grove City, PA 16127	225	grab	6/27/19	380	56	6.77	5	< 2	4.0	7.58	5	1	4.0	1.609	0.000	1.386			
			composite	8/15/19	286	58	6.94	5	3	< 2.0	7.17	5	3	1.0	1.609	1.099	0.000			
	Singulair 960-500GPD + Hydro-		composite	10/24/19	996	1180	7.05	8	< 2	5.5	7.80	8	1	5.5	2.067	0.000	1.705			
	Kinetic Bio-Film Reactor		composite	2/13/20	371	220	7.08	12	3	3.0	7.52	12	3	3.0	2.485	1.099	1.099			
																		1.943	0.549	1.047
35	19304 Cole Rd., Conneautville, PA 16406	300	grab	6/26/19	663	375	7.00	4	2	2.5	7.63	4	2	2.5	1.352	0.693	0.916			
			composite	8/22/19	738	1,960	7.23	11	2	< 2.0	7.33	11	2	1.0	2.398	0.693	0.000			
	Singulair 960-500GPD + Hydro-		composite	10/16/19	361	690	7.44	4	2	< 2.0	7.54	4	2	1.0	1.361	0.693	0.000			
	Kinetic Bio-Film Reactor		composite	2/19/20	230	232	8.85	3	2	< 2.0	7.20	3	2	1.0	1.099	0.693	0.000			
																		1.552	0.693	0.229
36	852 Beatty School Rd., Greenville, PA 16125	150	grab	6/26/19	219	45	7.37	12	9	6.5	7.80	12	9	6.5	2.485	2.197	1.872			
			composite	8/22/19	765	1,020	6.58	11	5	14.5	7.15	11	5	14.5	2.398	1.609	2.674			
	Singulair 960-500GPD + Hydro-		composite	10/16/19	894	1640	6.87	3	3	2.4	6.90	3	3	2.4	0.956	1.099	0.875			
	Kinetic Bio-Film Reactor		composite	2/19/20	331	186	6.40	48	17	5.3	6.84	48	17	5.3	3.871	2.833	1.668			
																		2.427	1.935	1.772
39	1136 Bugtown Rd., Titusville, PA 16354	150	grab	6/27/19	354	80	7.40	5	2	6.4	8.82	5	2	6.4	1.698	0.693	1.856			
			composite	8/15/19	440	65	6.70	9	3	2.5	8.21	9	3	2.5	2.197	1.099	0.916			
	Singulair 960-500GPD + Hydro-		composite	10/24/19	603	307	7.65	5	3	3.0	7.17	5	3	3.0	1.649	1.099	1.099			
	Kinetic Bio-Film Reactor		composite	2/13/20	439	52	7.08	6	5	< 2.0	7.22	6	5	1.0	1.792	1.609	0.000			
																		1.834	1.125	0.968

* If any cell in CLEAN DATA column displays "#VALUE!", datum corresponding to that cell must be "cleaned" and manually entered into CLEAN DATA column cell. Datum reported as "<QL" is entered as value of QL/2. E.g., datum reported as "<1" is entered as 0.5 and datum reported as "<5" is entered as 2.5

** Based on 75 GPD per occupant

	BOD5 mg/L	CBOD5 mg/L	TSS mg/L
Count (N) =	25	25	25
Degrees of Freedom (N-1) =	24	24	24
Mean =	1.78	1.14	1.32
Std Dev =	0.46	0.46	0.65
Std Err =	0.09	0.09	0.13
Upper 99% T (1-tailed) =	2.49	2.49	2.49
Upper 99% T Conf Int =	2.01	1.38	1.65
Upper 99% T Conf Int =	7.5	4.0	5.2
Color Code =	Native Values		
	Log-Transformed Values		

APPENDIX C

OWNER'S MANUAL AND SERVICE INSTRUCTIONS

norweco®

SINGULAIR® BIO-KINETIC®

WASTEWATER TREATMENT SYSTEM WITH SERVICE PRO® CONTROL CENTER

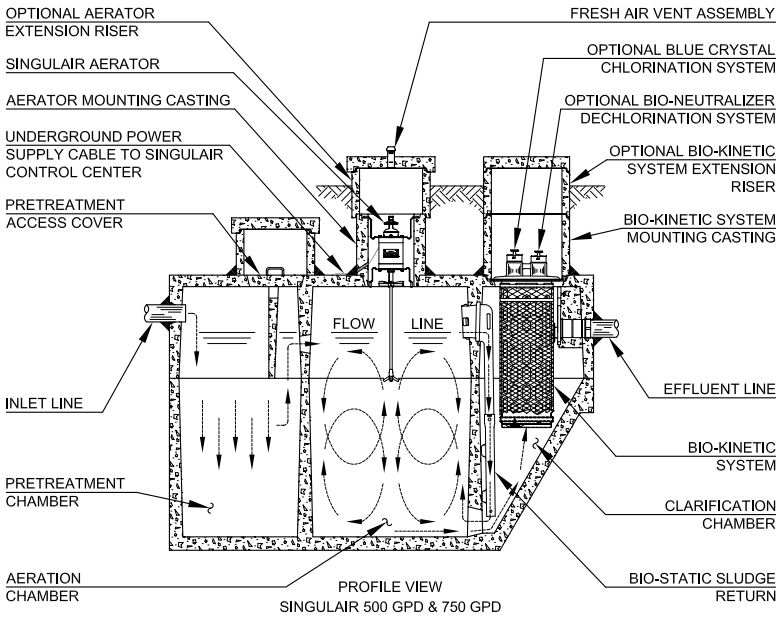
MODELS 960 AND TNT® OWNER'S MANUAL

INTRODUCTION

The Singulair system is the finest equipment available and utilizes the most up-to-date wastewater treatment technology. It is a sound investment that protects you and the environment. Please take the time to familiarize yourself with the contents of this manual.

HOW THE SINGULAIR® SYSTEM WORKS

Developed to serve homes and small businesses beyond the reach of city sewers, the Singulair system employs the extended aeration process. Similar to the treatment method used by most municipal wastewater treatment facilities, this process involves a natural, biological breakdown of the organic matter in wastewater.



Wastewater enters the pretreatment chamber where anaerobic bacterial action combines with the effects of gravity to precondition the waste before it flows into the aeration chamber. Once in the aeration chamber, aerobic bacteria utilize the organic matter in the wastewater to biologically convert the waste into stable substances. Following aeration, flow is transferred to the clarification chamber where the effects of gravity settle out biologically active material. The Bio-Static sludge return, located in the clarification chamber, creates hydraulic currents that gently transfer settled particles back to the aeration chamber. As clarified liquids pass through the Bio-Kinetic system, they are filtered, settled and flow equalized. As a result, complete pretreatment, aeration, clarification and final filtration are assured. The Singulair system reliably protects you, your property and the environment.

FEATURES AND ADVANTAGES

Singulair tanks are reinforced precast concrete, manufactured by the licensed Norweco distributor. Internal walls and baffles are cast-in-place to insure uniformity and maximum strength. Risers and access covers are either heavy duty plastic or concrete construction. All components within the system that will contact the wastewater are constructed entirely of molded plastic, stainless steel or rubber.

The Singulair aerator is powered by a 1725 RPM, 115 volt, 60 hertz, single-phase, fractional horsepower motor. It is the only electrically powered component in the Singulair system. The aerator has been designed specifically for use in the Singulair system. It costs less to operate and consumes fewer kilowatt hours of electricity than most major appliances.

Singulair aerators are supplied with a Service Pro control center with MCD technology. The NEMA rated control center contains a power switch and time clock that control aerator operation. The local distributor's name, address and telephone number are displayed on the control center cover. All system controls and necessary owner information are conveniently located at your fingertips.

Non-mechanical flow equalization and final filtration are accomplished within the Singulair tank by the Bio-Kinetic system. This revolutionary device is installed in the clarification chamber and connected to the system outlet. Optional chlorination and dechlorination may be included in the Bio-Kinetic system if required. All Singulair components work together to assure complete pretreatment, aeration, clarification and final filtration.

SINGULAIR® SYSTEM PERFORMANCE

Rivaling the performance of the most advanced wastewater treatment plants in the world, the Singulair system complies with USEPA wastewater treatment guidelines for secondary treatment systems and meets all requirements of NSF/ANSI Standard 40. In ecologically sensitive areas, the most stringent effluent standards are 10 mg/L CBOD and 10 mg/L TSS. Rated Class I after successfully completing the 6 month Standard 40 test protocol, the Model 960 system averaged effluent of 6 mg/L CBOD and 10 mg/L TSS. The Model TNT system averaged effluent of 4 mg/L CBOD, 9 mg/L TSS and 12 mg/L Total Nitrogen and met all requirements of NSF/ANSI Standard 245.

OPERATIONAL REQUIREMENTS

The Singulair system is designed to treat only domestic wastewater. Domestic wastewater is defined as the waste generated from a typical residence. This includes flows originating from: bathtubs, clothes washers, dishwashers, drinking fountains, water coolers, food grinders, kitchen sinks, lavatories, mop basins, service sinks, shower stalls, sinks, wash sinks, water closets and whirlpool baths. While the use of bio-degradable detergents is recommended, the Singulair system has been designed to handle any reasonable amount of bathroom, kitchen or laundry waste. However, some care should be exercised to insure that non-biodegradable and/or toxic materials are not disposed of via the domestic wastewater plumbing. Do not use the plumbing system for disposal of lint, cooking grease, scouring pads, diapers, sanitary napkins, cotton balls, cotton swabs, cleaning rags, dental floss, strings, cigarette filters, rubber or plastic products, paints and thinning agents, gasoline, motor oil, drain cleaners or other harsh chemicals. These items could plug portions of the plumbing and/or adversely affect system performance. Never connect roofing down spouts, footer drains, sump pump piping, garage and basement floor drains or water softener backwash to the domestic wastewater plumbing or the treatment system. Water softener backwash will interfere with biological treatment and must be disposed of separately.

ELECTRICAL REQUIREMENTS

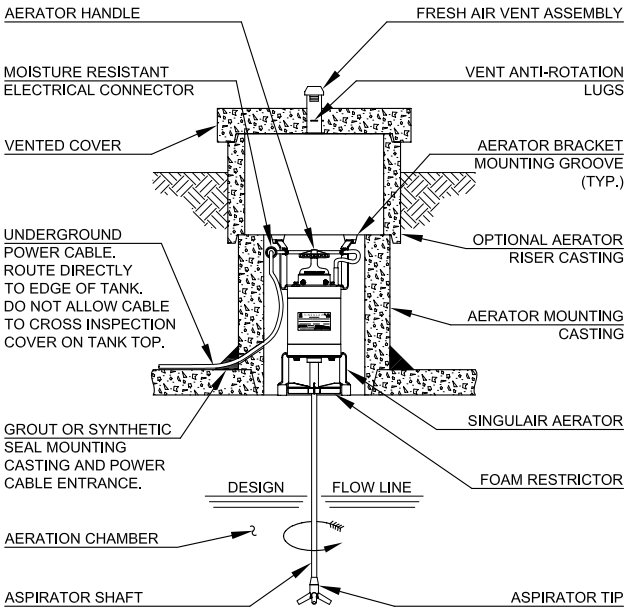
Each Singulair control center must be wired to a dedicated 115 VAC, single-phase circuit at the main electrical service panel. A 15 amp circuit is recommended (10 amp minimum). A pictorial wiring diagram is provided inside the control center enclosure. All electrical work must be performed in accordance with the requirements of the National Electrical Code and all applicable local codes. Electrical connections should be made only by a qualified electrician following proper procedures and using safe tools.

CAUTION: Any time service is required, first shut off the dedicated circuit breaker in the main electrical service panel. Next, shut off the power switch in the Singulair control center. Failure to do so could result in personal injury or equipment damage.

SINGULAIR® AERATOR

The aerator has been specifically designed for use in the Singulair system and includes special alloy and molded plastic parts to prolong aerator life. Aerator bearings are pre-lubricated and sealed. Singulair aerators are installed in a concrete mounting casting above the aeration chamber. Fresh air enters the aerator through four intake ports located under the aerator handle. The air is drawn down the hollow aspirator shaft where it is introduced below the liquid surface. Only the molded plastic aspirator and the lower portion of the stainless steel aspirator shaft are submerged.

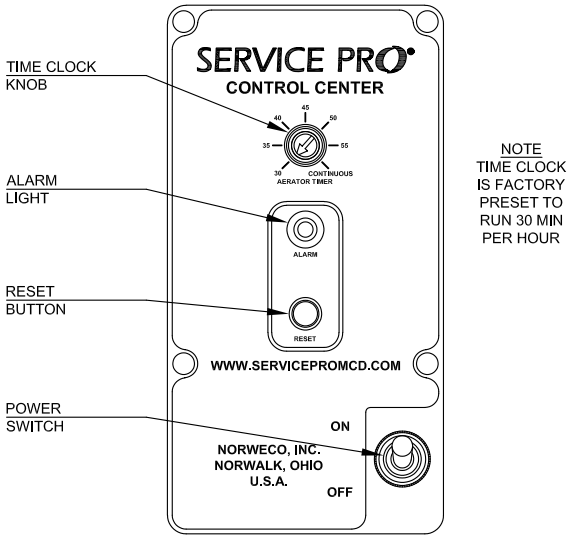
The aerator is not designed to run under water and will automatically shut off if a high water condition occurs. If the liquid rises to the level of the foam restrictor, the control center will shut off power to the aerator. Next, an automatic diagnostic sequence begins, as outlined in the section titled “Service Pro Control Center”.



Each Singulair aerator is a precision engineered electro-mechanical device. Do not remove it from its installed position. Do not attempt any type of repair. Contact your Singulair service provider if service is needed. Unauthorized tampering or repair will void important provisions of the limited warranty and exchange program.

FRESH AIR VENTING SYSTEM

An aerator vent assembly is cast into the concrete access cover above each aerator. The vent assembly supplies fresh air to the aerator, which is drawn through the aspirator and into the wastewater. Finished landscaping should be maintained six inches below the top of the vented access cover and graded to drain runoff away from the cover. Do not allow plants, shrubbery, mulch or landscaping of any type to restrict the flow of air to the vent assembly or obstruct the access cover.



SERVICE PRO® CONTROL CENTER

Prewired controls are supplied in a sealed NEMA rated enclosure for your safety and the protection of components and wiring. The controls should be located so the alarm light can be seen and the audible alarm heard, while minimizing exposure to harsh weather or conditions that might prevent routine access. If an issue with the aerator is detected, the red alarm light will flash and the control center will attempt to restart the aerator every five minutes for two hours. For an open motor or under current condition, the alarm light will display two short flashes followed by a pause. For an over current condition, the alarm light will flash evenly. If the aerator does not restart after two hours, the audible alarm will sound. To silence the audible alarm and attempt to restart the aerator, push the reset button. If the alarm condition is not resolved, the audible alarm will be silenced for 48 hours, but the alarm light will continue to flash. In this case, contact your service provider. Model 960 systems are supplied with a time clock adjustable in five minute increments up to continuous run. This clock is factory preset to run 30 minutes per hour and should only be adjusted by an authorized Singulair service provider. Model TNT systems are supplied with a non-adjustable time clock.

SERVICE PRO® MONITORING CENTER

An optional Service Pro MCD control center is available for use with the Singulair system. Designed to connect to a standard telephone line or internet connection, this control center provides MONITORING, COMPLIANCE and DIAGNOSTIC functions complete with telemetry for communication with the Service Pro monitoring center. Once your Service Pro MCD control center is connected to a telephone line or internet connection, commissioned, and covered by a remote monitoring agreement, your service provider will be immediately notified of any alarm condition. The Service Pro monitoring center will automatically log the time and date of alarm conditions, as well as service performed, and store them in your system history record for viewing at **www.servicepromcd.com**.

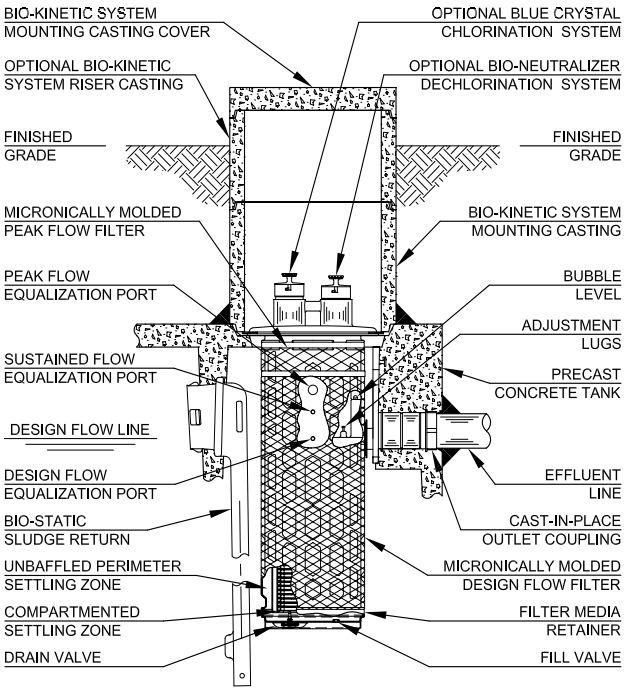
NOTE: The control center regularly communicates with the Service Pro monitoring center using your telephone line or an internet connection. If the control center is using the telephone line when you attempt to place a call, a high pitched digital communication signal will be heard. Hang up all telephones sharing the line and wait a few seconds. This will automatically disconnect the control center and make the line available for use.

BIO-STATIC® SLUDGE RETURN

Each Bio-Static sludge return is installed in the aeration/ clarification chamber wall. Aeration chamber hydraulic currents enter the sludge return(s) and transfer solids from the clarification chamber back to the aeration chamber for additional treatment. The Bio-Static sludge return accomplishes resuspension and return of settled solids without disturbing the contents of the clarification chamber.

BIO-KINETIC® SYSTEM

Bio-Kinetic systems provide non-mechanical flow equalization through all plant processes. The Bio-Kinetic system contains 3 separate filtration zones, 8 independent settling zones, optional chlorination and dechlorination tablet feed systems and serves as its own chlorine contact chamber. When used with Blue Crystal disinfecting tablets, the performance of the Bio-Kinetic system as a disinfection device is certified to NSF/ANSI Standard 46, Section 11. All components are manufactured from plastic or rubber. Your service provider has the necessary training, tools and equipment for removal and cleaning. If your Bio-Kinetic system is in need of service, contact your service provider. During each semi-annual service inspection, your service provider will remove and clean the Bio-Kinetic system or replace it with a unit from their service stock.



NON-MECHANICAL FLOW EQUALIZATION

The patented design of the Bio-Kinetic system provides non-mechanical flow equalization for the Singulair wastewater treatment plant. Equalization reduces incoming hydraulic surges (e.g. typical shower of 10 minutes duration, bathtub discharge of 5 minutes duration, clothes washer discharge of 2 minutes duration and dishwasher discharge of 2 minutes duration) throughout the system. The flow equalization provided by the Bio-Kinetic system causes wastewater to be held upstream of the final outlet during hydraulic surges, which preserves treatment integrity and enhances system operation. The actual rate of equalization varies and depends upon specific loading patterns and the duration of each flow surge. At the design loading pattern used during the NSF/ANSI Standard 40 performance evaluation, the Singulair system equalizes all flow an average of 50%. As a result, hydraulic surges and periods of high wastewater flow are automatically reduced to protect the environment and all treatment plant processes on a demand use, as needed, basis.

BLUE CRYSTAL® RESIDENTIAL DISINFECTING TABLETS

If local regulations require, an initial supply of Blue Crystal disinfecting tablets will be placed in the Bio-Kinetic system chlorine feed tube(s) at system start-up. Manufactured from calcium hypochlorite, Blue Crystal disinfecting tablets provide effective, economical bacteria killing power. Liquid entering the Bio-Kinetic system contacts the installed Blue Crystal disinfecting tablets, just downstream of the equalization ports. A fully charged feed tube will last an average of six months. During each semi-annual inspection, your Singulair service provider will check system operation and install tablets as needed.

NOTE: USEPA guidelines state “On the average, satisfactory disinfection of secondary wastewater effluent can be obtained when the chlorine residual is 0.5 ppm after 15 minutes contact.” Retention time must comply with the controlling regulatory jurisdiction.

BIO-NEUTRALIZER® DECHLORINATION TABLETS

In environmentally sensitive areas, regulations may require the use of Bio-Neutralizer dechlorination tablets. Manufactured to chemically neutralize both free and combined chlorine, Bio-Neutralizer dechlorination tablets provide consistent reduction or elimination of chlorine residual without unnecessarily reducing the level of dissolved oxygen in the treatment system effluent. As liquid passes through the final discharge zone of the Bio-Kinetic system, the flow contacts the tablets and residual chlorine is removed from the system effluent. A fully charged feed tube will last an average of six months. During each semi-annual inspection, your Singulair service provider will check system operation and install tablets as needed.

CAUTION: The improper handling of Blue Crystal and Bio-Neutralizer tablets may cause personal injury or property damage. Keep out of the reach of children and do not allow the tablets or feed tubes to contact skin, eyes, or clothing. Blue Crystal tablets may be fatal if swallowed and tablet dust is irritating to the eyes, nose and throat. Do not handle the tablets or feed tubes without first carefully reading the product container label, MSDS information and the handling and storage instructions. Mixing of chemicals may cause a violent reaction leading to fire or explosion. For additional information about Blue Crystal and Bio-Neutralizer tablets contact your Singulair service provider.

ACCESS RISERS AND COVERS

Concrete access covers are recommended and must be secured after each service visit. A concrete plug should be installed in the access openings of the tank to prevent accidental entry. Access covers should be inspected during service visits and replaced as necessary. If plastic risers and/or covers are utilized, they must be approved for your application and secured as instructed by the manufacturer. Refer to state and local regulations for applicable codes that may apply to your installation.

DANGER: Make sure your service provider does not leave access risers uncovered or partially covered. Failure to properly secure access covers and safety nets could result in bodily injury, illness or death. Do not allow children to play on or around the treatment system. Riser safety nets are available from Norweco for concrete or plastic risers.

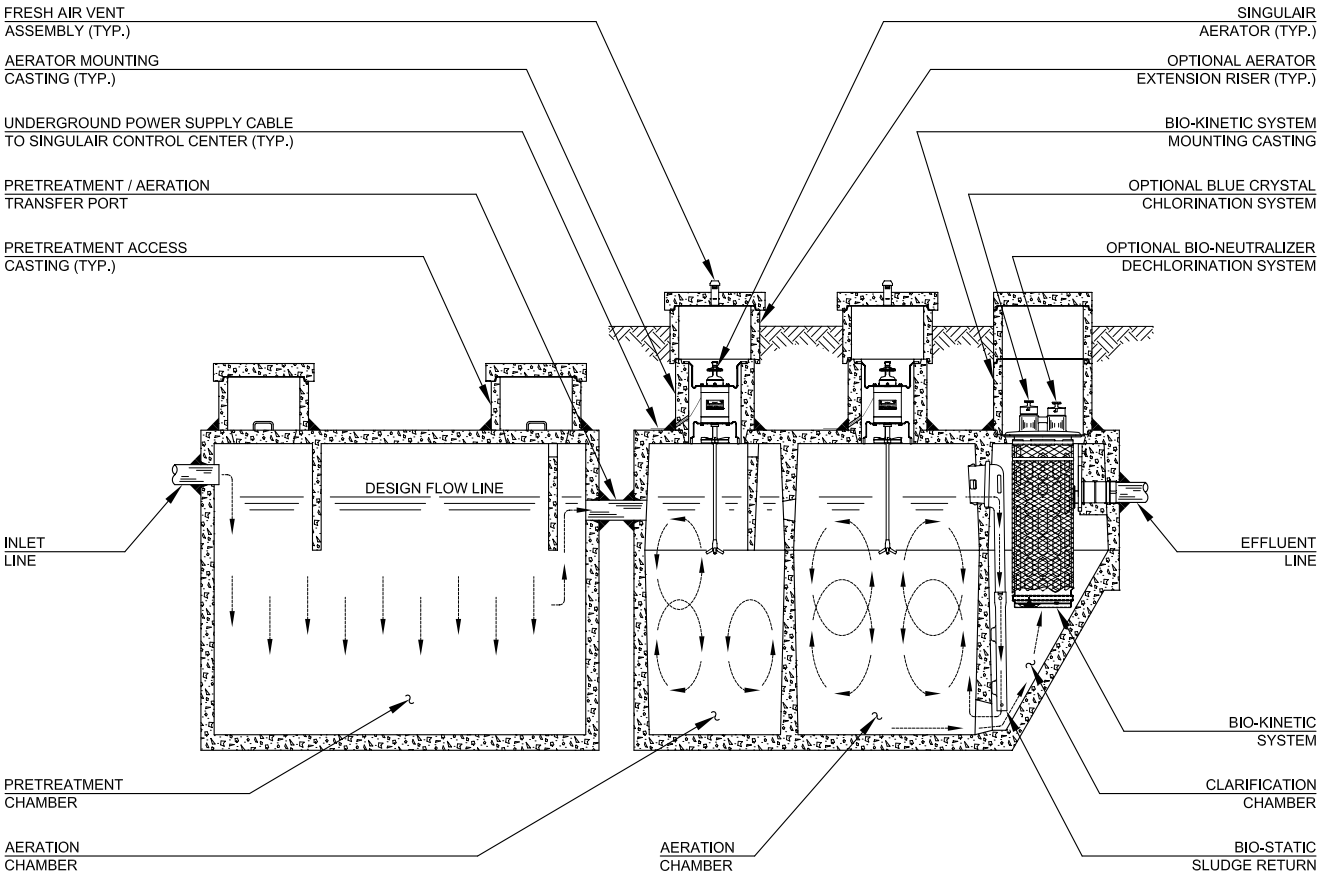
NO OWNER MAINTENANCE

The Singulair system is inspected and serviced by a local, factory-trained service provider, therefore, no owner maintenance is required during the warranty period. The Singulair system does not require pumping as often as a septic tank. Under normal use only the pretreatment chamber should be pumped. How often pumping is necessary depends on system use. The local Singulair service provider will inspect the aeration chamber contents and plant effluent at six month intervals to determine if the pretreatment chamber is discharging excessive solids. Every three years, the pretreatment chamber should be inspected. The pretreatment chamber will normally require pumping at three to five year intervals. Contact your local service provider prior to tank pumping for complete information on removal of equipment, access to individual chambers, coordination of services and proper disposal of tank contents.

If a period of intermittent use, or an extended period of non-use of the system is anticipated, contact your service provider for instructions. Your service provider has detailed service instructions and has been factory-trained in troubleshooting procedures. Contact your service provider if you require service or tank pumping information.

SINGULAIR® SERVICE PROGRAM

Semi-annual service inspections, at six month intervals for the first two years of system operation, are provided by your local Norweco distributor and are included in the original purchase price of the Singulair system. Costs for travel and labor are not charged to the owner. During an inspection, each mechanical aerator, Bio-Kinetic system and other plant components are serviced as outlined in the Singulair Product Manual and effluent quality is evaluated for color, turbidity, scum overflow and odor. After the initial two year service program is completed, the local service provider will provide continued service at the owner's option. The service program should be renewed by the owner to insure maximum system performance.



PROFILE VIEW
SINGULAIR 1000 GPD, 1250 GPD & 1500 GPD

Ask your Singulair service provider about a renewable service contract. If you allow service coverage to expire, you can still obtain the professional assistance of a factory-trained technician. However, these special service calls will be performed on a time and materials basis. Professional service is important to proper system operation and should not be allowed to lapse. Be sure to consider the advantages of a renewable service contract.

The Singulair service provider will perform the following services during each service inspection:

- ✓ Check aerator operation
- ✓ Check aerator power consumption
- ✓ Check aerator air delivery
- ✓ Clean stainless steel aspirator shaft
- ✓ Clean aspirator tip
- ✓ Clean fresh air vent in concrete cover
- ✓ Inspect aeration chamber contents
- ✓ Check operation of control center
- ✓ Adjust time clock when required
- ✓ Remove the Bio-Kinetic system
- ✓ Scrape the clarification chamber
- ✓ Inspect the Bio-Static sludge return
- ✓ Inspect outlet coupling
- ✓ Install a clean Bio-Kinetic system
- ✓ Fill Blue Crystal feed tube
- ✓ Fill Bio-Neutralizer feed tube
- ✓ Inspect effluent quality
- ✓ Inspect outlet line
- ✓ Inspect ground water relief point
- ✓ Inspect effluent disposal system
- ✓ Complete 3-part service record
- ✓ Hang owner's record on front door
- ✓ Enter record into **www.servicepromcd.com**
- ✓ Mail health department notification

WARRANTY REGISTRATION

A Warranty Registration Card was included with the Model 206C aerator before it was shipped from the factory. If this card has not been returned to Norweco, complete and mail it immediately. If it is not returned within thirty days of the installation date, the three year limited warranty and lifetime aerator exchange program will begin on the date of component shipment from the factory.

Remove the aerator model number and serial number record card and store it in a safe location with this Owner's Manual for future reference. If it is necessary to call your service provider for service, make note of the information on the control center data plate and the aerator serial number before calling. Warranty and service records are cross-indexed by owner name, aerator serial number or control center serial number. Supplying the aerator serial number and control center serial number with the service request will give the service provider a ready reference so that changes in system ownership will not delay service.

SINGULAIR® LIMITED WARRANTY

The Singulair aerator enjoys the distinction of being the only aerator on the market today backed by a lifetime warranty and exchange program. Each Singulair aerator, Service Pro control center, Bio-Kinetic system and any other components manufactured by Norweco, are warranted to be free from defects in material and workmanship, under normal use and service, for a period of three years from the date of purchase. The three year limited warranty is included in the original purchase price of every Singulair system. The comprehensive aerator exchange program offers Singulair owners a lifetime of protection. Owners with a Singulair system may exchange any aerator of any age for a replacement unit at a prorated cost. If the Singulair aerator or Service Pro control center fails, do not use or dismantle the unit. The local, licensed distributor has detailed warranty and exchange information and should be contacted for service or replacement instructions.

SERVICE PRO® SECURITY LOG IN

For your convenience, record your **www.servicepromcd.com** access information here:

User name:	**Password:**

SUPPLEMENTAL SERVICE RECORD

For your reference, please document service performed on the following chart:

DATE	DESCRIPTION

norweco®

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TELEPHONE (419) 668-4471
FAX (419) 663-5440
www.norweco.com

norweco®

HYDRO-KINETIC BIO-FILM REACTOR®

TANK PUMPING INSTRUCTIONS

These instructions provide a general guideline concerning when and how to pump out the Hydro-Kinetic Bio-Film Reactor and supplement other instructional materials included in the Hydro-Kinetic Bio-Film Reactor Service Instructions. In order to maximize performance, protect system components and insure protection of the surrounding environment, the Bio-Film Reactor should be thoroughly checked at a minimum frequency of 24 months by a factory-trained Norweco service technician. Renewable service contracts are available from the local licensed Norweco dealer.

The Hydro-Kinetic Bio-Film Reactor will periodically require pumping. Because treatment systems are biological processes and technologies vary, the time frames listed within these instructions are estimates. Actual pumping frequency will depend on the amount and strength of the wastewater being processed and the type of treatment system upstream of the Bio-Film Reactor. Handling and disposal of the contents of the Bio-Film Reactor and/or the upstream treatment system are regulated by local, state and federal authorities. Disposal options may include land application, lagoon treatment, municipal wastewater treatment or landfill disposal. Prior to arranging for tank pumping, contact the Norweco dealer to obtain complete information on access to chambers, removing equipment, coordination of services and disposal of tank contents.

During Hydro-Kinetic Bio-Film Reactor installation, backfilling or service, do not allow dirt or mud to enter the system. Once in the system, dirt or mud will form a heavy sludge which will affect settling characteristics, interfere with filtration and degrade effluent quality. If dirt or mud enters the system, it must be removed to insure proper system operation. Removing the dirt or mud may require repeated flushing and tank pumping. For additional details refer to Hydro-Kinetic Bio-Film Reactor Tank Delivery and Setting instructions.

INTRODUCTION

Pumping frequency will depend upon the type and efficiency of the treatment system installed upstream of the Hydro-Kinetic Bio-Film Reactor. Septic tanks are designed to store solids and perform limited biological treatment. Frequent pumping of a septic tank is mandatory to remove and dispose of these solids before they discharge from the tank. The Hydro-Kinetic Bio-Film Reactor is designed to improve the effectiveness of any treatment process and extend the life of the disposal system. Removal of the solids in the Hydro-Kinetic Bio-Film Reactor will be required when indicated by an inspection as outlined herein.

WHEN TO PUMP

Your system may include service inspections free of charge at regular intervals during the initial warranty period. If the upstream treatment system is an ANSI/NSF Standard 40 listed product, these inspections are automatically included for the first two years. If the system is a septic tank, it should be evaluated every 12 to 24 months by a trained wastewater professional. The Hydro-Kinetic Bio-Film Reactor should be inspected and serviced at the same time. Pumping of the system by a licensed tank pumping and disposal service will likely be necessary at 3 to 5 year intervals, based on variations in system occupancy, usage and loading. The Hydro-Kinetic Bio-Film Reactor may require pumping more frequently than the upstream treatment system, particularly if installed downstream of a septic tank.

ROUTINE SERVICE INSPECTIONS

Regular service inspection procedures are outlined in detail in the Hydro-Kinetic Bio-Film Reactor Service Instructions. These routine service procedures include inspection of the influent chamber, media chamber, reactor elements and effluent line to determine if the system should be pumped. Routine service should be performed on the upstream treatment system and Hydro-Kinetic Bio-Film Reactor before the system is pumped. The results of the routine service inspection, system evaluation and tank pumping (when performed) should be noted on the Service Inspection Card.

UPSTREAM SYSTEM INSPECTION

The upstream treatment system must be functioning properly for the Hydro-Kinetic Bio-Film Reactor to provide the maximum benefit and service life. If the upstream treatment system is a proprietary design, refer to the manufacturer's maintenance and service instructions. Follow the manufacturer's directions exactly, using a trained wastewater professional. If the upstream system is a septic tank, or other conventional system without manufacturer's instructions, follow the guidelines of the local governing regulatory agency. At a bare minimum, have the entire system evaluated every 24 months. If the Bio-Film Reactor is going to be pumped, it may be desirable to pump all or part of the upstream system at the same time, per manufacturer and/or regulatory recommendations.

SETTLEABLE SOLIDS TEST

To evaluate the upstream treatment system for pumping, a settleable solids test may need to be performed on the aeration chamber. Refer to the manufacturer's recommendations (if applicable) and Standard Methods for the Examination of Water and Wastewater for proper test procedures.

EFFLUENT LINE INSPECTION

Check to make sure there is a groundwater relief point installed in the effluent line and it is free from obstruction. An accumulation of paper, fibers, hair or grease indicates that the Hydro-Kinetic Bio-Film Reactor needs to be pumped. If there is a surface discharge point, make sure that it is free from debris, foam, mud, etc. Make appropriate notations on the Service Inspection Card.

BIO-FILM REACTOR INSPECTION

A complete Hydro-Kinetic Bio-Film Reactor inspection procedure is listed below. The results of the inspection should be noted on the Service Inspection Card.

1. Remove the cover being careful not to allow dirt or mud to enter the tank.

2. Visually examine the surface of the influent chamber and media chamber of the Hydro-Kinetic Bio-Film Reactor for a significant accumulation of grease, oil or non-biodegradable materials.

3. To check the depth of the settled sludge layer in a plastic Bio-Film Reactor, first use the Universal Tool to slide each Reactor Element outward to form a 3" gap between the Elements. Use a Sludge Judge or secure a rough white towel to the handle of the hopper scraping tool and lower it between the Elements to the bottom of the media chamber. For a concrete tank, use a Sludge Judge or secure a rough white towel to the handle of the hopper scraping tool and lower it to the bottom of the influent chamber.

4. Push the tool through the settled sludge layer to the bottom of the tank. Wait several minutes and carefully remove the tool. The depth of the settled sludge will be shown by a dark line on the towel, or on the scale of the Sludge Judge. If the settled sludge layer is 24 inches or greater, the Bio-Film Reactor should be pumped.

5. For a plastic tank, return the Reactor Elements to their normal position in the center of the media chamber.

HOW TO PUMP THE BIO-FILM REACTOR

A complete Hydro-Kinetic Bio-Film Reactor pumping procedure is listed below. Prior to tank pumping, contact the Hydro-Kinetic Bio-Film Reactor dealer to obtain complete information on equipment removal and reinstallation. Failure to properly remove and reinstall equipment and access covers during tank pumping may result in damage to the system and will void the warranty.

1. If the Hydro-Kinetic Bio-Film Reactor requires pumping, contact a tank pumping service licensed by the local regulatory agency. The septage or biosolids from the system must be removed and disposed of in a manner consistent with federal, state and local regulations.

2. Advise the pumping service that they will be pumping approximately 500 gallons from the Bio-Film Reactor.

3. Remove the Bio-Film Reactor access cover. The Reactor Elements can stay in place. Lower the hose into the influent chamber until it contacts the bottom of the tank. Withdraw the hose approximately 2 inches.

4. Completely pump 100% of the contents from the tank and rinse the Reactor Elements and media with a hose during tank pumping.

5. After pumping, refill the Hydro-Kinetic Bio-Film Reactor to capacity with clean water. Replace the access cover that was removed. **NOTE:** It is essential to immediately refill the Bio-Film Reactor with clear water to the design flow line. The water must be free of leaves, mud, grit or other materials that might interfere with system operation. Dewatering and leaving the system empty will affect tank integrity and void the warranty.

Following tank pumping, no other system adjustments are necessary for proper biological treatment to continue. Regular service inspections by a factory-trained Norweco service technician should be conducted to insure long term system performance.

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HYDRO-KINETIC® BIO-FILM REACTOR
OWNER RECORD OF SERVICE CALL

☐ Routine Service Call ☐ Special Service Call

Date: _____ Time: _____
Serviced By: _____
System Type: _____
Dealer Name: _____
Dealer Address: _____
Dealer Phone Number: _____

Your Hydro-Kinetic Bio-Film Reactor has been serviced as shown on the reverse side of this card. Please retain this copy for your records.

Service Technician: _____

NORWECO, INC. - NORWALK, OHIO - USA

HYDRO-KINETIC® BIO-FILM REACTOR
HEALTH DEPT. NOTIFICATION OF SERVICE PERFORMED

☐ Routine Service Call ☐ Special Service Call

County: _____ Date: _____
Serviced By: _____
System Type: _____
Owner Name: _____
Owner Address: _____
Dealer Name: _____
Dealer Address: _____
Dealer Phone Number: _____

Service was performed on the Hydro-Kinetic Bio-Film Reactor listed above, as outlined on the reverse side of this card.

Service Technician: _____

NORWECO, INC. - NORWALK, OHIO - USA

HYDRO-KINETIC® BIO-FILM REACTOR
DEALER/DISTRIBUTOR SERVICE RECORD

☐ Routine Service Call ☐ Special Service Call

Date: _____ Time: _____
Serviced By: _____
System Type: _____
Owner Name _____
Owner Address: _____
Change service frequency to: ☐ 6 months ☐ 12 months ☐ 18 months
☐ 24 months ☐ Other _____

SPECIAL NOTES: (General condition of installation regarding ground-water, grading, effluent disposal system, receiving stream, etc.) _____

NORWECO, INC. - NORWALK, OHIO - USA

SYSTEM TYPE: ☐ Septic ☐ Aerobic ☐ Tile Field ☐ Sand Filter ☐ Other_____

OUR SERVICE INSPECTION FOUND EQUIPMENT AND SYSTEM AS FOLLOWS:

☐ Owner Not Present
☐ System Checked
☐ Controls Checked (If Applicable)
☐ Reactor Elements Checked
☐ Reactor Baffle and Media Checked
☐ Effluent Checked

CONDITION:
☐ Plumbing In Good Condition
☐ Bio-Film Reactor In Good Condition
☐ Reactor Elements Operating Properly
☐ Access Cover In Good Condition
☐ Slide Locks In Good Condition
☐ Effluent Clear and Odorless

SERVICED:
☐ Cleaned Reactor Elements
☐ Replaced Reactor Elements
☐ System Operating Properly
☐ Upstream Treatment Tank Pumped Out
☐ Bio-Film Reactor Pumped Out
☐ See Notes Below

☐ Your Service Policy Has Expired (Contact Local Dealer To Renew)

SPECIAL NOTES: _____

_____

_____

SYSTEM TYPE: ☐ Septic ☐ Aerobic ☐ Tile Field ☐ Sand Filter ☐ Other_____

OUR SERVICE INSPECTION FOUND EQUIPMENT AND SYSTEM AS FOLLOWS:

☐ Owner Not Present
☐ System Checked
☐ Controls Checked (If Applicable)
☐ Reactor Elements Checked
☐ Reactor Baffle and Media Checked
☐ Effluent Checked

CONDITION:
☐ Plumbing In Good Condition
☐ Bio-Film Reactor In Good Condition
☐ Reactor Elements Operating Properly
☐ Access Cover In Good Condition
☐ Slide Locks In Good Condition
☐ Effluent Clear and Odorless

SERVICED:
☐ Cleaned Reactor Elements
☐ Replaced Reactor Elements
☐ System Operating Properly
☐ Upstream Treatment Tank Pumped Out
☐ Bio-Film Reactor Pumped Out
☐ See Notes Below

☐ The Service Policy On This System Has Expired

SPECIAL NOTES: _____

_____

_____

SYSTEM TYPE: ☐ Septic ☐ Aerobic ☐ Tile Field ☐ Sand Filter ☐ Other_____

OUR SERVICE INSPECTION FOUND EQUIPMENT AND SYSTEM AS FOLLOWS:

☐ Owner Not Present
☐ System Checked
☐ Controls Checked (If Applicable)
☐ Reactor Elements Checked
☐ Reactor Baffle and Media Checked
☐ Effluent Checked

CONDITION:
☐ Plumbing In Good Condition
☐ Bio-Film Reactor In Good Condition
☐ Reactor Elements Operating Properly
☐ Access Cover In Good Condition
☐ Slide Locks In Good Condition
☐ Effluent Clear and Odorless

SERVICED:
☐ Cleaned Reactor Elements
☐ Replaced Reactor Elements
☐ System Operating Properly
☐ Upstream Treatment Tank Pumped Out
☐ Bio-Film Reactor Pumped Out
☐ See Notes Below

☐ The Service Policy On This System Has Expired

SPECIAL NOTES: _____

_____

_____

APPENDIX D

OPERATION AND MAINTENANCE LOGS

Septic System Maintenance Report

Owner:	Micsky, Lawrence	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	980 Mercer Road	**Address:**	980 Mercer Road
City, State, Zip:	Greenville, PA 16125	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-475-4625	**Phone:**	724-475-4625
Municipality:	Delaware	**Maint. Contract Start Date:**	August 21, 2019
County:	Mercer	**Maint. Contract Expiration Date:**	August 21, 2021
Septic System Type:	Norweco Singulair 960-HKBFR w/At-Grade Bed	**Permit Number:**	

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
Not Applicable			

Septic System Installation Date:	August 21, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900264WU
Control Panel Model Number:	WASP
Control Panel Serial Number:	WU290343
Type of Disinfection:	Not Applicable

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	2/1/18					
Routine scheduled maintenance	10/10/18	4:30PM				
Routine scheduled maintenance	4/25/19	3:30PM				
Routine scheduled maintenance	11/6/19	10:50AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Harold, Marcia	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	1602 Mercer Road	**Address:**	980 Mercer Road
City, State, Zip:	Fredonia, PA 16124	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-662-4813	**Phone:**	724-475-4625
Municipality:	Delaware Twp	**Maint. Contract Start Date:**	September 20, 2019
County:	Mercer	**Maint. Contract Expiration Date:**	September 20, 2021
Septic System Type:	Norweco Singulair 960-HKBFR w/At-Grade Bed	**Permit Number:**	

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
Not Applicable			

Septic System Installation Date:	September 20, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	901076WT
Control Panel Model Number:	WASP
Control Panel Serial Number:	WV290317
Type of Disinfection:	Not Applicable

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	4/12/18	3:00PM				Added aerator rain guard
Routine scheduled maintenance	10/5/18	3:15PM				
Routine scheduled maintenance	4/25/19	11:20AM				
Routine scheduled maintenance	11/6/19	11:25AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Leone, Bob	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	439 Tieline Road	**Address:**	980 Mercer Road
City, State, Zip:	Grove City, PA 16127	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-290-0176	**Phone:**	724-475-4625
Municipality:	Pine Twp	**Maint. Contract Start Date:**	August 25, 2019
County:	Mercer	**Maint. Contract Expiration Date:**	August 25, 2021
Septic System Type:	Norweco Singulair 960-HKBFR w/SH-LZ At-Grade Bed	**Permit Number:**	

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
Not Applicable			

Septic System Installation Date:	August 25, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900290WV
Control Panel Model Number:	WASP
Control Panel Serial Number:	WV290343
Type of Disinfection:	Not Applicable

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	4/11/18	1:30PM				Added aerator rain guard
Routine scheduled maintenance	10/9/18	2:30PM				
Routine scheduled maintenance	6/6/19	12:45PM				
Routine scheduled maintenance	11/15/19					

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Isenberg, William J.	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	105 Arberg Lane	**Address:**	980 Mercer Road
City, State, Zip:	Slippery Rock ,PA 16057	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-967-2276	**Phone:**	724-475-4625
Municipality:	Mercer Twp	**Maint. Contract Start Date:**	June 28, 2019
County:	Butler	**Maint. Contract Expiration Date:**	June 28, 2021
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0264857
SRSTP Permit Effective On:	April 1, 2017	**SRSTP Permit Expires On:**	March 31, 2022

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2018	<5	3.63	<1
2019	2.4	5	1

Septic System Installation Date:	June 28, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900625WV
Control Panel Model Number:	210P
Control Panel Serial Number:	
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	11/10/17	11:00AM				
Routine scheduled maintenance	5/9/18	2:00PM				
Routine scheduled maintenance	10/24/18	11:30AM				
Routine scheduled maintenance	6/19/19	11:00AM				
Routine scheduled maintenance	12/30/19	9:45AM	10%	14"	12"	

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Edwards, Richard A.	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	476 Methodist Road	**Address:**	980 Mercer Road
City, State, Zip:	Greenville, PA 16125	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-967-5260	**Phone:**	724-475-4625
Municipality:	Hempfield Twp	**Maint. Contract Start Date:**	May 31, 2019
County:	Mercer	**Maint. Contract Expiration Date:**	May 31, 2021
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0264725
SRSTP Permit Effective On:	January 1, 2017	**SRSTP Permit Expires On:**	December 31, 2021

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2017	<5	<2	<1
2018	<5	4.69	<1
2019	2.7	4	1

Septic System Installation Date:	May 31, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900070WX
Control Panel Model Number:	210P
Control Panel Serial Number:	VP629562
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	10/26/17	1:15PM				
Routine scheduled maintenance	4/12/18	1:00PM				Added aerator rain guard.
Routine scheduled maintenance	10/31/18	10:36AM				Collected lab sample
Routine scheduled maintenance	7/18/19	11:15AM				
Routine scheduled maintenance	12/30/19	12:45PM	<10	3"	6"	

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Clark, Tammy	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	102 Gibson Road	**Address:**	980 Mercer Road
City, State, Zip:	Greenville, PA 16125	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-588-5260	**Phone:**	724-475-4625
Municipality:	Hempfield Twp	**Maint. Contract Start Date:**	August 16, 2019
County:	Mercer	**Maint. Contract Expiration Date:**	August 16, 2021
Septic System Type:	Norweco Singulair 960-HKBFR w/At-Grade Bed	**Permit Number:**	

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
Not Applicable			

Septic System Installation Date:	August 16, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900263WU
Control Panel Model Number:	WASP
Control Panel Serial Number:	WU290345
Type of Disinfection:	Not Applicable

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	4/2/18	1:15PM				
Routine scheduled maintenance	10/10/18	1:30PM				
Routine scheduled maintenance	4/25/19	10:10AM				
Routine scheduled maintenance	9/24/19	3:10PM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	First, Susan	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	1090 Linn Tyro Road	**Address:**	980 Mercer Road
City, State, Zip:	Hadley, PA 16130-2832	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-253-4213	**Phone:**	724-475-4625
Municipality:	Perry Twp	**Maint. Contract Start Date:**	April 3, 2019
County:	Mercer	**Maint. Contract Expiration Date:**	April 3, 2021
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0264695
SRSTP Permit Effective On:	December 1, 2016	**SRSTP Permit Expires On:**	November 30, 2021

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2017	9.5	5.94	636
2018	<5	<2	32
2019	2	4	1

Septic System Installation Date:	April 3, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-800 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900356VO
Control Panel Model Number:	WASP
Control Panel Serial Number:	VO290046
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	10/25/17	4:15PM				
Routine scheduled maintenance	4/24/18	10:30AM				
Routine scheduled maintenance	12/12/18	10:30AM				Collected lab sample
Routine scheduled maintenance	6/7/19	11:45AM				
Routine scheduled maintenance	11/5/19	11:40AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Morris, Michelle	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	151 Shaller Road	**Address:**	980 Mercer Road
City, State, Zip:	Fredonia, PA 16124	**City, State, Zip:**	Greenville, PA 16125
Phone:		**Phone:**	724-475-4625
Municipality:	Delaware Twp	**Maint. Contract Start Date:**	June 9, 2018
County:	Mercer	**Maint. Contract Expiration Date:**	June 9, 2020
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Norweco Singulair 960-HKBFR w/Spray Irrigation	**Permit Number:**	

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
Not Applicable			

Septic System Installation Date:	June 9, 2016
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900235TO
Control Panel Model Number:	WASP
Control Panel Serial Number:	VS290067
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	5/12/17	11:30AM				
Routine scheduled maintenance	4/2/18	2:00PM				Will return next week to send aerator back under warranty for bearing repairs.
Service an alarm condition	4/10/18	3:00PM				Replaced aerator due to bearing failure. Added aerator rain guard
Routine scheduled maintenance	10/10/18	2:10PM				
Routine scheduled maintenance	4/25/19	10:40AM				
Routine scheduled maintenance	11/22/19	12:35PM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

THIS MAINTENANCE CONTRACT HAS EXPIRED !!! It is a permit requirment that routine maintenance must be conducted by a qualified service provider.

Owner:	Henlen, Peter	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	1643 Rutledge Road	**Address:**	980 Mercer Road
City, State, Zip:	Transfer, PA 16154	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-699-1066	**Phone:**	724-475-4625
Municipality:	Delaware	**Maint. Contract Start Date:**	June 14, 2017
County:	Mercer	**Maint. Contract Expiration Date:**	June 14, 2019
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0264539
SRSTP Permit Effective On:	October 1, 2016	**SRSTP Permit Expires On:**	September 30, 2021

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2018	<5	<2	<1
2019	5.8	4	1

Septic System Installation Date:	June 14, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900072WX
Control Panel Model Number:	WASP
Control Panel Serial Number:	
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	10/26/17	2:45PM				No chlorine present please add chlorine.
Routine scheduled maintenance	4/24/18	11:45AM				
Routine scheduled maintenance	10/30/18	11:00AM				Collected lab sample
Routine scheduled maintenance	7/18/19	10:05AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Ricciardi, Ralph	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	2068 Lake Rd	**Address:**	980 Mercer Road
City, State, Zip:	Sharpsville, PA 16150	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-962-4036	**Phone:**	724-475-4625
Municipality:	Jefferson Twp	**Maint. Contract Start Date:**	April 24, 2019
County:	Mercer	**Maint. Contract Expiration Date:**	April 24, 2021
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0264491
SRSTP Permit Effective On:	October 1, 2016	**SRSTP Permit Expires On:**	September 30, 2021

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2017			<2
2018	<5	3.19	<1
2019	6.2	3	11

Septic System Installation Date:	April 21, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900349WY
Control Panel Model Number:	210P
Control Panel Serial Number:	WX629185
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	10/26/17	11:45AM				
Routine scheduled maintenance	4/24/18	12:15PM				
Routine scheduled maintenance	10/30/18	9:40AM				
Routine scheduled maintenance	5/2/19	2:15PM				Excessive fats oil & grease forming a scum layer in septic tank. Recommend pumping 16" deptl
Routine scheduled maintenance	11/19/19	12:00PM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

THIS MAINTENANCE CONTRACT HAS EXPIRED !!! It is a permit requirment that routine maintenance must be conducted by a qualified service provider.

Owner:	Barnes, Gregory	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	579 Yankee Ridge Road	**Address:**	980 Mercer Road
City, State, Zip:	Mercer, PA 16137	**City, State, Zip:**	Greenville, PA 16125
Phone:		**Phone:**	724-475-4625
Municipality:	Lackawannock	**Maint. Contract Start Date:**	September 28, 2017
County:	Mercer	**Maint. Contract Expiration Date:**	September 28, 2019
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Norweco Singulair 960-HKBFR w/SH-LZ At-Grade Bed	**Permit Number:**	

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
Not Applicable			

Septic System Installation Date:	September 28, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900290WW
Control Panel Model Number:	WASP
Control Panel Serial Number:	WU290191
Type of Disinfection:	Not Applicable

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	4/11/18	3:30PM				Added aerator rain guard
Routine scheduled maintenance	10/10/18	10:40AM				
Routine scheduled maintenance	7/18/19	9:30AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Webb, Wayne	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	799 Orchard Road	**Address:**	980 Mercer Road
City, State, Zip:	Mercer, PA 16137	**City, State, Zip:**	Greenville, PA 16125
Phone:	330-501-4298	**Phone:**	724-475-4625
Municipality:	Lackawannock	**Maint. Contract Start Date:**	May 26, 2018
County:	Mercer	**Maint. Contract Expiration Date:**	May 26, 2020
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Norweco Singulair 960-HKBFR w/Spray Irrigation	**Permit Number:**	

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
Not Applicable			

Septic System Installation Date:	May 26, 2016
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900276VY
Control Panel Model Number:	WASP
Control Panel Serial Number:	TO290280
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	4/25/17	5:30PM				
Routine scheduled maintenance	12/7/17	1:45PM				
Service an alarm condition	4/18/18	2:00PM				Alarm condition indicated Bio Kenetic plugging. Installed clean filter and conducted full service
Routine scheduled maintenance	10/10/18	10:AM				
Service an alarm condition	2/8/19	1:30PM				Cleaned filter
Routine scheduled maintenance	4/19/19	1:00PM				Added a 6" riser to aerator
Routine scheduled maintenance	12/11/19	12:15PM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	DeSilvey, Dennis & Linda	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	211 Gearhart Road	**Address:**	980 Mercer Road
City, State, Zip:	Pulaski, PA 16143	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-301-7222	**Phone:**	724-475-4625
Municipality:	Shenango Twp	**Maint. Contract Start Date:**	October 9, 2018
County:	Mercer	**Maint. Contract Expiration Date:**	October 9, 2020
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0264342
SRSTP Permit Effective On:	June 1, 2016	**SRSTP Permit Expires On:**	May 31, 2021

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2017	0.8	4	<1
2018	<5	<2	<1
2019	3.3	3	<1

Septic System Installation Date:	October 10, 2016
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900512VV
Control Panel Model Number:	210P
Control Panel Serial Number:	VX629077
Type of Disinfection:	Ultra Violet Light

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	4/28/17	3:00PM				
Routine scheduled maintenance	10/24/17	10:30AM				Cleaned UV light
Routine scheduled maintenance	4/23/18	11:30AM				Installed aerator rain guard
Routine scheduled maintenance	10/25/18	12:50PM				Collected lab sample
Routine scheduled maintenance	3/14/19	10:30AM				
Routine scheduled maintenance	10/21/19	1:45PM				Inspected UV light globe is clean.

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Kobialka, Jeremy	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	2599 Harlansburg Road	**Address:**	980 Mercer Road
City, State, Zip:	New Castle, PA 16101	**City, State, Zip:**	Greenville, PA 16125
Phone:		**Phone:**	724-475-4625
Municipality:	Scott Twp	**Maint. Contract Start Date:**	April 6, 2018
County:	Lawrence	**Maint. Contract Expiration Date:**	April 6, 2020
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Norweco Singulair 960-HKBFR w/At-Grade Bed	**Permit Number:**	

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
Not Applicable			

Septic System Installation Date:	April 6, 2016
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	920298XX
Control Panel Model Number:	WASP
Control Panel Serial Number:	VW290078
Type of Disinfection:	Not Applicable

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	5/8/17	2:00PM				
Routine scheduled maintenance	12/4/17	1:30PM				
Service an alarm condition	4/2/18	11:15AM				Returning aertor for bearing failure. Installed temporary for continued service.
Service an alarm condition	4/6/18	1:30PM				Installed new aerator. Installed aerator rain guard
Routine scheduled maintenance	10/12/18	12:00PM				
Routine scheduled maintenance	5/29/19	11:45AM				
Routine scheduled maintenance	11/12/19	10:25AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Swanson, Elizabeth	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	2031 Marble Strobleton Road	**Address:**	980 Mercer Road
City, State, Zip:	Fryburg, PA 16326	**City, State, Zip:**	Greenville, PA 16125
Phone:	814-590-7570	**Phone:**	724-475-4625
Municipality:	Washington Twp	**Maint. Contract Start Date:**	June 15, 2019
County:	Clarion	**Maint. Contract Expiration Date:**	June 15, 2021
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0264768
SRSTP Permit Effective On:	March 1, 2017	**SRSTP Permit Expires On:**	February 28, 2022

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2017	21	10	<2
2018	50.7	357	2200
2019	4	6	1

Septic System Installation Date:	June 15, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	920276YW
Control Panel Model Number:	210P
Control Panel Serial Number:	VP629575
Type of Disinfection:	Ultra Violet Light

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	11/6/17	2:13PM				
Routine scheduled maintenance	5/25/18	12:30PM				Cleaned UV light
Routine scheduled maintenance	12/19/18					
Routine scheduled maintenance	1/24/19	11:00AM				Collected annual lab sample only
Service an alarm condition	5/31/19	1:45PM				Replaced aerator and also routine maint.
Service an alarm condition	6/17/19	12:00PM				Replaced aerator outlet plug
Routine scheduled maintenance	11/11/19	10:45AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Simendinger, Francis	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	1182 East Lake Road	**Address:**	980 Mercer Road
City, State, Zip:	Transfer, PA 16154	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-734-6739	**Phone:**	724-475-4625
Municipality:	Delaware Twp	**Maint. Contract Start Date:**	July 6, 2018
County:	Mercer	**Maint. Contract Expiration Date:**	July 6, 2020
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0265365
SRSTP Permit Effective On:	December 1, 2017	**SRSTP Permit Expires On:**	November 30, 2022

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2018	13	16.9	4
2019	10.4	5	52

Septic System Installation Date:	July 6, 2018
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900889WO
Control Panel Model Number:	WASP
Control Panel Serial Number:	XW290218
Type of Disinfection:	Ultra Violet Light

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	12/12/18	1:30PM				Reminder to clean UV light regularly
Routine scheduled maintenance	11/19/19	1:00PM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Unity Presbyterian Church	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	1993 Mercer West Middlesex Rd	**Address:**	980 Mercer Road
City, State, Zip:	Mercer, PA 16137	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-815-5032	**Phone:**	724-475-4625
Municipality:	Lackawannock Twp	**Maint. Contract Start Date:**	July 11, 2018
County:	Mercer	**Maint. Contract Expiration Date:**	July 11, 2020
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0265136
SRSTP Permit Effective On:	December 1, 2017	**SRSTP Permit Expires On:**	November 30, 2022

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2018	<5	4.29	13
2019	6.7	3	3

Septic System Installation Date:	July 11, 2018
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900890WO
Control Panel Model Number:	210P
Control Panel Serial Number:	SR971969
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	12/13/18	11:00AM				Collected annual lab sample
Routine scheduled maintenance	8/21/19	2:45PM				
Routine scheduled maintenance	12/11/19	11:50AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

THIS MAINTENANCE CONTRACT HAS EXPIRED !!! It is a permit requirment that routine maintenance must be conducted by a qualified service provider.

Owner:	Seger, Richard	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	2103 Mercer Road	**Address:**	980 Mercer Road
City, State, Zip:	Fredonia, PA 16124	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-813-1675	**Phone:**	724-475-4625
Municipality:	Delaware Twp	**Maint. Contract Start Date:**	November 15, 2017
County:	Mercer	**Maint. Contract Expiration Date:**	November 15, 2019
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0264946
SRSTP Permit Effective On:	July 1, 2017	**SRSTP Permit Expires On:**	June 30, 2022

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2018	<5	<2	<1
2019	2.6	4	1

Septic System Installation Date:	November 15, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900558WT
Control Panel Model Number:	210P
Control Panel Serial Number:	VP629381
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	5/25/18	3:15PM				
Routine scheduled maintenance	10/31/18	12:10PM				Collected annual lab sample
Routine scheduled maintenance	7/18/19	2:40PM				
Routine scheduled maintenance	1/29/20	3:00PM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Thompson, Jesse	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	1010 Leesburg Station Road	**Address:**	980 Mercer Road
City, State, Zip:	Mercer, PA 16137	**City, State, Zip:**	Greenville, PA 16125
Phone:		**Phone:**	724-475-4625
Municipality:	Spingfield Twp	**Maint. Contract Start Date:**	November 9, 2019
County:	Mercer	**Maint. Contract Expiration Date:**	November 9, 2020
Septic System Type:	Norweco Singulair 960-HKBFR w/At-Grade Bed	**Permit Number:**	

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
Not Applicable			

Septic System Installation Date:	November 9, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900556WT
Control Panel Model Number:	WASP
Control Panel Serial Number:	WU290107
Type of Disinfection:	Not Applicable

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	5/25/18	2:30PM				
Routine scheduled maintenance	12/18/18	10:00AM				
Routine scheduled maintenance	6/3/19	12:15PM				
Routine scheduled maintenance	11/12/19	12:45PM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Andrew Artman	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	29 South Good Hope Road	**Address:**	980 Mercer Road
City, State, Zip:	Greenville, PA 16125	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-813-3770	**Phone:**	724-475-4625
Municipality:	West Salem Twp.	**Maint. Contract Start Date:**	May 11, 2018
County:	Mercer	**Maint. Contract Expiration Date:**	May 11, 2020
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0265373
SRSTP Permit Effective On:	December 1, 2017	**SRSTP Permit Expires On:**	November 30, 2022

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2018	16	<2	<2
2019	4.4	7	1

Septic System Installation Date:	May 11, 2018
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	920170XT
Control Panel Model Number:	210P
Control Panel Serial Number:	
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Service an alarm condition	11/28/18	10:30AM				Replaced aerator due to bearing failure.
Routine scheduled maintenance	12/5/18					
Routine scheduled maintenance	5/30/19	10:15AM				
Routine scheduled maintenance	11/14/19	3:00PM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Schmelzer, Deborah	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	151 Etna Road	**Address:**	980 Mercer Road
City, State, Zip:	Slippery Rock, PA 16057	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-290-6126	**Phone:**	724-475-4625
Municipality:	Slippery Rock Twp	**Maint. Contract Start Date:**	June 22, 2019
County:	Butler	**Maint. Contract Expiration Date:**	June 22, 2020
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0264903
SRSTP Permit Effective On:	June 1, 2017	**SRSTP Permit Expires On:**	May 31, 2022

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2019	2	3	1

Septic System Installation Date:	June 22, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900046WW
Control Panel Model Number:	210P
Control Panel Serial Number:	SZ971349
Type of Disinfection:	Ultra Violet Light

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	4/19/18	10:00AM				Aerator and UV light do not have a power supply. Owner must check breakers.
Routine scheduled maintenance	10/24/18	10:25AM				
Routine scheduled maintenance	5/30/19					
Routine scheduled maintenance	11/26/19	11:10AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Young, Christina (Dick)	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	89 Patterson School Road	**Address:**	980 Mercer Road
City, State, Zip:	Grove City, PA 16127	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-977-8887	**Phone:**	724-475-4625
Municipality:	Pine Twp	**Maint. Contract Start Date:**	August 24, 2018
County:	Mercer	**Maint. Contract Expiration Date:**	August 24, 2020
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0271381
SRSTP Permit Effective On:	August 1, 2018	**SRSTP Permit Expires On:**	July 31, 2023

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2018	5.8	6.77	<7
2019	2	5	<1

Septic System Installation Date:	August 24, 2018
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900440XW
Control Panel Model Number:	210P
Control Panel Serial Number:	SR971924
Type of Disinfection:	Chlorine

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	12/13/18	9:45AM				collected annual lab sample
Routine scheduled maintenance	6/3/19	11:10AM				
Routine scheduled maintenance	12/13/19	10:30AM				Dropped off chlorine bucket

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

THIS MAINTENANCE CONTRACT HAS EXPIRED !!! It is a permit requirment that routine maintenance must be conducted by a qualified service provider.

Owner:	Young, Stephen	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	19304 Cole Road	**Address:**	980 Mercer Road
City, State, Zip:	Conneautville, PA 16406	**City, State, Zip:**	Greenville, PA 16125
Phone:	814-935-0426	**Phone:**	724-475-4625
Municipality:	Conneaut Twp	**Maint. Contract Start Date:**	December 6, 2017
County:	Venango	**Maint. Contract Expiration Date:**	December 6, 2019
		Your Maint. contract expires in less than 180 days. Please call to renew.	
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0265101
SRSTP Permit Effective On:	October 1, 2017	**SRSTP Permit Expires On:**	September 30, 2022

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2018	5	11.6	1
2019	2	4	1

Septic System Installation Date:	December 6, 2017
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900555WT
Control Panel Model Number:	WASP
Control Panel Serial Number:	WU6290172
Type of Disinfection:	Ultra Violet Light

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	4/18/18					
Routine scheduled maintenance	7/2/18	10:00AM				
Routine scheduled maintenance	12/4/18	11:30AM				
Routine scheduled maintenance	6/10/19	11:15AM				
Routine scheduled maintenance	11/18/19	10:00AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Piccolin, Anthony & Rebecca	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	852 Beatty School Rd.	**Address:**	980 Mercer Road
City, State, Zip:	Greenville, PA 16125	**City, State, Zip:**	Greenville, PA 16125
Phone:	724-588-1708	**Phone:**	724-475-4625
Municipality:	Salem Twp	**Maint. Contract Start Date:**	March 20, 2019
County:	Mercer	**Maint. Contract Expiration Date:**	March 20, 2021
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0271781
SRSTP Permit Effective On:	February 1, 2019	**SRSTP Permit Expires On:**	January 31, 2024

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2019	2.4	3	1

Septic System Installation Date:	March 20, 2019
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900084XQ
Control Panel Model Number:	WASP
Control Panel Serial Number:	XP290097
Type of Disinfection:	Ultra Violet Light

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Routine scheduled maintenance	11/5/19	11:00AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

Septic System Maintenance Report

Owner:	Spence, Randall	**Maintenance / Service Provider:**	Delaware Concrete Products
Site Address:	1136 Bugtown Rd.	**Address:**	980 Mercer Road
City, State, Zip:	Titusville, PA 16354	**City, State, Zip:**	Greenville, PA 16125
Phone:	814-589-7640	**Phone:**	724-475-4625
Municipality:	South West Twp	**Maint. Contract Start Date:**	March 1, 2019
County:	Warren	**Maint. Contract Expiration Date:**	March 1, 2021
Septic System Type:	Single Residence Sewage Treatment Plant (SRSTP)	**Permit Number:**	PA0265799
SRSTP Permit Effective On:	June 1, 2018	**SRSTP Permit Expires On:**	May 31, 2023

Annual Effluent Laboratory Analysis Results:

Year	TSS Max. 10 mg/l	BOD5 Max. 10 mg/l	Fecal Coliform Max. 200 CFU/100ml
2019	3	5	7

Septic System Installation Date:	March 1, 2019
System Technology:	Norweco Singulair 960 - HKBFR
System Model Number:	Singulair 960-600 gpd
Aerator Model Number:	206C
Aerator Serial Number:	900231XT
Control Panel Model Number:	210P
Control Panel Serial Number:	XU970124
Type of Disinfection:	Ultra Violet Light

Maintenance / Service Provider History:

Description of Service	Date	Time	Aeration Chamber SS Test Max. 75%	Measured from Bottom Scum Min. 46"	Measured from Bottom Sludge Max. 30"	Field Notes:
Owner requested assistance	4/30/19	1:40PM				Replaced UV light control. Covered under warranty
Routine scheduled maintenance	11/4/19	11:00AM				

**** Pretreatment chamber cleaning / pumping is required if any of the values for Aeration Chamber Settleable Solids Test, Scum, or Sludge are exceeded.***

The Norweco Singulair service provider performs the following services during each routine scheduled maintenance:

** Check aerator operation*
** Check aerator air delivery*
** Clean stainless steel aspirator shaft*
** Clean aspirator tip*
** Clean fresh air vent in cover*
** Inspect aeration chamber contents*
** Check operation of control center*
** Adjust time clock when required*
** Remove the Bio-Kinetic system*
** Scrape the clarification chamber*
** Inspect the Bio-Static sludge return*
** Inspect outlet coupling*
** Install a clean Bio-Kinetic system*
** Visually Inspect effluent quality*
** Inspect effluent disposal system*
** Hang service notification on front door*
** Mail owner's System Maintenance Report*
** Mail municipality's System Maintenance Report*

APPENDIX E

CHAIN OF CUSTODY RECORDS

North American TESTING

Chain of Custody Sampling Record

#1

15:43

NAT
201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 980 Mercer Rd Greenville

Samplers Signature: [signature]

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010146-1	Influent		X	6/26/19	15:16	1	1		1	X	X	X		X	X	X								
010146-2	BFR Effluent		X	6/26/19	15:30	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.24		
BFR Effluent pH = 7.72	BFR Effluent DO = 4.26	BFR Effluent Temperature = 19.1

Relinquished By: [signature] Name/Date/Time 6/26/19 21:00	Received By: Name/Date/Time 6/27/19 9:00AM
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice ____ Acid ✓ Dechlorinated ✓

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#2

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1602 Mercer Rd Fredonia PA **Samplers Signature:**

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010126	Influent		X	6/24/19	12:15	1	1		1	X	X	X		X	X	X								
010127	BFR Effluent		X	6/24/19	12:30	1	1		1	X	X	X	X	X	X	X	X	X	X					
				Influent pH		5.65				(checked 2x)														

BFR Effluent DO = 4.85 mg/L | BFR Effluent pH = 7.38 | BFR Effluent Temperature = 17.3° C

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
	6/25/19 08:30		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time
			6/25/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ✓ 0

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#5

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 20 Lenape Tr Mercer PA **Samplers Signature:**

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010128	Influent		X	6/24/19	15:35	1	1		X	X	X	X		X	X	X								
010129	BFR Effluent		X	6/24/19	16:00	1	1		1	X	X	X	X	X	X	X	X	X	X						
					Influent pH	6.82																			

BFR Effluent DO = 1.46 mg/L BFR Effluent pH = 7.38 BFR Effluent Temperature = 15.8 °C

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
	6/25/19 08:30		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time
			6/25/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ✓/O

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#6

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1378 Mercer-Grove City Rd Mercer PA **Samplers Signature:**

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010130	Influent		X	6/24/19	14:05	1	1		1	X	X	X		X	X	X								
010131	BFR Effluent		X	6/24/19	14:15	1	1		1	X	X	X	X	X	X	X	X	X	X					
					Influent pH	6.75																		

BFR Effluent DO = 3.69 mg/L | BFR Effluent pH = 7.27 | BFR Effluent Temperature = 18.8°C

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
	6/25/19 08:30		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time
		[illegible]	6/25/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ✓ 0

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#7

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 227 Uber Rd. Mercer PA

Samplers Signature: Don Heath

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010132	Influent		X	6/24/19	14:45	1	1		1	X	X	X		X	X	X								
010133	BFR Effluent		X	6/24/19	14:55	1	1		1	X	X	X	X	X	X	X	X	X	X					
				Influent pH		6.25																		

BFR Effluent DO = 4.20 mg/L | BFR Effluent pH = 6.72 | BFR Effluent Temperature = 16.1°C

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Don Heath	6/25/19 08:30		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sean Hall	6/25/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ✓ O

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

#8

Chain of Custody Sampling Record

11:57 - 12:29

Code: 439 Tieline Grove City PA **Samplers Signature:** N Steele

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010165-1	Influent		X	6/27/19	12:05	1	1		1	X	X	X		X	X	X								
010165-2	BFR Effluent		X	6/27/19	12:10	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.21		
BFR Effluent pH = 7.38	BFR Effluent DO = 3.89	BFR Effluent Temperature = 19.6° C

Relinquished By: N Steele Name/Date/Time 6/28/19 08:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sagan Patel 6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#10

Chain of Custody Sampling Record

-11:03

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 111 Hilltop Acres Slippery Rock PA **Samplers Signature:** D Stech

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010166-1	Influent		X	6/27/19	10:22	1	1		1	X	X	X		X	X	X								
010166-2	BFR Effluent		X	6/27/19	10:45	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 6.73		
BFR Effluent pH = 7.15	BFR Effluent DO = 1.20	BFR Effluent Temperature = 19.9

Relinquished By: D Stech Name/Date/Time 6/28/19 08:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Egan McM 6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#11
Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 105 Arberg Slippery Rock PA **Samplers Signature:** D Steele

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
G10167-1	Influent		X	6/27/19	11:28	1	1		1	X	X	X		X	X	X								
G10167-2	BFR Effluent		X	6/27/19	11:35	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 6.77		
BFR Effluent pH = 7.32	BFR Effluent DO = 2.03	BFR Effluent Temperature = 17.9

Relinquished By: D Steele Name/Date/Time 6/28/19 08:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Susan Mast 6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#12

Chain of Custody Sampling Record

12:43

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 476 Methodist Rd Greenville **Samplers Signature:**

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010149-1	Influent		X	6/26/19	12:49	1	1		1	X	X	X		X	X	X								
010149-2	BFR Effluent		X	6/26/19	13:05	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 6.65		
BFR Effluent pH = 7.42	BFR Effluent DO = 1.23 mg/L	BFR Effluent Temperature = 19.4° C

Relinquished By: Name/Date/Time 6/26/19 21:00	Received By: Name/Date/Time 6/27/19 900
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice ✓ Acid ✓ Dechlorinated ✓

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#13

Chain of Custody Sampling Record

12:00 - 12:38

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 102 Gibson Rd Greenville

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010150-1	Influent		X	6/26/19	12:16	1	1		1	X	X	X		X	X	X								
010150-2	BFR Effluent		X	6/26/19	12:20	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 6,62		
BFR Effluent pH = 7,80	BFR Effluent DO = 4,24	BFR Effluent Temperature = 16,9

Relinquished By: Name/Date/Time 6/26/19 21:00	Received By: Name/Date/Time 6/27/19 9am
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice ✓ Acid ✓ Dechlorinated ✓

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

#14

10:24 – 10:52

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1090 Linn Tyro Rd **Samplers Signature:** D Steele

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010151-1	Influent		X	6/26/19	10:30	1	1		X	X	X	X		X	X	X								
010151-2	BFR Effluent		X	6/26/19	10:40	1	1		1	X	X	(X)	(X)	X	X	X	X	X	X						
				Influent pH		7.20																			

BFR Effluent DO = 6.44 BFR Effluent pH = ~~##~~ 7.02 BFR Effluent Temperature = 18.5

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
D Steele	6/26/19 21:00	[illegible]	6/27/19 900
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ___ No ✓
2. Did samples containers arrive in good condition? Yes ✓ No ___
3. Sufficient volume received for requested test? Yes ✓ No ___
4. Received proper containers for the tests indicated? Yes ✓ No ___
5. Verify preservative*. Temp/Ice ✓ Acid ___ Dechlorinated ___

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#15

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 151 Shaller Rd Fredonia

Samplers Signature: D Heck

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010152-1	Influent		X	6/26/19	16:36	1	1		1	X	X	X		X	X	X								
010152-2	BFR Effluent		X	6/26/19	16:48	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.59		
BFR Effluent pH = 7.85	BFR Effluent DO = 0.62	BFR Effluent Temperature = 19.9° C

Relinquished By: D Heck Name/Date/Time 6/26/19 21:00	Received By: Name/Date/Time 6/27/19 900
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice ✓ Acid ____ Dechlorinated ✓

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#16

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1643 Rutledge Rd Transfer **Samplers Signature:**

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010153-1	Influent		X	6/26/19	17:50	1	1		1	X	X	X		X	X	X								
010153-2	BFR Effluent		X	6/26/19	18:00	1 (OK)	1 ✓		1	X	X	X	X	X	X	X	X	X	X					ok ✓

Influent pH = 7.17		
BFR Effluent pH = 7.54	BFR Effluent DO = 0.40	BFR Effluent Temperature = 19.1

Relinquished By: Name/Date/Time 6/26/19 21:00	Received By: Name/Date/Time 6/27/19 900
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ✓
2. Did samples containers arrive in good condition? Yes ✓ No ____
3. Sufficient volume received for requested test? Yes ✓ No ____
4. Received proper containers for the tests indicated? Yes ✓ No ____
5. Verify preservative*. Temp/Ice ✓ Acid ✓ Dechlorinated ✓

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#17

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 2068 Lake Rd Sharpsville PA **Samplers Signature:**

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010134	Influent		X	6/24/19	11:30	1	1		1	X	X	X		X	X	X								
010135	BFR Effluent		X	6/24/19	11:45	1	1		1	X	X	X	X	X	X	X	X	X	X					
				Influent pH		7.23																		

BFR Effluent DO = 0.82 mg/L BFR Effluent pH = 7.20 BFR Effluent Temperature = 21.2 °C

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
	6/25/19 08:30		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time
		Sgam Mehl	6/25/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ✓O

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#18

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 579 Yankee Ridge Rd Mercer PA **Samplers Signature:** D Stech

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010136	Influent		X	6/24/19	11:00am	1	1		1	X	X	X		X	X	X								
010137	BFR Effluent		X	6/24/19	11:05am	1	1		1	X	X	X	X	X	X	X	X	X	X					
					Influent pH	6.14																		

BFR Effluent DO = 4.16 mg/L | BFR Effluent pH = 6.75 | BFR Effluent Temperature = 20.4°C

Relinquished By: D Stech Name/Date/Time 6/25/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Sgeun Hall 6/25/19 8:30 Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ✓0

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#19

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 799 Orchard Rd Mercer PA **Samplers Signature:** [signature]

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010138	Influent		X	6/24/19	10:10am	1	1		1	X	X	X		X	X	X								
010139	BFR Effluent		X	6/24/19	10:25am	1	1		1	X	X	X	X	X	X	X	X	X	X					
				Influent pH		~~7.45~~ DAS				7.23														

BFR Effluent DO = 5.42 mg/L | BFR Effluent pH = ~~7.53~~ DAS 7.12 | BFR Effluent Temperature = 19.2 °C

Relinquished By: [signature] Name/Date/Time 6/25/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sgam MeM 6/25/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____ /O

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#22

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 211 Gearhart Rd. Pulaski PA **Samplers Signature:** D Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010140	Influent		X	6/24/19	8:23am	1	1		1	X	X	X		X	X	X		X						
010141	BFR Effluent		X	6/24/19	8:30am	1	1		1	X	X	X	X	X	X	X	X	X	X					
					Influent pH	6.96																		

BFR Effluent DO = 1.03 mg/L | BFR Effluent pH = 7.62 | BFR Effluent Temperature = 18.3°C

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
D Steele	6/25/19 08:30		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sean McM	6/25/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#23

Chain of Custody Sampling Record

8:33

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 2599 Harlansburg New Castle PA **Samplers Signature:** D. Steel

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
0101168-1	Influent		X	6/27/19	8:40	1	1		1	X	X	X		X	X	X								
0101168-2	BFR Effluent		X	6/27/19	8:55	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.60		
BFR Effluent pH = 7.40	BFR Effluent DO = 3.74	BFR Effluent Temperature = 18.0

Relinquished By: D. Steel Name/Date/Time 6/28/19 08:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sam Mell 6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#25

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

18:24

Code: 2031 Marble Stobleton Fryburg

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010169-1	Influent		X	6/27/19	18:34	1	1		1	X	X	X		X	X	X								
010169-2	BFR Effluent		X	6/27/19	18:50	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 6.36		
BFR Effluent pH = 7.63	BFR Effluent DO = 0.41	BFR Effluent Temperature = 18.5

Relinquished By: Name/Date/Time 6/28/19 08:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time 6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#26

Chain of Custody Sampling Record

17:02 - 17:35

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1182 East Lake Rd, Transfer PA **Samplers Signature:** J Ltch

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
190154-1	Influent		X	6/26/19	17:15	1	1		1	X	X	X		X	X	X								Extremely greasy sample
190154-2	BFR Effluent		X	6/26/19	17:20	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 6.13			
BFR Effluent pH = 7.56	BFR Effluent DO = 0.64	BFR Effluent Temperature = 19.5	

Relinquished By: J Ltch Name/Date/Time 6/26/19 21:00	Received By: Name/Date/Time 6/27/19 900
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice ✓ Acid ✓ Dechlorinated ✓

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#27

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1993 ~~Mercer~~ - West Middlesex Rd. **Samplers Signature:**

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010142	Influent		X	6/24/19	9:38am	1	1		1	X	X	X		X	X	X								
010143	BFR Effluent		X	6/24/19	9:30am	1	1		1	X	X	X	X	X	X	X	X	X	X					
					Influent pH	6.58																		

BFR Effluent DO = 0.50 mg/L | BFR Effluent pH = 7.65 | BFR Effluent Temperature = 20.6 °C

Relinquished By: [signature] Name/Date/Time 6/25/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sgm MM 6/25/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ✓(C)

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#28

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 2108 Mercer Rd Fredonia PA **Samplers Signature:** D Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010155-1	Influent		X	6/26/19	15:45	1	1		1	X	X	X		X	X	X								
010155-2	BFR Effluent		X	6/26/19	16:00	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 6.86		
BFR Effluent pH = 7.14	BFR Effluent DO = 1.70	BFR Effluent Temperature = 19.3

Relinquished By: D Steele Name/Date/Time 6/26/19 21:00	Received By: Name/Date/Time 6/27/19 900
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice ✓ Acid ✓ Dechlorinated ✓

Notes:
Neutralized the Chlorine residual

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#29

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1010 Leesburg Station Mercer PA **Samplers Signature:** d Steele

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010144	Influent		X	6/24/19	16:25	1	1		X	X	X	X		X	X	X								No Supernatant zone Pretreatment full
010145	BFR Effluent		X	6/24/19	16:35	1	1		1	X	X	(X)	(X)	X	X	X	X	X	X					
				Influent pH		6.48																		

BFR Effluent DO = 2.77 mg/L BFR Effluent pH = 7.67 BFR Effluent Temperature = 19.4 °C

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
d Steele	6/25/19 08:30		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sean Mann	6/25/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____ NO

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#30

Chain of Custody Sampling Record

13:57

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 29 South Good Hope Greenville **Samplers Signature:**

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010156-1	Influent		X	6/26/19	14:12	1	1		1	X	X	X		X	X	X								
010156-2	BFR Effluent		X	6/26/19	14:25	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.00		
BFR Effluent pH = 7.74	BFR Effluent DO = 1.50	BFR Effluent Temperature = 19.5

Relinquished By: Name/Date/Time 6/26/19 21:00	Received By: Name/Date/Time 6/27/19 900
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice ✓ Acid ✓ Dechlorinated ✓

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#32

Chain of Custody Sampling Record

- 10:00

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 151 Etna Rd Slippery Rock **Samplers Signature:** D Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010170-1	Influent		X	6/27/19	9:15	1	1		1	X	X	X		X	X	X								
010170-2	BFR Effluent		X	6/27/19	9:25	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 6.65		
BFR Effluent pH = 7.20	BFR Effluent DO = 0.56	BFR Effluent Temperature = 20.2

Relinquished By: D Steele Name/Date/Time 6/28/19 08:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sean Hall 6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#32 Chain of Custody Sampling Record

- 10:00

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 151 Etna Rd Slippery Rock **Samplers Signature:** D Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010170-1	Influent		X	6/27/19	9:15	1	1		1	X	X	X		X	X	X								
010170-2	BFR Effluent		X	6/27/19	9:25	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 6.65

BFR Effluent pH = 7.20 BFR Effluent DO = 0.56 BFR Effluent Temperature = 20.2

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
D Steele	6/28/19 08:00		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sean Mull	6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#34

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 133 Buckwalter Rd New Wilmington PA **Samplers Signature:** _____

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
	Influent		X			1	1		1	X	X	X		X	X	X								
	BFR Effluent		X			1	1		1	X	X	(X)	(X)	X	X	X	X	X	X					
	Pretreatment Chlorinator @ Sample port			Aeration with snorkel aerator BFR not full gravity						Clarifier, BFR with gas deflector on outlet tee CCC completely empty to ditch No Samples no flow Can't filled Bring Bugspray next time!!														
				Influent pH																				

BFR Effluent DO =	BFR Effluent pH =	BFR Effluent Temperature =

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#35

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 19304 Cole Rd

Samplers Signature: D Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010157-1	Influent		X	6/26/19	9:05	1	1		X	X	X	X		X	X	X								
010157-2	BFR Effluent		X	6/26/19	9:20	1	1		1	X	X	(X)	(X)	X	X	X	X	X	X					
				Influent pH		7.00																		

BFR Effluent DO = 1.02 | BFR Effluent pH = 7.63 | BFR Effluent Temperature = 16.4

Relinquished By: D Steele — Name/Date/Time: 6/26/19 21:00	Received By: — Name/Date/Time: 6/27/19
Method of Shipment:	Received by Laboratory Analyst: — Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice ✓ Acid ✓ Dechlorinated ✓

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#36

Chain of Custody Sampling Record

11:04

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 852 Beatty School Rd **Samplers Signature:**

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010158-1	Influent		X	6/26/19	11:15	1	1		1	X	X	X		X	X	X								
010158-2	BFR Effluent		X	6/26/19	11:35	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.37		
BFR Effluent pH = 7.80	BFR Effluent DO = 1.11	BFR Effluent Temperature = 18.4

Relinquished By: Name/Date/Time 6/26/19 21:00	Received By: Name/Date/Time 6/27/19
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ✓
2. Did samples containers arrive in good condition? Yes ✓ No ____
3. Sufficient volume received for requested test? Yes ✓ No ____
4. Received proper containers for the tests indicated? Yes ✓ No ____
5. Verify preservative*. Temp/Ice ____ Acid ✓ Dechlorinated ✓

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

#37

Chain of Custody Sampling Record

14:42 – 15:05

Code: 725 Mercer Rd Greenville **Samplers Signature:**

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
	Influent		X			1	1		1	X	X	X		X	X	X								
	BFR Effluent		X			1	1		1	X	X	X	X	X	X	X	X	X	X					
	Tank Not full. No Samples Collected Singular 960-500 + BFR with 500 gal CC chamber Chlorinator, sample port 210P panel 30/30 cycle																							
Influent pH = weekend house only.																								
BFR Effluent pH =					BFR Effluent DO =													BFR Effluent Temperature =						

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#38

Chain of Custody Sampling Record

14:25

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1450 Fishermans Cove, Polk PA **Samplers Signature:** D Steele

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010172-1	Influent		X	6/27/19	14:35	1	1		1	X	X	X		X	X	X								
010172-2	BFR Effluent		X	6/27/19	14:55	1	1		1	X	X	X	X	X	X	X	X	X	X						

Influent pH = 7.55		
BFR Effluent pH = 7.95	BFR Effluent DO = 0.40	BFR Effluent Temperature = 20.9

Relinquished By: D Steele Name/Date/Time 6/28/19 08:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Bgan Mull 6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#39

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1136 Boyertown Pottsville PA

Samplers Signature: D Steele

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010173-1	Influent		X	6/27/19	16:20	1	1		1	X	X	X		X	X	X								
010173-2	BFR Effluent		X	6/27/19	16:30	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.40		
BFR Effluent pH = 8.82	BFR Effluent DO = 0.40	BFR Effluent Temperature = 17.8

Relinquished By: D Steele Name/Date/Time 6/28/19 08:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Logan Mull 6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

#40

Chain of Custody Sampling Record

17:35-

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 1242 Nebraska Tionesta PA **Samplers Signature:**

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010174-1	Influent		X	6/27/19	17:45	1	1		1	X	X	X		X	X	X								
010174-2	BFR Effluent		X	6/27/19	18:00	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.67		
BFR Effluent pH = 7.96	BFR Effluent DO = 0.95	BFR Effluent Temperature = 17.1

Relinquished By: Name/Date/Time 6/28/19 08:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time 6/28/19 8:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #1 980 Mercer Rd

Samplers Signature: Sean McM

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010333	Influent			8/13/19	9:45	1	1		1	X	X	X		X	X	X								
010333	BFR Effluent			8/13/19	9:45	1	1		1	X	X	X	X	X	X	X	X	X	X					sampler was cold - 3.0°C
	Field Dup.																							
				Influent pH		done on				preserved				bottle?				unknown.		Both bottles read same pH				

Influent pH = 2.18		
BFR Effluent pH = 7.58	BFR Effluent DO = 0.35	BFR Effluent Temperature = 21.6

Relinquished By: Sean McM 8/13/19 500 (Name/Date/Time)	Received By: (Name/Date/Time)
Method of Shipment:	Received by Laboratory Analyst: Lisa Shepp 8/13/19 (Name/Date/Time) 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes: Start time: 11:01 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #2 1603 Mercer Rd

Samplers Signature: Sean Hull

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
610236	Influent		X	8/13/19	10:56	1	1		1	X	X	X		X	X	X								
610237	BFR Effluent	X		8/13/19	10:50	1	1		1	X	X	X	X	X	X	X	X	X	X					sampler not cold 16.4°C
	Field Dup.	X																						

Influent pH = 5.84		
BFR Effluent pH = 6.98	BFR Effluent DO = 0.30	BFR Effluent Temperature = 21.7

Relinquished By: Sean Hull Name/Date/Time 8/13/19 5:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Lisa Thorp 8/13/19 Name/Date/Time 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes: start time: 11:57am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #8 439 TIELINE

Samplers Signature: Douglas Steele

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
	Influent		X	8/15/19	8:59	1	1		1	X	X	X		X	X	X								
	BFR Effluent	X		8/15/19	8:59	1	1		1	X	X	X	X	X	X	X	X	X	X						
	Field Dup.																								

Influent pH = 7.02		
BFR Effluent pH = 7.29	BFR Effluent DO = 0.55	BFR Effluent Temperature = 22.8

Relinquished By: D Steele Name/Date/Time 8/16/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____

Notes: start time: 11:27 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #8 439 TIELINE

Samplers Signature: Douglas Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
	Influent		X	8/15/19	0859	1	1		1	X	X	X		X	X	X								
	BFR Effluent	X		8/15/19	859	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 7.02		
BFR Effluent pH = 7.29	BFR Effluent DO = 0.55	BFR Effluent Temperature = 22.8

Relinquished By: D Steele Name/Date/Time 8/16/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____

Notes: start time: 11:27 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #12 476 Methodist Rd

Samplers Signature: Sean Mull

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010228	Influent		X	8/13/19	8:50	1	1		1	X	X	X		X	X	X								
010229	BFR Effluent	X		8/13/19	8:46	1	1		1	X	X	X	X	X	X	X	X	X	X					sampler was cold
	Field Dup.																							

Influent pH = 6.86

BFR Effluent pH = 7.35 | BFR Effluent DO = 0.84 | BFR Effluent Temperature = 22.5

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Sean Mull	8/13/19 5:00		
Method of Shipment:		Received by Laboratory Analyst: Lisa Zhang	Name/Date/Time 8/13/19 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes: start time: 9:07am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Chain of Custody Sampling Record

Code: #13 102 Gibson Rd

Samplers Signature: Sean McM

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010230	Influent		X	8/13/19	9:15	1	1		1	X	X	X		X	X	X								acidified sample??
010231	BFR Effluent	X		8/13/19	9:15	1	1		1	X	X	X	X	X	X	X	X	X	X					sampler was 13.5 oC
	Field Dup.																							

Influent pH = 7.10

BFR Effluent pH = 7.83

BFR Effluent DO = 0.77

BFR Effluent Temperature = 22.0

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Sean McM	8/13/19 5:00		
Method of Shipment:		**Received by Laboratory Analyst:** Lisa Zhang	**Name/Date/Time** 8/13/19 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes: start time: 9:51am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 14 1090 Linn

Samplers Signature:

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010272	Influent		X	8/22/19	952	1	1		1	X	X	X		X	X	X								
010273	BFR Effluent	X		8/22/19	956	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 7.19

BFR Effluent pH = 7.41 | BFR Effluent DO = 3.70 | BFR Effluent Temperature = 21.7

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brad Travis	8/22/19 4:40		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sgen McM	8/22/19 4:40

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 1:28 pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #15, 151 SHALLER RD

Samplers Signature:

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010354	Influent		X	8/20/19	950	1	1		1	X	X	X		X	X	X								
010355	BFR Effluent	X		8/20/19	952	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 7.73		
BFR Effluent pH = 8.00	BFR Effluent DO = 1.24	BFR Effluent Temperature = 23.2

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
JONAH TRAVIS	8/20/19 5:00PM		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sgam MW	8/21/19 12:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 9:35am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: SITE# 16 1643 RUTLEDGE RD

Samplers Signature: Brian

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010260	Influent		X	8/20/19	1042	1	1		1	X	X	X		X	X	X								
010261	BFR Effluent	X		8/20/19	1045	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 7.20		
BFR Effluent pH = 7.78	BFR Effluent DO = .55	BFR Effluent Temperature = 22.2

Relinquished By: BRIAN TRAVIS Name/Date/Time 8/20/19 930 PM	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time 8/21/19 12:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
Start time: 10:30 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: SITE# 16 1643 RUTLEDGE RD

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010260	Influent		X	8/20/19	1042	1	1		1	X	X	X		X	X	X								
010261	BFR Effluent	X		8/20/19	1045	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 7.20		
BFR Effluent pH = 7.78	BFR Effluent DO = .55	BFR Effluent Temperature = 22.2

Relinquished By: BRIAN TRAVIS Name/Date/Time 8/20/19 530 PM	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time 8/21/19 12:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
Start time: 10:30am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Chain of Custody Sampling Record

Code: #18 579 YANKEE RIDGE RD

Samplers Signature: [signature]

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010258	Influent		X	8/20/19	855	1	1		1	X	X	X		X	X	X								
010259	BFR Effluent	X		8/20/19	859	1	1		1	X	X	X	X	X	X	X	X	X	X					5.8°C
	Field Dup.																							

Influent pH = 6.50

BFR Effluent pH = 6.78 | BFR Effluent DO = 0.49 | BFR Effluent Temperature = 23.9

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
[signature]	8/20/19 5:00pm		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time
		[signature] 8/21/19	12:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes: strainer was laying media

start time: 8:20am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #19 799 Orchard Rd

Samplers Signature: Tyson Mell

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010244	Influent		X	8/14/19	9:35	1	1		1	X	X	X		X	X	X								
010245	BFR Effluent	X		8/14/19	9:35	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 7.17

BFR Effluent pH = 6.93

BFR Effluent DO = 0.95

BFR Effluent Temperature = 23.1

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Tyson Mell	8/14/19 6:20		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice Y Acid X Dechlorinated ____

Notes: start time: 9:32am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 23 2599 Harlans Burg RD

Samplers Signature:

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010264	Influent		X	8/21/19	1043	1	1		1	X	X	X		X	X	X								
010265	BFR Effluent	X		8/21/19	1042	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 7.52

BFR Effluent pH = 7.62

BFR Effluent DO = 0.59

BFR Effluent Temperature = 22.9

Relinquished By: BRAD TRAUS — Name/Date/Time: 8/21/19 500

Received By: — Name/Date/Time

Method of Shipment:

Received by Laboratory Analyst: [signature] — Name/Date/Time: 8/21/19 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes Y No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes: Start time: 11:50am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #25,2031 MARBLE STROBLETON

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
	Influent		X	8/15/19	10:55	1	1		1	X	X	X		X	X	X								
	BFR Effluent	X		8/15/19	10:54	1	1		1	X	X	X	X	X	X	X	X	X	X						
	Field Dup.																							

Influent pH = 6.58		
BFR Effluent pH = 6.87	BFR Effluent DO = 0.47	BFR Effluent Temperature = 22.0

Relinquished By: Name/Date/Time 8/16/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____

Notes:
start time - 1:51pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #25,2031 MARBLE STROBLETON

Samplers Signature:

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
	Influent		X	8/15/19	10:55	1	1		1	X	X	X		X	X	X								
	BFR Effluent	X		8/15/19	10:54	1	1		1	X	X	X	X	X	X	X	X	X	X						
	Field Dup.																								

Influent pH = 6.58			
BFR Effluent pH = 6.87	BFR Effluent DO = 0.47	BFR Effluent Temperature = 22.0	

Relinquished By: Name/Date/Time 8/16/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____

Notes:
start time - 1:51pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #27 1993 Mercer-West Middlesex Rd **Samplers Signature:** Sean Mell

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010242	Influent		X	8/14/19	9:18	1	1		1	X	X	X		X	X	X								
010243	BFR Effluent	X		8/14/19	9:18	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 6.56

BFR Effluent pH = 7.29 BFR Effluent DO = 0.86 BFR Effluent Temperature = 27.1

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Sean Mell	8/14/19 6:30		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 2:18 pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #28 2105 Mercer Rd **Samplers Signature:** Sgoan Mell

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010234	Influent			8/13/19	10:15	1	1		1	X	X	X		X	X	X								
010235	BFR Effluent			8/13/19	10:15	1	1		1	X	X	X	X	X	X	X	X	X	X					excessive chlorine floating in contact chamber sampler was cold
	Field Dup.																							

Influent pH = 6.57		
BFR Effluent pH = 6.37	BFR Effluent DO = 0.22	BFR Effluent Temperature = 21.9

Relinquished By: Sgoan Mell Name/Date/Time 8/13/19 5:00	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: ~~Name~~/Date/Time Lisa Zhang 8/13/19 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time - 11:33am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 29 1010 Leesburg

Samplers Signature:

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010268	Influent		X	8/21/19	837	1	1		1	X	X	X		X	X	X								
010269	BFR Effluent	X		8/21/19	840	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 6.13

BFR Effluent pH = 7.38

BFR Effluent DO = 0.89

BFR Effluent Temperature = 23.7

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brad Travis	8/21/19 520		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sydney Mell	8/21/19 1500

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 1:55pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 30 29 South Good Hope RD

Samplers Signature:

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
0102-74	Influent		X	8/22/19	1105	1	1		1	X	X	X		X	X	X								
0102-75	BFR Effluent	X		8/22/19	1106	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 6.60		
BFR Effluent pH = 7.60	BFR Effluent DO = .80	BFR Effluent Temperature = 22.4

Relinquished By: Brad Travis — Name/Date/Time 8/22/19 4:40	Received By: — Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Egan Mull — Name/Date/Time 8/22/19 4:40

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 12:35 pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 32 151 Etna RD **Samplers Signature:**

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010266	Influent		X	8/21/19	956	1	1		1	X	X	X		X	X	X								
010267	BFR Effluent	X		8/21/19	955	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 6.76		
BFR Effluent pH = 6.84	BFR Effluent DO = 0.53	BFR Effluent Temperature = 22.2

Relinquished By: BRAD TRAVIS Name/Date/Time 8/21/19 500	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time 8/21/19 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes ✓ No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 2:45 p.m

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #33 89 PATTERSON SCHOOL

Samplers Signature: D Stutz

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
	Influent		X	8/15/19	9:34	1	1		1	X	X	X		X	X	X								
	BFR Effluent	X		8/15/19	9:34	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 6,94		
BFR Effluent pH = 7,17	BFR Effluent DO = 0.91	BFR Effluent Temperature = 21.1

Relinquished By: D Stutz Name/Date/Time 8/16/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____

Notes:
start time: 11:50 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 34, 133 BUCKWALTER

Samplers Signature:

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli		Comments
010283	INFLUENT		X	8/23/19	1025	1	1		1	X	X	X		X	X	X								ph = 7.37
010284	BFR EFFLUENT	X		8/23/19	1027	1	1		1	X	X	X	X	X	X	X	X	X	X					ph = 8.45 DO = 1.22 TEMP = 20.4

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
BRAD TRAVIS	8/23/19 2:15		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time
		Sean Mell	8/23/19 2:15

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: ~~1100~~ 1:50 pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #34 133 Buckwalter Rd

Samplers Signature: Sean McM

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
0,0240	Influent		X	8/14/19	8.45	1	1		1	X	X	X		X	X	X								
0,0241	BFR Effluent		X	8/14/19	8.45	1	1		1	X	X	X	X	X	X	X	X	X	X					intake tubing error collected grab sample
	Field Dup.																							

Influent pH = 7.01

BFR Effluent pH = 9.20

BFR Effluent DO = 0.95

BFR Effluent Temperature = 20.6

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Sean McM	8/14/19 6:20		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 12:20

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 35 19304 Cole

Samplers Signature:

Sampling						Preservation				Desired Analysis															Comments
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
010276	Influent		X	8/22/19	840	1	1		1	X	X	X		X	X	X								
010277	BFR Effluent	X		8/22/19	840	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 7.23

BFR Effluent pH = 7.33

BFR Effluent DO = 0.40

BFR Effluent Temperature = 20.5

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brian Travis	8/22/19 4:40		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sgen Mill	8/22/19 4:40

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: 36 852 Beatty

Samplers Signature:

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	Comments
010278	Influent		X	8/22/19	10:22	1	1		1	X	X	X		X	X	X								Sample contained some solids.
010279	BFR Effluent	X		8/22/19	10:19	1	1		1	X	X	X	X	X	X	X	X	X	X					
	Field Dup.																							

Influent pH = 6.58

BFR Effluent pH = 7.15

BFR Effluent DO = 0.22

BFR Effluent Temperature = 22.5

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
BRIAN TRAVIS	8/22/19 4:40		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		[signature]	8/22/19 4:40

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice A Acid X Dechlorinated ____

Notes:
start time: 1:05pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: #39, 1136 BUCTOUN RD

Samplers Signature: D. Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli	FatsOilsGrease	
	Influent		X	8/15/19	11:45	1	1		1	X	X	X		X	X	X								
	BFR Effluent	X		8/15/19	11:42	1	1		1	X	X	X	X	X	X	X	X	X	X						
	Field Dup.																							

Influent pH = 6.70		
BFR Effluent pH = 8.21	BFR Effluent DO = 0.69	BFR Effluent Temperature = 20.5

Relinquished By: D Steele Name/Date/Time 8/16/19 8:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No ____
2. Did samples containers arrive in good condition? Yes ____ No ____
3. Sufficient volume received for requested test? Yes ____ No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice ____ Acid ____ Dechlorinated ____

Notes:
start time: 2:55 pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

141.154 QUARRY RD

Code: _____ **Samplers Signature:** _____

Sampling						Preservation				Desired Analysis															
										NSF STD 245															
										NSF STD 40															
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli		Comments
010281	INFLUENT		X	8/23/19	1110	1	1		1	X	X	X		X	X	X								pH = 7.75
010282	BER EFFLUENT	X		8/23/19	1112	1	1		1	X	X	X	X	X	X	X	X	X	X					DO = 2.15 TEMP 21.6 pH = 8.79
	CL CONTACT CHAMBER		X	8/23/19	1115		1	1													X			

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Grant Travis	8/23/19 2:15		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sean Mull	8/23/19 2:15

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 11:32am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *Site # 1* 980 Mercer Rd

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli		
010401-1	#1 Inf		x	10/15/19	9:25	1	1				x	x		x	x	x	x							pH 7.53
010401-2	#1 Eff	x		10/15/19	9:25	1	2			x	x		x	x	x	x	x	x	x					

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brian Travis	10/15/19 500		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sean Mell	10/15/19 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
Start Time: 11:26am

pH: 7.77
D.O: 0.72
Temp: 17.6

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #2 - 1602 Mercer Rd., Freedonia PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010430-1	Influent		X	10/22/19	1000	1	1		1	X	X	X		X	X	X								
010430-2	BFR Effluent	X		10/22/19	1000	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 6.06		
BFR Effluent pH = 7.46	BFR Effluent DO = 0.35	BFR Effluent Temperature = 16.1

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
BRAD TRAVIS	10/22/19 440		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Logan Mell	10/22/19 4:40

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes ____ No X
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 10:40 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: ***PA #8 - 439 Tieline Rd., Grove City PA***

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010441-1	Influent		X	10/24/19	845	1	1		1	X	X	X		X	X	X								
010441-2	BFR Effluent	X		10/24/19	845	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup~~																							

Influent pH = 7.08

BFR Effluent pH = 7.48

BFR Effluent DO = 0.26

BFR Effluent Temperature = 18.6

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brad Travis	10/24/19 430		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Egan Mell	10/24/19 4:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated N/A

Notes:
start time: 11:55 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #11 - 105 Arberg Lane, Slippery Rock PA*

Samplers Signature: D Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010437-1	Influent			10/23/19	9:20am	1	1		1	X	X	X		X	X	X								
010437-2	BFR Effluent			↓		1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup~~.																							

Influent pH = 6.87		
BFR Effluent pH = 6.70	BFR Effluent DO = 0.55	BFR Effluent Temperature = 14.6

Relinquished By: D Steele	Name/Date/Time 10/24/19 08:30	Received By:	Name/Date/Time
Method of Shipment:		Received by Laboratory Analyst: Sean Hall	Name/Date/Time 10/24/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 1:20pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Chain of Custody Sampling Record

Code: *Site # 12* 476 Methodist

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
											NSF STD 245													
											NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli		
010484-1	#12 Inf		X	10/15/19	8:15	1	1				X	X		X	X	X	X							6.90 pH
010484-2	#12 Eff	X		10/15/19	8:15	1	2			X	X		X	X	X	X	X	X	X					

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
BRAD TRAVIS	10/15/19 500		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Megan Mull	10/15/19 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid V Dechlorinated ____

Notes:
start time: 10:01 am

pH: 7.12
D.O: 0.73
Temp: 18.5

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *Site # 13* 102 Gibson

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli		
010403-1	#13 Inf		x	10/15/19	835	1	1				x	x		x	x	x	x							7.93 pH
010403-2	#13 Eff	x		↓	835	1	2			x	x		x	x	x	x	x	x	x					

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brad Travis	10/15/19 500		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sean Mud	10/15/19 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 10:22am

pH: 6.43
D.O: 0.44
Temp: 10.1

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #14 - 1090 Linn Tyro Rd., Hadley PA*

Samplers Signature: Douglas Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010419-1	Influent			10/16/19	940	1	1		1	X	X	X		X	X	X								
010419-2	BFR Effluent			↓	940	1	1		1	X	X	X	X	X	X	X	X	X	X					
~~010419-3~~	~~Field Dup.~~			↓	—																			

Influent pH = 7.33			
BFR Effluent pH = 7.25	BFR Effluent DO = 1.20	BFR Effluent Temperature = 18.0	

Relinquished By: Douglas Steele Name/Date/Time 10/17/2019 0830	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sean Reed 10/17/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 1:20pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

NAT
201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #15 - 151 Schaller Rd., Fredonia PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010431-1	Influent		X	10/22/19	931	1	1		1	X	X	X		X	X	X								
010431-2	BFR Effluent	X		10/22/19	931	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 7.96		
BFR Effluent pH = 7.95	BFR Effluent DO = 0.86	BFR Effluent Temperature = 16.9

Relinquished By: BRAD TRAVIS — Name/Date/Time 10/22/19 440	Received By: — Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Sean Mell — Name/Date/Time 10/22/19 4:40

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 10:20am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #16 - 1643 Rutledge Rd., Transfer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010433-1	Influent		X	10/22/19	845	1	1		1	X	X	X		X	X	X								
010433-2	BFR Effluent	X		10/22/19	845	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 7.54		
BFR Effluent pH = 8.15	BFR Effluent DO = ~~0.95~~ 0.90	BFR Effluent Temperature = 17.3

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brad Travis	10/22/19 440		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sg am Mull	10/22/19 4:40

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice Y Acid X Dechlorinated ____

Notes:
start time: 9:30 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

NAT
201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #17 - 2068 Lake Rd., Sharpsville PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010329-1	Influent		X	10/22/19	1022	1	1		1	X	X	X		X	X	X								
010329-2	BFR Effluent	X		10/22/19	1022	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 7.20		
BFR Effluent pH = 7.35	BFR Effluent DO = 0.46	BFR Effluent Temperature = 17.3

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
BRIAN TRAVIS	10/22/19 4:40		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Logan Hull	10/22/19 4:40

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 11:05am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

NAT
201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #18 - 579 Yankee Ridge Rd., Mercer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010415-1	Influent		X	10/17/19	1105	1	1		1	X	X	X		X	X	X								
010415-2	BFR Effluent	X		10/17/19	1107	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 5.71		
BFR Effluent pH = 6.86	BFR Effluent DO = 0.54	BFR Effluent Temperature = 19.1

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brian Travis	10/17/19 330		
Method of Shipment:		Received by Laboratory Analyst: Susan Reff	Name/Date/Time 10/17/19 3:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes ____ No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 3:10pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #19 - 799 Orchard Rd., Mercer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010416-1	Influent		X	10/17/19	1035	1	1		1	X	X	X		X	X	X								
010416-2	BFR Effluent	X		10/17/19	1030	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 7.12			
BFR Effluent pH = 7.24	BFR Effluent DO = 0.54	BFR Effluent Temperature = 19.3	

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brad Travis	10/17/19 330		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sgam Mull	10/17/19 3:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 2:38pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #22 - 211 Gearhart Rd., Pulaski PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
101417-1	Influent		X	10/17/19	855	1	1		1	X	X	X		X	X	X								
101417-2	BFR Effluent	X		10/17/19	855	1	1		1	X	X	X	X	X	X	X	X	X	X					
A 101417-3	Field Dup.	X		10/17/19	855	1	1		1	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.54			
BFR Effluent pH = 7.75	BFR Effluent DO = 0.28	BFR Effluent Temperature = 14.9	

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
BRAD TRAVIS	10/17/19 330		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		[signature]	10/17/19 3:30

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice Y Acid X Dechlorinated ___

Notes:
start time: 1:44pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #23 - 2599 Harlansburg Rd., New Castle PA*

Samplers Signature: [signature]

Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None
010435-1	Influent			10/23/19	10:47	1	1		1
010435-2	BFR Effluent			↓	10:45	1	1		1
	~~Field Dup.~~								

Desired Analysis (NSF STD 245; NSF STD 40):

Sample ID	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			Comments
010435-1	X	X	X		X	X	X								
010435-2	X	X	X	X	X	X	X	X	X	X					

Influent pH = 7.75

BFR Effluent pH = 7.48 | BFR Effluent DO = 0.76 | BFR Effluent Temperature = 18.3

Relinquished By: [signature] Name/Date/Time 10/24/19 08:30

Received By: Name/Date/Time

Method of Shipment:

Received by Laboratory Analyst: [signature] Name/Date/Time 10/24/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 11:26am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #25 - 2031 Marble Strobleton Rd., Fryburg PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010443-1	Influent		X	10/24/19	1020	1	1		1	X	X	X		X	X	X								
010443-2	BFR Effluent	X		10/24/19	1020	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup:~~																							

Influent pH = 6.64		
BFR Effluent pH = 6.85	BFR Effluent DO = 0.76	BFR Effluent Temperature = 17.9

Relinquished By: Dennis Travis — Name/Date/Time 10/24/19 430	Received By: — Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Egan Mott — Name/Date/Time 10/24/19 4:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated N/A

Notes:
start time: 1:54pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #26 - 1182 East Lake Rd., Transfer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
0104332-1	Influent		X	10/22/19	913	1	1		1	X	X	X		X	X	X								
0104332-2	BFR Effluent	X		10/22/19	913	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 6.22

BFR Effluent pH = 7.63 | BFR Effluent DO = 0.46 | BFR Effluent Temperature = 17.5

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brian Travis	10/22/19 440		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Bgan Mell	10/22/19 4:40

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes ____ No X
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 9:50am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #27 - 1993 Mercer-West Middlesex Rd., Mercer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010418-1	Influent		X	10/17/19	955	1	1		1	X	X	X		X	X	X								
010418-2	BFR Effluent	X		10/17/19	954	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 6.71		
BFR Effluent pH = 7.78	BFR Effluent DO = 0.34	BFR Effluent Temperature = 18.7

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
BRAD TRAVIS	10/17/19 330		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time
		Sydney Mull	10/17/19 3:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 2:20pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *Site # 28* 2108 Mercer

Samplers Signature: [illegible]

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	E. Coli		
010405-1	#28 Inf		x	10/15/19	947	1	1				x	x		x	x	x	x							6.65 pH Sample needs [illegible]
010405-2	#28 Eff	x		10/15/19	950	1	2			x	x		x	x	x	x	x	x	x					

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brian Travis	10/15/19 500		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Segan Mell	10/15/19 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes: start time: 11:51am

pH: 7.35
D.O: 0.62
Temp: 18.6

*Temp 2-6 C, ph <2.0, Chlorine <0.03

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North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #29 - 1010 Leesburg Station Rd., Mercer PA*

Samplers Signature: D Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
0104381	Influent			10/23/19	08:42	1	1		1	X	X	X		X	X	X								
0104382	BFR Effluent			↓	08:40	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 7.09		
BFR Effluent pH = 7.12	BFR Effluent DO = 0.50	BFR Effluent Temperature = 17.4

Relinquished By: D Steele Name/Date/Time 10/24/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Bryan Huff 10/24/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ___ No Y
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes Y No ___
5. Verify preservative*. Temp/Ice Y Acid Y Dechlorinated ___

Notes:
start time

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #30 - 29 South Good Hope Rd., Greenville PA*

Samplers Signature: Douglas Steele

Sampling						Preservation				Desired Analysis														Comments
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	NSF STD 245 / NSF STD 40: pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
0104II-1	Influent			10/16/19	1051	1	1		1	X	X	X		X	X	X								
0104II-2	BFR Effluent			↓	1051	1	1		1	X	X	X	X	X	X	X	X	X	X					
~~0104II-3~~	~~Field Dup.~~			↓	~~1051~~																			

Influent pH = 7.08		
BFR Effluent pH = 7.49	BFR Effluent DO = 0.40	BFR Effluent Temperature = 18.4

Relinquished By: Douglas Steele Name/Date/Time 10/17/2019 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Sgan Mull Name/Date/Time 10/17/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ___

Notes:
start time: 10:20am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Chain of Custody Sampling Record

Code: *PA #32 - 151 Etna Rd., Slippery Rock PA*

Samplers Signature: D Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010436-1	Influent			10/23/19	10:00 am	1	1		1	X	X	X		X	X	X								
010436-2	BFR Effluent			↓	10:01 am	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 6.98		
BFR Effluent pH = 7.02	BFR Effluent DO = 0.60	BFR Effluent Temperature = 16.2

Relinquished By: D Steele Name/Date/Time 10/24/19 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sgram Mtb 10/24/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ___

Notes:
start time: 1:45pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #33 - 89 Patterson School Rd., Grove City PA*

Samplers Signature: 

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010443-1	Influent		X	10/24/19	900	1	1		1	X	X	X		X	X	X								
010443-2	BFR Effluent	X		10/24/19	900	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup:~~																							

Influent pH = 7.05		
BFR Effluent pH = 7.90	BFR Effluent DO = 0.41	BFR Effluent Temperature = 16.0

Relinquished By: BRIAN TRAVIS Name/Date/Time 10/24/19 430	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Logan Mell 10/24/19 4:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated N/A

Notes:
start time: 12:15pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #34 - 133 Buckwalter Rd., New Wilmington PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
101919-1	Influent	X	X	10/17/19	9:25	1	1		1	X	X	X		X	X	X								
101919-2	BFR Effluent	X	X	10/17/19	9:25	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup.~~																							

Influent pH = 6.67

BFR Effluent pH = 7.90

BFR Effluent DO = 0.24

BFR Effluent Temperature = 16.7

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Brian Travis	10/17/19 350		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Ryan Mull	10/17/19 3:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
Start time: 2:03pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #35 - 19304 Cole Rd., Conneautville PA*

Samplers Signature: Douglas Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010412-1	Influent			10/16/19	08:30	1	1		1	X	X	X		X	X	X								
010412-2	BFR Effluent			↓	08:30	1	1		1	X	X	X	X	X	X	X	X	X	X					
~~010412-3~~	~~Field Dup~~.				—																			

Influent pH = 7.44		
BFR Effluent pH = 7.54	BFR Effluent DO = 0.70	BFR Effluent Temperature = 15.8

Relinquished By: Douglas Steele Name/Date/Time 10/17/2019 08:30	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Susan Mull 10/17/2019 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 2:15 pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #36 - 852 Beatty School Rd., Greenville PA*

Samplers Signature: Douglas Steele

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
G10413-1	Influent			10/16/19	1012	1	1		1	X	X	X		X	X	X								
G10413-2	BFR Effluent			↓	1012	1	1		1	X	X	X	X	X	X	X	X	X	X					
~~G10413-3~~	~~Field Dup.~~			↓	—																			

Influent pH = 6.87		
BFR Effluent pH = 6.90	BFR Effluent DO = 0.24	BFR Effluent Temperature = 18.4

Relinquished By: Douglas Steele	Name/Date/Time 10/17/2019 08:30	Received By:	Name/Date/Time
Method of Shipment:		Received by Laboratory Analyst: Logan Mull	Name/Date/Time 10/17/19 8:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated ____

Notes:
start time: 1:00pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: ***PA #39 - 1136 Bugtown Rd., Titusville PA***

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010444-1	Influent		X	10/24/19	1120	1	1		1	X	X	X		X	X	X								
010444-2	BFR Effluent	X		10/24/19	1120	1	1		1	X	X	X	X	X	X	X	X	X	X					
	~~Field Dup:~~																							

Influent pH = 7.65		
BFR Effluent pH = 7.17	BFR Effluent DO = 1.09	BFR Effluent Temperature = 13.5

Relinquished By: Brian Travis — Name/Date/Time 10/24/19 430	Received By: — Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Sean Mall — Name/Date/Time 10/24/19 4:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated N/A

Notes:
start time: 2:36pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #1 - 980 Mercer Rd., Greenville PA*

Samplers Signature: [signature]

Sampling						Preservation				Desired Analysis												Comments
										NSF STD 245												
										NSF STD 40												
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	
010742-1	Influent			2/18/20	940	1	1		1	X	X	X		X	X	X						Sample Temp:
010742-2	BFR Effluent			2/18/20	940	1	1		1	X	X	X	X	X	X	X	X	X	X			Sample Temp:
																						Sample Temp:

Influent pH = 7.65

BFR Effluent pH = 7.80 | BFR Effluent DO = 2.24 | BFR Effluent Temperature = 8.5

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Curl Rigans 2/18/20	945		
Method of Shipment:		Received by Laboratory Analyst: Sgarn Ann 2/18/2020	4:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 10:40am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

Rev011519 North American Testing, LLC LQF5.8.1

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #2 - 1602 Mercer Rd., Freedonia PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010700-1	Influent		X	2/11/20	1015	1	1		1	X	X	X		X	X	X							Sample Temp:
010700-2	BFR Effluent	X		2/11/20	1015	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 4.40		
BFR Effluent pH = 7.64	BFR Effluent DO = 4.79	BFR Effluent Temperature = 7.0

Relinquished By: Name/Date/Time Brian Travis 2/11/20 4:05	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Logan Mull 2/11/2020 4:05

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 10:20am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #8 - 439 Tieline Rd., Grove City PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		Comments
010726-1	Influent			2/13/20	900	1	1		1	X	X	X		X	X	X							Sample Temp:
010726-2	BFR Effluent			↓	900	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
					↓																		Sample Temp:

Influent pH = 7.25		
BFR Effluent pH = 7.50	BFR Effluent DO = 0.44	BFR Effluent Temperature = 10.7

Relinquished By: Carl Riems 2/13/20 Name/Date/Time 530	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sean Mell 2/13/2020 5:30

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
Needs Serviced! System has Highlt water level
start time: 10:45

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Chain of Custody Sampling Record

Code: *PA #11 - 105 Arberg Lane, Slippery Rock PA*

Samplers Signature: [signature]

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			Comments
010711-1	Influent			2/12/20	8:33	1	1		1	X	X	X		X	X	X								Sample Temp:
010711-2	BFR Effluent			↓	8:35	1	1		1	X	X	X	X	X	X	X	X	X	X					Sample Temp:
																								Sample Temp:

Influent pH = 7.41

BFR Effluent pH = 7.43

BFR Effluent DO = 1.02

BFR Effluent Temperature = 6.6

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Carl Riems 2/12/20	500		
Method of Shipment:		Received by Laboratory Analyst:	Name/Date/Time
		[signature] 2/12/2020	5:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 12:50pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

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North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #12 - 476 Methodist Rd., Greenville PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010743-1	Influent			2/18/20	850	1	1		1	X	X	X		X	X	X							Sample Temp:
010743-2	BFR Effluent				850	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 6.80		
BFR Effluent pH = 7.20	BFR Effluent DO = 2.37	BFR Effluent Temperature = 6.4

Relinquished By: Carl Reams 2/18/20 852 (Name/Date/Time)	Received By: (Name/Date/Time)
Method of Shipment:	Received by Laboratory Analyst: Egan Hall 2/18/2020 4:00 (Name/Date/Time)

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice Y Acid X Dechlorinated X

Notes:
start time: 10:05am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #13 - 102 Gibson Rd., Greenville PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			Comments
010744-1	Influent		X	2/18/20	9:05	1	1		1	X	X	X		X	X	X								Sample Temp:
010744-2	BFR Effluent	X		2/18/20	9:04	1	1		1	X	X	X	X	X	X	X	X	X	X					Sample Temp:
																								Sample Temp:

Influent pH = 6.47		
BFR Effluent pH = 7.08	BFR Effluent DO = 2.90	BFR Effluent Temperature = 6.3

Relinquished By: Name/Date/Time Curt Rivers 2/18/20 910	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sgan Mull 2/18/2020 4:00

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 10:15am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #14 - 1090 Linn Tyro Rd., Hadley PA*

Samplers Signature: N Steel

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010754-1	Influent			2/19/20	0838	1	1		1	X	X	X		X	X	X							Sample Temp:
010754-2	BFR Effluent			2/19/20	0841	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 7.28			
BFR Effluent pH = 7.30	BFR Effluent DO = 2.45	BFR Effluent Temperature = 6.3	

Relinquished By: N Steel Name/Date/Time 2/19/20 330	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Bryan Mull 2/19/2020 3:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice Y Acid X Dechlorinated X

Notes:
start time: 12:45 pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #15 - 151 Schaller Rd., Fredonia PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010701-1	Influent		X	2/11/20	948	1	1		1	X	X	X		X	X	X							Sample Temp:
010701-2	BFR Effluent	X		2/11/20	948	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 8.18		
BFR Effluent pH = 7.91	BFR Effluent DO = .14	BFR Effluent Temperature = 7.4

Relinquished By: Brian Tracy Name/Date/Time 2/11/20 4:05	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Sean Mell 2/11/2020 Name/Date/Time 4:05

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 10:03am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #16 - 1643 Rutledge Rd., Transfer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010704-1	Influent		X	~~2/10/20~~ 2/11/20	930	1	1		1	X	X	X		X	X	X							Sample Temp:
010704-2	BFR Effluent	X		~~2/10/20~~ 2/11/20	930	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 7.47		
BFR Effluent pH = 7.81	BFR Effluent DO = 1.74	BFR Effluent Temperature = 7.8

Relinquished By: DAN TRAVIS — Name/Date/Time: ~~2/10/20~~ 2/11/20 405	Received By: — Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Sean Mull — Name/Date/Time: 2/11/2020 4:05

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes ___ No X
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 9:45am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #17 - 2068 Lake Rd., Sharpsville PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010702-1	Influent		X	2/10/20	840	1	1		1	X	X	X		X	X	X								Sample Temp:
010702-2	BFR Effluent	X		2/10/20	840	1	1		1	X	X	X	X	X	X	X	X	X	X					Sample Temp:
																								Sample Temp:

Influent pH = 7.38		
BFR Effluent pH = 7.13	BFR Effluent DO = 1.17	BFR Effluent Temperature = 7.0

Relinquished By: BRAD TRAVIS Name/Date/Time 2/10/20 4:05	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Sgam Mell 2/11/2020 4:05 Name/Date/Time

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 9:08am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #18 - 579 Yankee Ridge Rd., Mercer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010764-1	Influent		X	2/20/20	1045	1	1		1	X	X	X		X	X	X							Sample Temp:
010764-2	BFR Effluent	X		2/20/20	1045	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 6.62		
BFR Effluent pH = 6.67	BFR Effluent DO = 1.24	BFR Effluent Temperature = 10.8

Relinquished By: Carl Riems 2/20/20 Name/Date/Time 1107	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sgam/hd 2/20/2020 11:07

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 2:00pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #19 - 799 Orchard Rd., Mercer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010765-1	Influent		X	2/20/20	1000	1	1		1	X	X	X		X	X	X								Sample Temp:
010765-2	BFR Effluent	X		2/20/20	1000	1	1		1	X	X	X	X	X	X	X	X	X	X					Sample Temp:
																								Sample Temp:

Influent pH = 7.33		
BFR Effluent pH = 7.65	BFR Effluent DO = 1.25	BFR Effluent Temperature = 7.0

Relinquished By: Carl Riems 2/20/20 10 27 (Name/Date/Time)	Received By: (Name/Date/Time)
Method of Shipment:	Received by Laboratory Analyst: Sgan Null 2/20/2020 10:27 (Name/Date/Time)

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 2:55pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #22 - 211 Gearhart Rd., Pulaski PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010766-1	Influent		X	2/20/20	810	1	1		1	X	X	X		X	X	X							Sample Temp:
010766-2	BFR Effluent	X		2/20/20	810	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 7.55		
BFR Effluent pH = 7.78	BFR Effluent DO = 1.20	BFR Effluent Temperature = 6.5

Relinquished By: Curt Rivers 2/20/20 Name/Date/Time 815	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time 2/20/2020 8:15

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 11:46 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #23 - 2599 Harlansburg Rd., New Castle PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
										NSF STD 40								NSF STD 245					
010712-1	Influent			2/12/20	940	1	1		1	X	X	X		X	X	X							Sample Temp:
010712-2	BFR Effluent				940	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
010712-3	Duplicate Eff.				940																		Sample Temp:

Influent pH = 8.09

BFR Effluent pH = 7.55

BFR Effluent DO = 1.05

BFR Effluent Temperature = 8.5

Relinquished By:	Name/Date/Time	Received By:	Name/Date/Time
Carl Rivers	2/12/20 500		
Method of Shipment:		**Received by Laboratory Analyst:**	**Name/Date/Time**
		Sgam Mull	2/13/2020 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 11:55am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #25 - 2031 Marble Strobleton Rd., Fryburg PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis														Comments
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			
010727-1	Influent			2/13/20	1055	1	1		1	X	X	X		X	X	X								Sample Temp:
010727-2	BFR Effluent				1055	1	1		1	X	X	X	X	X	X	X	X	X	X					Sample Temp:
																								Sample Temp:

Influent pH = 6.92		
BFR Effluent pH = 7.18	BFR Effluent DO = 0.45	BFR Effluent Temperature = 8.8

Relinquished By: Carl Riems 2/13/20 Name/Date/Time 530	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Sgam Null 2/13/2020 Name/Date/Time 5:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 1:20pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #26 - 1182 East Lake Rd., Transfer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010703-1	Influent		X	~~2/10/20~~ 2/11/20	907	1	1		1	X	X	X		X	X	X							Sample Temp:
010703-2	BFR Effluent	X		~~2/10/20~~ 2/11/20	907	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 6.70		
BFR Effluent pH = 7.22	BFR Effluent DO = .66	BFR Effluent Temperature = 8.5

Relinquished By: Brian Travis Name/Date/Time ~~2/10/20~~ 2/11/20 4:05	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Logan Hall 2/11/2020 4:05

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice Y Acid X Dechlorinated X

Notes:
start time: 9:30am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Chain of Custody Sampling Record

Code: *PA #27 - 1993 Mercer-West Middlesex Rd., Mercer PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010767-1	Influent			2/20/20	9:15	1	1		1	X	X	X		X	X	X							Sample Temp:
010767-2	BFR Effluent			2/20/20	9:15	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 7.00		
BFR Effluent pH = 7.56	BFR Effluent DO = 1.13	BFR Effluent Temperature = 8.7

Relinquished By: Carl Rems 2/20/20 944 (Name/Date/Time)	Received By: (Name/Date/Time)
Method of Shipment:	Received by Laboratory Analyst: 2/20/2020 9:44 (Name/Date/Time)

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 12:20pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #28 - 2108 Mercer Rd., Fredonia PA*

Samplers Signature: Carl Rieves

Sampling						Preservation				Desired Analysis												Comments
										NSF STD 245												
										NSF STD 40												
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	
010745-1	Influent			2/18/20	950	1	1		1	X	X	X		X	X	X						Sample Temp:
010745-2	BFR Effluent			2/18/20	950	1	1		1	X	X	X	X	X	X	X	X	X	X			Sample Temp:
010745-2	Field Dup. Eff.																					Sample Temp:

Influent pH = 7.08			
BFR Effluent pH = 7.22	BFR Effluent DO = 0.67	BFR Effluent Temperature = 71	

Relinquished By: Carl Rieves 2/18/20 Name/Date/Time 958	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sejan Mull 2/18/2020 4:00

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 1.00pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #29 - 1010 Leesburg Station Rd., Mercer PA*

Samplers Signature: [signature]

Sampling						Preservation				Desired Analysis														
										NSF STD 245														
										NSF STD 40														
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform			Comments
010713-1	Influent			2/12/20	805	1	1		1	X	X	X		X	X	X								Sample Temp:
010713-2	BFR Effluent			↓	807	1	1		1	X	X	X	X	X	X	X	X	X	X					Sample Temp:
																								Sample Temp:

Influent pH = 7.62		
BFR Effluent pH = 7.59	BFR Effluent DO = 0.85	BFR Effluent Temperature = 8.1

Relinquished By: Name/Date/Time Carl Riems 2/12/20 500	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time [signature] 2/12/2020 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 1:10pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #30 - 29 South Good Hope Rd., Greenville PA*

Samplers Signature: D Stuck

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010755-1	Influent			2/19/20	9:46	1	1		1	X	X	X		X	X	X							Sample Temp:
010755-2	BFR Effluent			2/19/20	9:48	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
010755-2	Field Dup. Eff.			2/19/20	9:48																		Sample Temp:

Influent pH = 6.83		
BFR Effluent pH = 7.08	BFR Effluent DO = 1.53	BFR Effluent Temperature = 7.3

Relinquished By: D Stuck Name/Date/Time 2/19/20 330	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sagan Mull 2/19/2020 5:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice V Acid X Dechlorinated X

Notes:
start time: 12:00pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #32 - 151 Etna Rd., Slippery Rock PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010714-1	Influent			2/12/20	905	1	1		1	X	X	X		X	X	X							Sample Temp:
010714-2	BFR Effluent				903	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
	~~Field Dup~~																						Sample Temp:

Influent pH = 7.02		
BFR Effluent pH = 7.35	BFR Effluent DO = 1.02	BFR Effluent Temperature = 7.5

Relinquished By: Curt Riems 2/12/20 Name/Date/Time 500	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Sgam Mull 2/12/2020 Name/Date/Time 5:00

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 12:30pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #33 - 89 Patterson School Rd., Grove City PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis												
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	Comments
										NSF STD 40				NSF STD 245								
010720-1	Influent			2/13/20	915	1	1		1	X	X	X		X	X	X						Sample Temp:
010720-2	BFR Effluent				915	1	1		1	X	X	X	X	X	X	X	X	X	X			Sample Temp:
																						Sample Temp:

Influent pH = 7.08		
BFR Effluent pH = 7.52	BFR Effluent DO = 0.68	BFR Effluent Temperature = 8.9

Relinquished By: Carl Rivers Name/Date/Time 2/13/20 530	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Sgam Null 2/13/2020 5:30

For lab use only:
1. Any parameters with expired holding times? Yes ___ No X
2. Did samples containers arrive in good condition? Yes X No ___
3. Sufficient volume received for requested test? Yes X No ___
4. Received proper containers for the tests indicated? Yes X No ___
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 10:54am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American Testing

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Chain of Custody Sampling Record

Code: *PA #34 - 133 Buckwalter Rd., New Wilmington PA*

Samplers Signature: [signature]

Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	Comments
	Sampling					Preservation				Desired Analysis (NSF STD 245; NSF STD 40)												
010768-1	Influent			2/20/20	840	1	1		1	X	X	X		X	X	X						Sample Temp:
010768-2	BFR Effluent			2/20/20	840	1	1		1	X	X	X	X	X	X	X	X	X	X			Sample Temp:
																						Sample Temp:

Influent pH = 6.78

BFR Effluent pH = 7.48 | BFR Effluent DO = 0.67 | BFR Effluent Temperature = 7.0

Relinquished By: Name/Date/Time	Received By: Name/Date/Time
Carl Riems 2/20/20 858	
Method of Shipment:	**Received by Laboratory Analyst:** Name/Date/Time
	Egan Mull 2/20/2020 8:58

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice ✓ Acid ✓ Dechlorinated X

Notes:
start time: 11:56 am

*Temp 2-6 C, ph <2.0, Chlorine <0.03

Rev011519 North American Testing, LLC LQF5.8 1

North American TESTING

Chain of Custody Sampling Record

NAT
201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #35 - 19304 Cole Rd., Conneautville PA*

Samplers Signature: D Hall

Sampling						Preservation				Desired Analysis													Comments
										NSF STD 245													
										NSF STD 40													
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010756-1	Influent			2/19/20	7:36	1	1		1	X	X	X		X	X	X							Sample Temp:
010756-2	BFR Effluent			2/19/20	7:37	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 8.85

BFR Effluent pH = ~~6.96~~ 7.20 DAS

BFR Effluent DO = 0.92

BFR Effluent Temperature = ~~4.3~~ 5.4 DAS

Relinquished By: D Hall Name/Date/Time 2/19/20 330

Received By: Name/Date/Time

Method of Shipment:

Received by Laboratory Analyst: Name/Date/Time Sharon Hull 2/19/2020 3:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 1:05pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #36 - 852 Beatty School Rd., Greenville PA*

Samplers Signature: D Stuck

Sampling						Preservation				Desired Analysis													Comments
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	NSF STD 40 pH	NSF STD 40 TSS	NSF STD 40 BOD_5	NSF STD 40 $CBOD_5$	NSF STD 40 Alkalinity	NSF STD 245 TKN	NSF STD 245 NH_3-N	NSF STD 245 NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
010757-1	Influent			2/19/20	9:03	1	1		1	X	X	X		X	X	X							Sample Temp:
010757-2	BFR Effluent			2/19/20	9:04	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
																							Sample Temp:

Influent pH = 6.40		
BFR Effluent pH = 6.84	BFR Effluent DO = 1.32	BFR Effluent Temperature = 8.0

Relinquished By: D Stuck Name/Date/Time 2/19/20 330	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Eugene Hull 2/19/2020 3:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice Y Acid X Dechlorinated X

Notes:
start time: 12:35pm

*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

Chain of Custody Sampling Record

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Code: *PA #39 - 1136 Bugtown Rd., Titusville PA*

Samplers Signature:

Sampling						Preservation				Desired Analysis													Comments
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform		
										NSF STD 40								NSF STD 245					
010729-1	Influent			2/13/20	1220	1	1		1	X	X	X		X	X	X							Sample Temp:
010729-2	BFR Effluent				1220	1	1		1	X	X	X	X	X	X	X	X	X	X				Sample Temp:
010729-3	Field Dup. Eff.																						Sample Temp:

Influent pH = 7.08		
BFR Effluent pH = 7.22	BFR Effluent DO = 1.90	BFR Effluent Temperature = 3.5

Relinquished By: Carol Reems Name/Date/Time 2/13/20 530	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time Egan Hall 2/13/2020 5:30

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No X
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice Y Acid X Dechlorinated X

Notes:
Need 2L unpreserved for Field Dup
Start Time: 2:00pm
*Temp 2-6 C, ph <2.0, Chlorine <0.03

North American TESTING

201 A Plank Rd.
Norwalk, OH 44857
Ph 419-668-1895
email@northamericantesting.org

Chain of Custody Sampling Record

Code: *PA #41 - 154 Quarry Rd., Greenville PA*

Samplers Signature: [signature]

Sampling						Preservation				Desired Analysis												
										NSF STD 245												
										NSF STD 40												
Sample ID	Sample Location	Composite	Grab	Date	Time	H_2SO_4	Ice (4 C)	Sterile	None	pH	TSS	BOD_5	$CBOD_5$	Alkalinity	TKN	NH_3-N	NO_2/NO_3-N	Temperature	DO	Chlorine	Fecal Coliform	Comments
90746-1	Influent		R	2/16/20	925	1	1		1	X	X	X		X	X	X						Sample Temp:
010746-2	BFR Effluent	X		2/18/2	924	1	1		1	X	X	X	X	X	X	X	X	X	X			Sample Temp:
																						Sample Temp:

Influent pH = 7.25		
BFR Effluent pH = 7.64	BFR Effluent DO = .52	BFR Effluent Temperature = 7.1

Relinquished By: Name/Date/Time Carl Riems 2/18/20 933	Received By: Name/Date/Time
Method of Shipment:	Received by Laboratory Analyst: Name/Date/Time [signature] 2/18/2000 4:00

For lab use only:
1. Any parameters with expired holding times? Yes ____ No X
2. Did samples containers arrive in good condition? Yes X No ____
3. Sufficient volume received for requested test? Yes X No ____
4. Received proper containers for the tests indicated? Yes X No ____
5. Verify preservative*. Temp/Ice X Acid X Dechlorinated X

Notes:
start time: 10:30am

*Temp 2-6 C, ph <2.0, Chlorine <0.03