BOROUGH OF KANE

Chapter 94 Municipal Wasteload Management Report
Pine Street Wastewater Treatment Plant
Operating Year 2018

KLH
ENGINEERS, INC
5173 CAMPBELLS RUN ROAD
PITTSBURGH, PA 15205-9733

BOROUGH OF KANE

McKean County, Pennsylvania

Pine Street Wastewater Treatment Plant

Chapter 94 – Municipal Wasteload Management Report
Operating Year 2018

TABLE OF CONTENTS

BOROUGH OF KANE

McKean County, Pennsylvania

Pine Street Wastewater Treatment Plant
Chapter 94 – Municipal Wasteload Management Report
Operating Year 2018

EXECUTIVE SUMMARY

In compliance with Section 94.12, of Chapter 94, Title 25 of the Pennsylvania Code and the Rules and Regulations of the Pennsylvania Department of Environmental Protection (PADEP), this report is submitted by the Borough of Kane (Borough) as a summary of the loadings and conditions existing at the Pine Street Wastewater Treatment Plant (WWTP) and its tributary conveyance sewer system during the operating year 2018. In addition, this report includes a projection of the anticipated loadings at the WWTP for the next five years (2019-2023). DEP forms and spreadsheets were utilized in order to complete the report.

The location of the Pine Street WWTP is shown in Figure 1. The WWTP is owned by the Kane Borough Authority and operated by the Borough of Kane. The Pine Street WWTP is operated under NPDES Permit No. PA0023167, issued in February 2018.

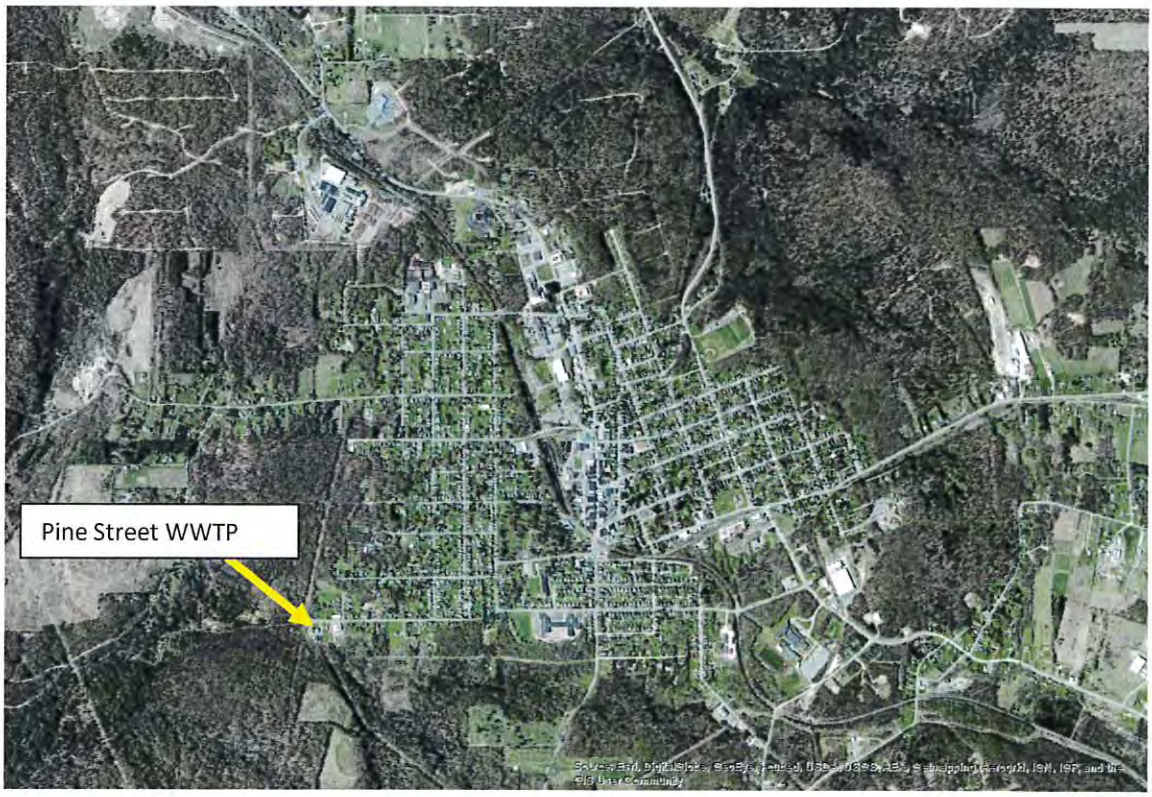


Figure 1: Pine Street WWTP Location

The Borough's collection system is divided into two major drainage basins: the Hubert Run Drainage Basin, serviced by the Kinzua Road WWTP, and the West Run Drainage Basin serviced by the Pine Street WWTP. The Hubert Run Drainage Basin collection system and the summary of the loadings at the Kinzua Road WWTP are described in a separate report. The West Run Drainage Basin collection system consists of approximately 65,400 linear feet of vitrified clay pipe, ductile iron pipe, and PVC pipe ranging from 8" to 36" in diameter.

The Borough's WWTPs service the Borough and portions of Wetmore Township. The Borough's collection system has been classified as a combined sewer system (CSS) and Wetmore Township has a separated sewer system (SSS). Wastewater is conveyed to both plants by gravity. There are eight (8) pumping stations in Wetmore Township, six (6) of which are a part of the Pine Street WWTP conveyance system.

The Pine Street WWTP operates in accordance with the NPDES permit. The NPDES permit allows for an average monthly flow of 1.50 mgd and an average organic loading of 2,502 lbs BOD5/day through the WWTP. The permit requires that the plant's effluent meets limits for the following:

- Dissolved oxygen (DO)
- pH
- Total suspended solids (TSS)
- Ammonia-nitrogen (NH_3-N)
- Fecal coliform
- Carbonaceous biochemical oxygen demand ($CBOD_5$)
- Nitrate/nitrite (NO_2-N + NO3-N)
- Total phosphorus (P)
- Total chlorine residual (TRC)
- Copper
- Total Nitrogen
- Chlorodibromomethane
- Dichlorobromomethane

The Pine Street WWTP employs biological and chemical treatment processes to attain an effluent quality which consistently meets NPDES permit requirements. The wastewater process facilities at the Pine Street WWTP consists of preliminary treatment works which includes a mechanically cleaned bar screen and a grit removal system, an activated sludge secondary treatment system (four tank sequencing batch reactor (SBR) activated sludge process), two

chlorine contact tanks, sodium bisulfite dechlorination system and an effluent water tank. Treated effluent from the Pine Street WWTP is discharged to West Run.

The following laboratories are used to test samples from the Pine Street WWTP with methods consistent with the lab accreditation act.

- Mountain Research, LLC, 110 McCracken Run Road, Dubois, PA 15801
- Pine Street WWTP – in house, 42-1378

Influent samples are taken from preliminary treatment processes before the bar screen. The samples are handled in the same manner as effluent samples, meeting permit requirements. The samples are analyzed using the methods that are specified in 40 CFR136. There are no other sampling points within the system. The flow meter used by the Borough of Kane Authority is an ultrasonic flow meter located before the bar screen in the preliminary treatment building. The flow meter utilizes a Fisher Porter chart recorder. Flow meter calibration records can be found in Attachment [6].

The Pine Street WWTP was not hydraulically or organically overloaded in 2018, and is not projected to be hydraulically or organically overloaded in the next five years.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

For Calendar Year: 2018

☒ Permittee is owner and/or operator of a POTW or other sewage treatment facility
☐ Permittee is owner and/or operator of a collection system tributary to a POTW not owned/operated by permittee

GENERAL INFORMATION			
Permittee Name:	**Kane Borough - Pine Street WWTP**	Permit No.:	**PA0023167**
Mailing Address:	**112 Bayard St.**	Effective Date:	**02/01/2018**
City, State, Zip:	**Kane, PA 16735**	Expiration Date:	**01/31/2023**
Contact Person:	**Phil Lingenfelter**	Renewal Due Date:	**07/30/2022**
Title:	**Plant Manager**	Municipality:	**Kane Borough**
Phone:	**814-837-6201**	County:	**McKean**
Email:	**pinestreetkane@verizon.net**	Consultant Name:	**KLH Engineers, Inc.**

CHAPTER 94 REPORT COMPONENTS

1. Attach to this report a line graph depicting the monthly average flows (expressed in MGD) for each month for the past 5 years and projecting the flows for the next 5 years. The graph must also include a line depicting the hydraulic design capacity per the WQM permit. (25 Pa. Code § 94.12(a)(1))

   Check the appropriate boxes:
   ☒ Line graph for flows attached (**Attachment 1b**)
   ☒ DEP Chapter 94 Spreadsheet used (**Attachment 1a**)
   ☐ Section 1 is not applicable (report is for a collection system).

2. Attach to this report a line graph depicting the monthly average organic loads (express as lbs BOD5/day) for each month for the past 5 years and projecting the organic loads for the next 5 years. The graph must also include a line depicting the organic design capacity of the treatment plant per the WQM permit. (25 Pa. Code § 94.12(a)(2))

   Check the appropriate boxes:
   ☒ Line graph for organic loads attached (**Attachment 1c**)
   ☒ DEP Chapter 94 Spreadsheet used (**Attachment 1a**)
   ☐ Section 2 is not applicable (report is for a collection system).

3. If the DEP Chapter 94 Spreadsheet was not used to determine projections, discuss the basis for the hydraulic and organic projections. In all cases, include a description of the time needed to expand the plant to meet the load projections, if necessary, and data used to support the projections should be included in an appendix to this report. (25 Pa. Code § 94.12(a)(3))

   The DEP Chapter 94 Spreadsheet was used. The Pine Street WWTP was not hydraulically or organically overloaded in 2018, and is not projected to be hydraulically or organically overloaded in the next five years.

4. Attach a map showing all sewer extensions constructed within the past calendar year, sewer extensions approved or exempted in the past year in accordance with Act 537 and Chapter 71, but not yet constructed, and all known proposed projects which require public sewers but are in the preliminary planning stages. The map must be accompanied by a list summarizing each extension or project and the population to be served by the extension or project. If a sewer extension approval or proposed project includes schedules describing how the project will be completed over time, the listing should include that information and the effect this build-out-rate will have on populations served. (25 Pa. Code § 94.12(a)(4))

Check the appropriate boxes:

☐ Map showing sewer extensions constructed, approved/exempted but not yet constructed, and proposed projects attached (**Attachment**)

☐ List summarizing each extension or project attached (**Attachment**)

☐ Schedules describing how each project will be completed over time and effects attached (**Attachment**)

Comments:

There were no sewer extensions in the Pine Street WWTP sewerage system during the operating year 2018.

5. Discuss the permittee's program for sewer system monitoring, maintenance, repair and rehabilitation, including routine and special activities, personnel and equipment used, sampling frequency, quality assurance, data analyses, infiltration/inflow monitoring, and, where applicable, maintenance and control of combined sewer regulators during the past year. Attach a separate sheet if necessary. (25 Pa. Code § 94.12(a)(5))

See Attachment [2]

6. Discuss the condition of the sewer system including portions of the system where conveyance capacity is being exceeded or will be exceeded in the next 5 years and portions where rehabilitation or cleaning is needed or is underway to maintain the integrity of the system and prevent or eliminate bypassing, CSOs, SSOs, excessive infiltration and other system problems. Attach a separate sheet if necessary. (25 Pa. Code § 94.12(a)(6))

Check the appropriate boxes:

☐ System experienced capacity-related bypassing, SSOs or surcharging during the report year. On a separate sheet, list the date, location, and reason for each bypass, SSO or surcharge event.

☒ System did not experience capacity-related bypassing, SSOs or surcharging during the report year.

Comments:

The general condition of the collector and interceptor sewers owned and maintained by the Borough of Kane is fair to good. Sewers are under constant inspection and maintenance. Much of the sewers were built before the advent of present day construction materials and techniques and several sewersheds have substantial quantities of infiltration and inflow.

7. Attach a discussion on the condition of sewage pumping (pump) stations. Include a comparison of the maximum pumping rate with present maximum flows and the projected 2-year maximum flows for each station. (25 Pa. Code § 94.12(a)(7))

Check the appropriate boxes:

☐ The collection system does not contain pump stations
☒ The collection system does contain pump stations (Number – **6**)
☒ Discussion of condition of each pump station attached (**Attachment 3**)

8. If the sewage collection system receives industrial wastes (i.e., non-sanitary wastes), attach a report with the information listed below. (25 Pa. Code § 94.12(a)(8))

a. A copy of any ordinance or regulation governing industrial waste discharges to the sewer system or a copy of amendments adopted since the initial submission of the ordinance or regulation under Chapter 94, if it has not previously been submitted.

b. A discussion of the permittee's or municipality's program for surveillance and monitoring of industrial waste discharges into the sewer system during the past year.

c. A discussion of specific problems in the sewer system or at the plant, known or suspected to be caused by industrial waste discharges and a summary of the steps being taken to alleviate or eliminate the problems. The discussion shall include a list of industries known to be discharging wastes which create problems in the plant or in the sewer system and action taken to eliminate the problem or prevent its recurrence. The report may describe pollution prevention techniques in the summary of steps taken to alleviate current problems caused by industrial waste dischargers and in actions taken to eliminate or prevent potential or recurring problems caused by industrial waste dischargers.

Check the appropriate boxes:

☒ Industrial waste report as described in 8 a., b. and c. attached (**Attachment 4**)
☐ Industrial pretreatment report as required in an NPDES permit attached (**Attachment**)

9. Existing or Projected Overload.

Check the appropriate boxes:

☐ This report demonstrates an existing hydraulic overload condition.
☐ This report demonstrates a projected hydraulic overload condition.
☐ This report demonstrates an existing organic overload condition.
☐ This report demonstrates a projected organic overload condition.

If one or more boxes above have been checked, attach a Corrective Action Plan (CAP) to reduce or eliminate present or projected overloaded conditions under §§ 94.21 and/or 94.22 (relating to existing overload and projected overload). (25 Pa. Code § 94.12(a)(9))

☐ Corrective Action Plan attached (**Attachment**)

10. Where required by the NPDES permit, attach a Sewage Sludge Management inventory that demonstrates a mass balance of solids coming in and leaving the facility over the previous calendar year.

☒ Sewage Sludge Management Inventory attached (**Attachment 5**)

11. For facilities with CSOs and where required by the NPDES permit, attach an Annual CSO Report (including satellite combined sewer systems).

☒ Annual CSO Report attached (**Attachment 7**)

12. For POTWs, attach a calibration report documenting that flow measuring, indicating and recording equipment has been calibrated annually. (25 Pa. Code § 94.13(b))

☒ Flow calibration report attached (**Attachment 6**)

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Phil Lingenfelter
Name of Responsible Official

Philip A Lingenfelter
Signature

814-837-6201
Telephone No.

3-25-19
Date

PREPARER CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared by me or otherwise under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Craig Bauer
Name of Preparer

Signature

412-494-0510
Telephone No.

3/25/2019
Date

ATTACHMENT 1

PADEP Chapter 94 Spreadsheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PADEP Chapter 94 Spreads
Sewage Treatment Pl

Reporting Year: 2018

Facility Name: Pine Street Wastewater Treatment Plant

Permit No.: PA0023167

Persons/EDU:

Existing Hydraulic Design Capacity: 1.5 MGD
Upgrade Planned in Next 5 Years? NO **Year:**
Future Hydraulic Design Capacity: MGD

Existing Organic Design Capacity: 2,502 lbs BOD5/day
Upgrade Planned in Next 5 Years? NO **Year:**
Future Organic Design Capacity: lbs BOD5/day

Monthly Average Flows for Past Five Years (MGD)

Month	2014	2015	2016	2017	2018
January	0.62	0.383	0.508	0.832	0.723
February	0.37	0.246	0.705	0.749	0.88
March	0.61	0.779	0.562	0.672	0.669
April	0.76	1.013	0.667	0.857	0.792
May	0.84	0.348	0.412	0.687	0.593
June	0.72	0.512	0.409	0.502	0.419
July	0.42	0.473	0.202	0.353	0.393
August	0.61	0.204	0.286	0.221	0.39
September	0.29	0.216	0.222	0.22	0.557
October	0.4	0.411	0.445	0.337	0.667
November	0.39	0.495	0.36	0.761	0.948
December	0.59	0.789	0.609	0.459	0.796
Annual Avg	0.55	0.489	0.449	0.554	0.652
Max 3-Mo Avg	0.77	0.713	0.667	0.759	0.804
Max : Avg Ratio	1.40	1.46	1.49	1.37	1.23
Existing EDUs	1,214.0	1,214.0	1,214.0	1,214.0	1,221.0
Flow/EDU (GPD)	453.0	402.8	369.9	456.3	534.0
Flow/Capita (GPD)					
Exist. Overload?	NO	NO	NO	NO	NO

Monthly Average BOD5 Loads for Past Five Years (lbs/day)

Month	2014	2015	2016	2017	2018
January	966	509	588	1,327	638
February	702	237	805	992	1,221
March	1,001	621	448	1,039	802
April	944	522	746	919	775
May	1,055	501	447	793	731
June	553	457	476	793	585
July	1,096	402	655	561	563
August	984	655	734	533	524
September	883	467	607	642	536
October	1,191	791	479	455	476
November	1,188	867	668	791	595
December	1,017	1,224	845	669	565
Annual Avg	965	604	625	793	668
Max Mo Avg	1,191	1,224	845	1,327	1,221
Max : Avg Ratio	1.23	2.03	1.35	1.67	1.83
Existing EDUs	1,214	1,214	1,214	1,214	1,221
Load/EDU	0.795	0.498	0.515	0.653	0.547
Load/Capita					
Exist. Overload?	NO	NO	NO	NO	NO

Projected Flows for Next Five Years (MGD)

	2019	2020	2021	2022	2023
New EDUs	5.0	5.0	5.0	5.0	5.0
New EDU Flow	0.0022	0.0022	0.0022	0.0022	0.0022
Proj. Annual Avg	0.541	0.5432	0.5454	0.5476	0.5498
Proj. Max 3-Mo Avg	0.752	0.755	0.758	0.761	0.764
Proj. Overload?	NO	NO	NO	NO	NO

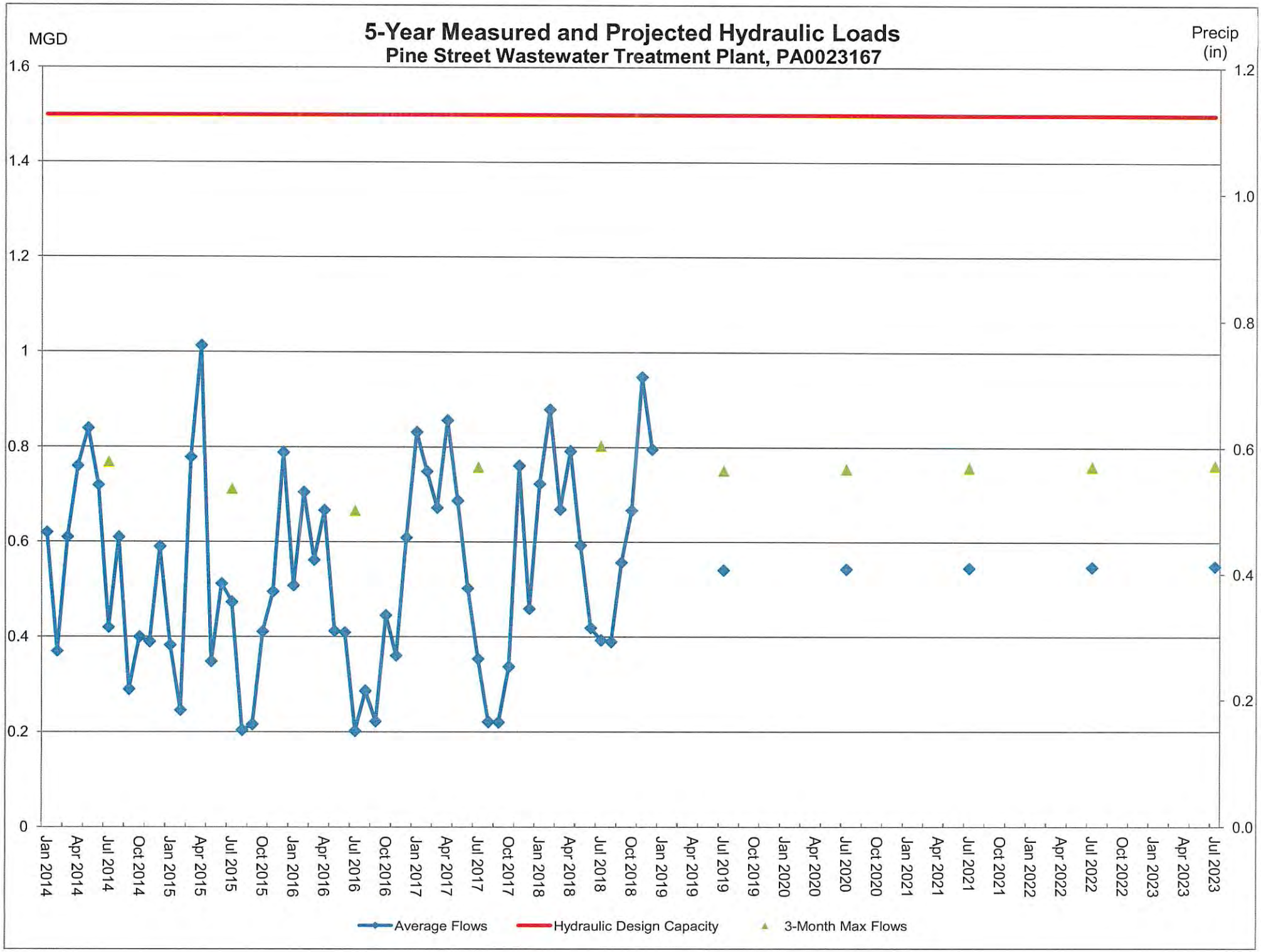
Projected BOD5 Loads for Next Five Years (lbs/day)

	2019	2020	2021	2022	2023
New EDUs	5	5	5	5	5
New EDU Load	3.007	3.007	3.007	3.007	3.007
Proj. Annual Avg	734	737	740	743	746
Proj. Max Avg	1,191	1,196	1,201	1,206	1,211
Proj. Overload?	NO	NO	NO	NO	NO

Show Precipitation Data on Hydraulic Graph?

Total Monthly Precipitation for Past Five Years (Inches)

Month	2014	2015	2016	2017	2018
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					


5-Year Measured and Projected Hydraulic Loads
Pine Street Wastewater Treatment Plant, PA0023167
MGD
Precip (in)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan 2014
Apr 2014
Jul 2014
Oct 2014
Jan 2015
Apr 2015
Jul 2015
Oct 2015
Jan 2016
Apr 2016
Jul 2016
Oct 2016
Jan 2017
Apr 2017
Jul 2017
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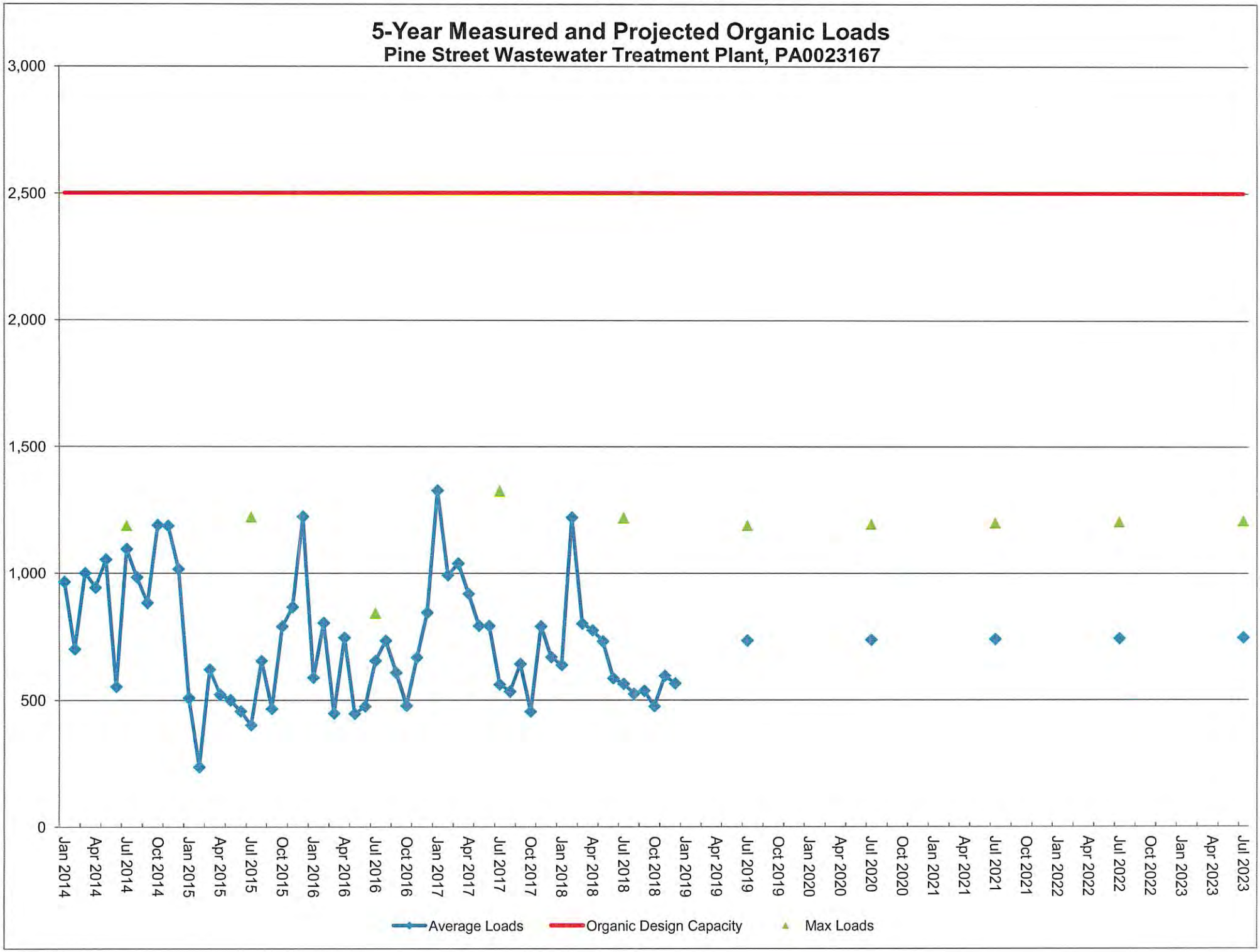
Jan 2022
Apr 2022
Jul 2022
Oct 2022
Jan 2023
Apr 2023
Jul 2023
Average Flows
Hydraulic Design Capacity
3-Month Max Flows


5-Year Measured and Projected Organic Loads
Pine Street Wastewater Treatment Plant, PA0023167
3,000
2,500
2,000
1,500
1,000
500
0
Jan 2014
Apr 2014
Jul 2014
Oct 2014
Jan 2015
Apr 2015
Jul 2015
Oct 2015
Jan 2016
Apr 2016
Jul 2016
Oct 2016
Jan 2017
Apr 2017
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Oct 2017
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Jan 2021
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
Jul 2022
Oct 2022
Jan 2023
Apr 2023
Jul 2023
Average Loads
Organic Design Capacity
Max Loads

ATTACHMENT 2

Sewer System Monitoring, Maintenance, Repair, and Rehabilitation

SEWER SYSTEM MONITORING, MAINTENANCE, REPAIR, AND REHABILITATION

In accordance with § 94.12(a)(5)

The Borough of Kane has an extensive sewer system program to maintain the integrity of both WWTPs and their tributary conveyance sewer systems. Various personnel help to monitor and maintain the systems. The following is a list of the certified operators responsible for the sanitary system.

- Philip G. Lingenfelter T4090
- Todd Meserole T2835
- Jason Giordano S17275

In an effort to understand the hydraulic and organic loading on the treatment facilities, grab samples of the influent wastewater are taken daily. Composite samples are taken twice a week using an Hach Sampler. The samples are taken at the headworks of the plant inside the Preliminary Treatment System (P.T.S.) Building. The samples are collected in a refrigerated composite sampler, carried to the lab and bottled. The samples are analyzed using the same approved methods as the effluent samples, which is critical in the effort to maintain quality assurance. Influent loading is calculated by using the following equation:

Loading = mg/L x 8.34 x Flow Rate

Quality assurance is provided by monitoring the WWTP and its operational performance. Various meters have been installed including gas detectors, a pH meter, a chlorine meter, a DO meter and flow meters. The Borough also owns portable flow meters which may be used if a permanent flow meter is functioning improperly. The Borough contracts with Tri-State Instruments for calibration of the meters. The flow meter calibration records are included in Attachment [6].

The Borough owns equipment for the operation, maintenance and repair of the sewer system. General heavy equipment used for the maintenance of the system include a 1996 Ford F150 pickup truck, a 2017 Ford F350 pickup truck, a front end loader (Street Department) and vactor trucks (Street Department).

The sewer system program includes both routine and special activities. These activities include efforts to identify problems within the sewer system. The Borough conducts periodic televising to identify problems within the system. The Borough contracts the local Roto Rooter or Tim's Plumbing & Heating for camera work, Bio Blocks (odor control), and flushing. The Borough cleans manholes on an as needed basis that includes approximately 500 manholes. The

Borough staff utilizes a Vac Truck to clear any reported blockages in the system. In addition, smoke testing is utilized for problem identification, with the use of a Borough-owned smoke machine. Repairs are made as necessary.

The Borough has also continued with identification of inflow and infiltration (I/I) sources within the Borough's collection system. The Borough developed an ongoing I/I mitigation plan. This plan has two major components:

1. Continue to survey the collection system and identify sources of I/I.
2. Initiate a program to make minor repairs to remove sources of inflow.

The Borough of Kane has made additional arrangements with contractors for operation/maintenance/repair. They include the following:

1. Atlantic Eastern Electrical for major electrical work.
2. Walker Electric for major electrical work.
3. Trombold Equipment for residential grinder pump maintenance.
4. Allied Systems for heating.
5. Allied System for Backflow Preventer Testing.
6. SimplexGrinnell for fire alarms.
7. Keyless and Camera for pump station monitoring.

ATTACHMENT 3

Pumping Stations

PUMPING STATIONS
In accordance with § 94.12(a)(7)

There are a total of eight (8) pump stations used in the Borough of Kane service area (all located in Wetmore Township); six (6) of which convey sewage to the Pine Street WWTP and two to the Kinzua Road WWTP. All pump stations are monitored weekly to verify proper operation. In the Year 2010, seven (7) of the eight (8) pump stations were converted from standard telephone lines to radio frequency signals for remote communication.

The present maximum flow, maximum pumping rate, and projected two-year maximum flow for each pump station in the Pine Street WWTP conveyance system are shown in Table 1.

Table 1: Pumping Stations

Location	Present Maximum Flow (gpm)	Maximum Pumping Rate (gpm)	Projected 2-Year Maximum Flow (gpm)
Westwind Pump Station	20	80	25
SR 66 South Pump Station	30	80	35
Jo Jo Road Pump Station	8	40	13
Zooks/Northwest Pump Station	10	45	15
Northwest Pump Station	30	80	35
West Kane Pump Station	40	80	40

The pumps utilized by the Borough include the following:

- K.S.B. Submersible Pumps
- PumpEx Submersible Pumps
- A.B.S. Submersible Pumps
- E-One Grinder Pumps
- Penn Valley Positive Displacement Pumps
- Portable Submersible Pump
- 4" Whacker Pumps (2)

The Borough keeps spare grinder pumps available for residential replacement and for the Jo-Jo Road Pump Station. Grinder pump maintenance is performed by Trombold Equipment Co.

ATTACHMENT 4

Industrial Waste

INDUSTRIAL WASTE

In accordance with § 94.12(a)(8)

There are no significant industries within the watershed for either WWTP in the Borough of Kane Authority service area. However, as part of everyday operations, the WWTP staff monitors the quality of the wastewater. If any industrial waste flows are present, the Borough will identify them in grab and composite samples, or on their pH chart recorder. Any significant change in its characteristics that could be caused by a non-domestic source would trigger the implementation of the proper steps for tracing the contamination to the source and taking the proper steps for bringing the discharger into compliance with the existing sewer use ordinance adopted by the Borough on March 9, 1998.

ATTACHMENT 5

Sewage Sludge Management Inventory

SEWAGE SLUDGE MANAGEMENT INVENTORY

Sludge produced at both WWTPs is dewatered at the Kinzua Road WWTP. In addition, the Borough receives and processes sludge from the Kane Pennsylvania American Water Company plant. The WWTP maintains manifest forms on all sludge received at the Kinzua Road WWTP for processing. During 2018, 52.34 dry tons of sludge were produced and disposed of at the Casella McKean County Landfill (Permit No. 100361). A total of 15.69 dry tons of sludge was removed from the Pine Street WWTP.

Table 2: Sludge Inventory

Month	Dry Tons
January	0.00
February	0.00
March	0.00
April	0.00
May	0.00
June	0.00
July	9.52
August	0.00
September	6.17
October	0.00
November	0.00
December	0.00
Total	**15.69**

Solids Management (Sludge) Calculator

This worksheet calculates the expected sludge volume that should be produced by various treatment processes over a one-year period. Enter data into green cells - hit the Tab key to move between cells. Red cells are calculated.

Facility Name: **Pine Street WWTP** Permit No.: **PA0023167**

Enter Date *Enter Date*

Evaluation Period: **1/1/2018** to **12/31/2018**

Design Flow: **1.5** MGD Actual Annual Average Flow: **0.652** MGD

Type of Biological Treatment Process: **Sequencing Batch Reactor** Treatment Factor: **0.65**

Type of Digestion Process: **Aerobic Digestion, HDT= >30** Digestion Factor: **0.65**

Total Population Served by Treatment Plant: **2,685**

Average Annual Influent BOD5 Load (per Ch. 94 Report): **631.0** lbs/day

Average Annual Influent BOD5 Load (Expected based on Population): **456.5** lbs/day *(Population x 0.17)*

% of Influent BOD5 Load per Ch. 94 Report / Influent Load Expected: **138.2%** *(Influent Load per Ch. 94 Report / Influent Load based on Population)*

Average Annual Effluent Concentration of **CBOD5** : **2.167** mg/L ***Assume 2.6004 mg/L BOD5***

Average Annual Pounds (lbs) of BOD5 Discharged: **14.14** lbs/day *(Actual Flow x Effluent BOD5 Concentration x 8.34)*

Influent BOD5 Load per Person per Day (based on Ch. 94): **0.235** *(Influent BOD5 Load per Ch. 94 Report / Population - 0.17 to 0.22 is typical)*

Pounds of BOD5 Removed (based on Ch. 94): **616.9** lbs/day *(Influent BOD5 Load per Ch. 94 Report - BOD5 Discharged)*

Pounds of BOD5 Removed (based on Population): **442.3** lbs/day *(Influent BOD5 Load Expected based on Population - BOD5*

Sludge Removed from Treatment Plant (Previous Year): **27.1** Dry Tons = **54,260** Dry lbs

Sludge Production and Wasting Calculations

Based on Chapter 94 Report		*Based on Population*	
616.9	BOD5 Removed / Day (lbs)	**442.3**	BOD5 Removed / Day (lbs)
X **0.65**	Treatment Factor	X **0.65**	Treatment Factor
400.96	Daily Solids Production (lbs)	**287.50**	Daily Solids Production (lbs)
X **0.65**	Digestion Factor	X **0.65**	Digestion Factor
260.62	Daily Digested Solids (lbs)	**186.88**	Daily Digested Solids (lbs)
X **365**	Days per Year	X **365**	Days per Year
95,128	Solids Generated / Year (lbs)	**68,210**	Solids Generated / Year (lbs)
- **54,260**	Solids Actually Wasted / Year (lbs)	**54,260**	Solids Actually Wasted / Year (lbs)
40,868	Difference (lbs)	***13,950***	Difference (lbs)
57%	% of Expected Volume Wasted *(85 - 115% is generally acceptable)*	**80%**	% of Expected Volume Wasted *(85 - 115% is generally acceptable)*
1.5%	Percent Solids of Wasted Solids	**18.0%**	Percent Solids of Removed Solids
760,412	Volume of Solids to Remove Annually (gallons)	**45,437**	Volume of Solids to Remove Annually (gallons)
- **433,733**	Volume of Solids Actually Removed Annually (gallons)	- **36,144**	Volume of Solids Actually Removed Annually (gallons)
326,679	Difference (gallons)	***9,292***	Difference (gallons)

ATTACHMENT 6

Flow Meter Calibration Certificate

ROBERT E. BECK
3657 W. 26TH STREET
ERIE, PA 16506
(814) 833-3261

TRI-STATE INSTRUMENTS

FOR ALL YOUR PROCESS CONTROL NEEDS!

CUSTOMER SERVICE INVOICE

INVOICE # 2777 DATE: 2/20/18

PERIOD OR DATE WORK PERFORMED: 1/29/18

CUSTOMER: KANE BOROUGH P.O.#:
112 BOYD ST
KANE, PA 16735

JOB SITE: WWTP SITE 1+2

WORK DESCRIPTION: SEE ATTACHED

SERVICE REPRESENTATIVE: ROBERT E. BECK

TOTAL HOURS (REG.)	8.5 @ 80	PER HOUR $	680.00
TOTAL HOURS (O.T.)	@	PER HOUR $	
TOTAL PARTS		$	
TOTAL MILES	202 @ .80	PER MILE $	161.60
EXPENSES (TOLLS, ROOM, MEALS)		$	
SHIPPING OR MISCELLANEOUS		$	
SALES TAX (EXEMPTION NO.)		$	
TOTAL AMOUNT DUE		$	841.60

TERMS: NET PAYABLE 30 DAYS

THANK YOU: Robert E Beck
ROBERT BECK

ROBERT E. BECK
3657 W. 26TH STREET
ERIE, PA 16506
(814) 833-3261

TRI-STATE INSTRUMENTS

FOR ALL YOUR PROCESS CONTROL NEEDS!

CUSTOMER SERVICE REPORT

CUSTOMER: BOROUGH OF KANE

JOB SITE: WWTP SITE 1 & 2

P.O. #

INST. SER. NO.

INST. MODEL NO.

****

PARTS DESCRIPTION	PART NUMBER	QUANTITY	AMOUNT

WORK DESCRIPTION
CHECKED CAL OF RECORDERS, TOTALIZERS FLOWMETERS & PH METER @ BOTH SITES, ALL OK

PARTS TOTAL
TOTAL HRS (REG): 8.5 @ 80 PER HR 680.00
TOTAL HRS (O.T.) @ PER HR
TOTAL MILES 202 @ .81 PER MILE 161.60
EXPENSES (TOLLS, RM, MEALS)
SHIPPING OR MISCELLANEOUS
SALES TAX
TOTAL AMOUNT DUE $ 841.60

SERVICE REPRESENTATIVE: Robert E. Beck

DATE WORK PERFORMED: 1/29/18

CUSTOMER VERIFICATION

TECsmith

TECSMITH, Inc.
PO Box 383
Elma, New York 14059-0383
Tel: 716-687-1418
Fax: 716-655-3369

June 28, 2018

Philip Lingenfelter
WWTP Foreman
Borough of Kane
112 Bayard Street
Kane, PA 16735

Flow Meter Calibrations

Dear Philip:

This letter certifies that we calibrated the Hach FL1500 flow meter that monitors the bypass outfall on June 25, 2018. We installed your new Hach FL15000, calibrated the submerged a/v probe, adjusted the level measurement to reflect actual in-pipe conditions. We also connected your rain gauge, sampler trigger line, and relays to the new FL1500.

This equipment is currently operating within the manufacturers' specifications and the data being recorded is reliable.

I have attached our field sheets and calibration certificates for your use.

Please call me if you have any questions.

Sincerely,
TEC*smith*

Patrick M. Gronachan
Operations Manager

Attachments

Calibration Certificates
Field Sheets

Certificate of Calibration

This Certifies that this instrument was calibrated according to the Manufacturer's guidelines on the date indicated.

Date: June 25, 2018 By: P. Gronachan, K. Knoell,

Location: Kane Pennsylvania Pine Street Sewage Treatment Plant

Instrument: Hach FL1500 with AV9000S and submerged velocity sensor

Serial Number / Site I.D. Kane Pine Street (1805590053636)

Calibration Equipment Used: 1/16" Graduated Measurement Rod

Calibration Procedure Reference: Submerged Area/Velocity Sensor and AV9000 08/2017, Edition 8

Published Accuracy Standards: Level = ±0.25% full scale ±2.1% of reading from 0 to 70 °C (32 to 158 °F)
Velocity = ± 2% of reading (in water with uniform velocity profile)

Calibration Results:	**AS FOUND**	**MEASURED**	**AS LEFT**	**DEVIATION**	**PASS/FAIL**
Level (in)	0.00	0.00	0.00	0.000	PASS
Velocity (fps)	0.00	-----	0.00	-----	PASS
Flow (mgd)	0.00	-----	0.00	-----	PASS
Out of Pipe Calibration:					
Level (in)	-----	0.00	0.00	0.00	PASS

Patrick M Gronach

Operations Manager

PATRICK M. GRONACHAN
PRINTED NAME

TEC*smith*
PO Box 383
Elma, New York 14059
716 687 1418

INSTALLATION SHEET

TECsmith Environmental

SITE DATA

SITE	KanePine Street	I.D.		JOB NO.	KAN001
METER MODEL	FL1500	SERIAL NO	180559005363	SENSOR SN.	
DATE	06/25/16	TIME	1:38 AM	CREW	PG KK
RIM TO INVERT	5"	PIPE SIZE	24"	LOCATION	Downstream

INITIAL READINGS

LEVEL	0.000	INCHES	SILT	0.000	INCHES
FLOW	0	MGD	PIPE TYPE	PVC	
TOTAL		GAL x 1000	FLOW CON.	NONE	
VEL	0.00	FPS	ADDRESS	Kane Pine Street WWTP	
SIGNAL		%			
BATTERY	ac	VDC			

ACTUAL MEASURMENTS

Level 1	0	Measured	0	Velocity	
Level 2		Measured		Measured	

WORK COMPLETED:			
INSTALL	☑	CHANGE BATTERIES	☐
DOWNLOAD	☐	MEMORY BATTERIES	☐
CHECK LEVEL\ LEVEL ADJUST	☑	TROUBLESHOOT	☐
CALIBRATE	☑	CLEAN PROBE	☐
REMOVE	☐	PURGE LINE	☐
REINSTALL	☐	TECSMITH BANDING	☐
CHANGE DESICCANT	☐	SET TIME AND DATE	☑
		MANHOLE ENTERY	☑

NOTES:

ATTACHMENT 7

CSO Report

BOROUGH OF KANE – PINE STREET WWTP

McKean County, Pennsylvania

Annual Combined Sewer Overflow Status Report
Operating Year 2018

1.0 Introduction

The Borough of Kane, Pine Street Wastewater Treatment Plant (WWTP) is operated under National Pollutant Discharge Elimination System (NPDES) Permit No. PA0023167. As required by the NPDES Permit, the Borough is required to submit an Annual Combined Sewer Overflow (CSO) Status Report to the Pennsylvania Department of Environmental Protection (PADEP) on March 31 of each year with the annual Municipal Wasteload Management Report required by 25 PA Code Chapter 94, Section 94.12. This report is intended to meet those requirements.

The Borough owns and maintains three (3) CSO outfalls which serve as combined sewer overflows necessitated by storm water entering the sewer system and exceeding the hydraulic capacity of the sewers and/or the treatment plant and are permitted to discharge only for such reason. The permitted CSO outfalls and their locations are listed as follows:

- 001 – Pine Street WWTP
- 002 – Kinzua Road WWTP
- 003 – Bayard-Dawson

2.0 Summary of CSO Discharges for 2018

During the operating year 2018, CSO discharges occurred within the Borough of Kane – Pine Street WWTP combined sewer system. Each discharge is monitored for cause, frequency, duration and quantity of flow. The data is recorded and reported as an attachment to the monthly discharge monitoring report (DMR) using the Department-provided DMR for CSOs. Monitoring is performed in compliance with the requirements of the NPDES Permit. A summary of the total monthly and annual wet weather CSO discharges for each outfall is included in this Attachment.

3.0 Water Quality Impacts

CSOs contain untreated domestic, commercial and industrial wastes, as well as surface runoff. Thus, many different types of contaminants may be present in the discharges. Contaminants may include pathogens, oxygen-demanding pollutants, suspended solids, nutrients, toxics and floatable matter. The presence of such contaminants in CSOs can cause a variety of adverse impacts on the physical characteristics of surface water, impair the viability of aquatic habitats, and pose a potential threat to drinking water supplies.

4.0 Implementation of the Nine Minimum Controls

The Nine Minimum Controls (NMCs) are identified in the Environmental Protection Agency (EPA) CSO Control Policy as minimum technology-based controls that can be used to address CSO problems

without extensive engineering studies or significant construction costs, prior to the implementation of long-term control measures.

The Borough continues its efforts to implement the NMCs and these efforts are outlined as follows:

1. Proper operation and regular maintenance programs for the sewer system and the CSOs

   The intent of this control is to establish written procedures for CSO operation and maintenance (O&M) management activities throughout the entire collection system and to incorporate those procedures into a CSS Operation and Maintenance Program. Maintenance and repair of the sewer system is carried out under the supervision of the Wastewater Treatment Plant Supervisor. A portion of the Authority's efforts for this control involve regular inspection and maintenance of the CSOs.

2. Maximum use of the collection system for storage

   Maximum use of the collection system means making simple modifications to the CSS to enable the system to store more wet weather flows until downstream treatment facilities can handle them. The Authority's staff continuously monitors and inspects all the regulator structures. These inspections enable them to identify any physical deficiencies that restrict the use of the system's available storage capacity. The Authority also conducts inspections and cleaning of the collection system. The Authority makes every effort possible to maximize storage within the collection system. The regulator gates are set to achieve maximum storage.

3. Review and modification of pretreatment requirements to assure CSO impacts are minimized

   No heavy industries discharge into the sewer system. However, as part of everyday operations, the WWTP staff monitors the quality of the wastewater. If any industrial waste flows are present, the Borough will identify them in grab and composite samples, or on their pH chart recorder.

4. Maximization of flow to the publicly owned treatment works for treatment

   The intent of this control is to implement practices, procedures and minor modifications to the CSS and wastewater treatment plant to enable as much wet weather flow as possible to reach the treatment facilities for proper treatment. The Authority makes all efforts possible to maximize flow to the treatment plant. The regulator gates are adjusted as necessary to maximize this effort.

5. Prohibition of CSOs during dry weather

   This measure's intent in accordance with the "Guidance for Nine Minimum Controls" is to closely monitor overflows and implement all measures necessary to ensure that there are no

CSOs occurring during dry weather periods. In accordance with the CSS O&M Program, the Authority's staff conducts scheduled and non-scheduled inspections of all CSS facilities. Dry weather CSO discharges are prohibited, and none were experienced during the operating year 2018.

6. Control of solid and floatable materials in CSOs

   The intent of this measure is to reduce solids and floatables using relatively simple methods. The Pine Street WWTP regulator contains a screen which collects solids. The solids are then removed by Authority personnel. These efforts help to control solids and floatables in the CSO.

7. Pollution prevention

   The objective of this control is to reduce to the greatest extent possible the amount of contaminants that may enter the sewer system. The screens in the CSO regulators collect solids and floatables that make it into the sewer system. Authority personnel clean the regulators on a routine basis.

8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts

   The public should be notified of CSO occurrences and CSO impacts as they may cause harm, particularly in sensitive areas. Public notifications are reported in The Borough's newspaper; The Kane Republican. Public education is also initiated through Sewer Authority Meetings and Borough Council Meetings.

9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls

   This control involves visual inspection or other simple methods to determine the occurrence and apparent impact of a CSO. The Borough has installed flow meters to monitor overflows at each outfall. Total daily rainfall is monitored using a rain gauge.

January-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	12-Jan	Rain/Snow Melt 2.99"	17.33	*4.25
002	Kinzua Road WWTP	11-Jan	Rain/Snow Melt 0.75"	11.25	1.932
		12-Jan	Rain/Snow Melt 2.24"	11.83	0.414
		23-Jan	Rain/Snow Melt 0.32"	0.66	0.007
003	Bayard - Dawson	11-Jan	Rain/Snow Melt 0.75"	11.25	U
		12-Jan	Rain/Snow Melt 2.24"	11.83	U

February-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	25-Feb	Rain/Snow Melt 0.59"	1	*3.7
002	Kinzua Road WWTP	25-Feb	Rain/Snow Melt 0.59"	1.25	**U
003	Bayard - Dawson	No Overflows Recorded			

** A loose sensor bracket caused erroneous readings problem repaired 2/28

March-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	1-Mar	Heavy Rain 1.79"	6.75	*4.20
002	Kinzua Road WWTP	1-Mar	Heavy Rain 1.79"	10.5	0.626
003	Bayard - Dawson	1-Mar	Heavy Rain 1.79"	10.5	U

April-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	4-Apr	Heavy Rain 0.50"	0.5	*3.9
		16-Apr	Heavy Rain 1.65"	3.75	4.1
002	Kinzua Road WWTP	4-Apr	Heavy Rain 0.50"	0.8	0.034
		16-Apr	Heavy Rain 1.65"	8.75	0.297
003	Bayard - Dawson	No Overflows Recorded			

May-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	12-May	Heavy Rain 2.09"	5.25	*4.25
		21-May	Heavy Rain 0.91	1.25	*4.05
002	Kinzua Road WWTP	12-May	Heavy Rain 2.09"	9.66	0.783
		19-May	Heavy Rain 0.44"	0.33	0.014
		22-May	Heavy Rain 0.61"	0.5	0.03
		31-May	Heavy Rain .72"	0.25	0.004
003	Bayard - Dawson	12-May	Heavy Rain 2.09"	9.66	U

June-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	18-Jun	Heavy Rain: 1.00"	15.33	*3.75
002	Kinzua Road WWTP	18-Jun	Heavy Rain: 0.96"	0.75	0.053
		24-Jun	Heavy Rain: 0.44"	0.165	0.003
		28-Jun	Heavy Rain: 1.01"	0.5	0.019
003	Bayard - Dawson	No Overflows Recorded			

July-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	5-Jul	Heavy Rain: 1.14"	1.75	0.112
002	Kinzua Road WWTP	5-Jul	Heavy Rain: 0.85"	4.25	0.504
		22-Jul	Heavy Rain: 1.6"	1.5	0.039
		25-Jul	Heavy Rain: 0.67"	0.33	0.017
003	Bayard - Dawson	No Overflows Recorded			

August-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	21-Aug	Heavy Rain: 1.93"	2.15	0.063
002	Kinzua Road WWTP	17-Aug	Heavy Rain: 0.41"	0.12	0.001
		21-Aug	Heavy Rain: 1.75"	4.83	0.365
		22-Aug	Heavy Rain: 0.60"	0.33	0.005
003	Bayard - Dawson	No Overflows Recorded			

September-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	10-Sep	Heavy Rain: 1.5"	2.75	0.175
002	Kinzua Road WWTP	10-Sep	Heavy Rain: 0.86"	5.6	0.422
		21-Sep	Heavy Rain: 0.46"	0.33	0.022
		26-Sep	Heavy Rain: 0.89"	1	0.012
003	Bayard - Dawson	10-Sep	Heavy Rain: 0.86"	5.6	U

October-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	6-Oct	Heavy Rain: 0.70"	1	0.044
		27-Oct	Heavy Rain: 1.74"	2.33	0.019
002	Kinzua Road WWTP	2-Oct	Heavy Rain: 0.97"	0.5	0.008
		4-Oct	Heavy Rain: 0.48"	0.75	0.029
		6-Oct	Heavy Rain: 0.76"	1.75	0.147
		27-Oct	Heavy Rain: 1.81"	6	0.201
003	Bayard - Dawson	27-Oct	Heavy Rain: 1.81"	6	U

November-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measured Flow (mg)
001	Pine Street WWTP	26-Nov	Heavy Rain/ Snow Melt: 0.83"	6.15	0.111
002	Kinzua Road WWTP	6-Nov	Heavy Rain: 0.66"	1.25	0.013
		26-Nov	Heavy Rain/Snow Melt: 0.83"	8.75	0.349
003	Bayard - Dawson	26-Nov	Heavy Rain/ Snow Melt: 0.83"	8.75	U

December-18					
Outfall Number	Location	Date	Cause	Duration (hours)	Measuerd Flow (mg)
001	Pine Street WWTP	21-Dec	Snow Melt/Heavy Rain: 1.48"	0.75	0.007
		31-Dec	Snow Melt/Heavy Rain: 1.12"	1.75	0.073
002	Kinzua Road WWTP	21-Dec	Snow Melt/Heavy Rain: 1.48"	2.5	0.076
		31-Dec	Snow Melt/Heavy Rain: 1.12"	4	0.19
003	Bayard - Dawson	31-Dec	Snow Melt/Heavy Rain: 1.12"	4	U

U= Unmeasured

*Peak flow through PTS was recorded above. Overflow is blended in cCT, discharged w/001. The Sigma flow meter was malfunctioning during overflow events and was replaced in July 2018.

MOUNTAIN RESEARCH, LLC

Corporate Office and Laboratory
825 25th Street
Altoona, PA 16601
814.949.2034 Phone
800.837.4674 Toll Free
814.949.9591 Fax

DuBois Office and Laboratory
110 McCracken Run Road
DuBois, PA 15801
814.371.6030 Phone
814.375.0823 Fax

Hydrochem Laboratories
85 Potomac Avenue
Shenandoah Junction, WV 25442
(304) 930-1972
Fax (304) 930-1975

03 July 2018

Philip Lingenfelter
Kane Borough
112 Bayard Street
Kane, PA 16735

Lab ID #: 8060519

RE: WWTP Analysis for NPDES Permit

Enclosed are the results of analyses for samples received by the laboratory on 06/19/18 15:22. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Megan Davidson-Rager

Megan Davidson-Rager
Project Manager

Authorized Reviewer

MOUNTAIN RESEARCH, LLC

Corporate Office and Laboratory
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Altoona, PA 16601
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(304) 930-1972
Fax (304) 930-1975

Kane Borough
112 Bayard Street
Kane PA, 16735

Project Name: WWTP Analysis for NPDES Permit
Project Number: 6094.10.01.01
Lab Project Manager: Megan Davidson-Rager

Lab ID#: 8060519
Reported: 07/03/18 11:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
Pine Street - Influent	8060519-01	Aqueous	Composite	06/18/18 07:30 to 06/19/18 07:30	06/19/18 15:22
Pine Street Effluent Grab	8060519-02	Aqueous	Grab	06/19/18 09:15	06/19/18 15:22
Pine Street - Effluent	8060519-03	Aqueous	Composite	06/18/18 07:30 to 06/19/18 07:30	06/19/18 15:22

Mountain Research, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

MOUNTAIN RESEARCH, LLC

Corporate Office and Laboratory
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Kane Borough
112 Bayard Street
Kane PA, 16735

Project Name: WWTP Analysis for NPDES Permit
Project Number: 6094.10.01.01
Lab Project Manager: Megan Davidson-Rager

Lab ID#: 8060519
Reported: 07/03/18 11:09

Pine Street - Influent

8060519-01 (Aqueous) Sampled: 06/19/18 07:30

Analyte	Result	RL	Units	Prepared	Analyzed	Prep Method	Method	Lab	Analyst	Notes
Mountain Research, LLC										
General Chemistry by Discrete Analyzer										
Ammonia	**6.54**	0.0439	mg/L	06/28/18 10:15	06/29/18 11:59	SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	LRB	
Total Nitrogen (NO2+NO3+TKN) Calculation	**32.2**	2.00	mg/L	06/27/18 15:25	06/27/18 18:09	[CALC]	CALC		LRB	
Nitrate + Nitrite	**0.957**	0.0355	mg/L	06/27/18 15:25	06/27/18 18:09		SM(22) 4500-NO3 E-2000	A	LRB	
TKN	**31.2**	2.00	mg/L	06/25/18 14:04	06/26/18 11:12	SM 4500-Norg-C/ SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	LRB	
General Chemistry										
Biochemical Oxygen Demand	**175**	2.00	mg/L	06/20/18 10:00	06/25/18 10:25		SM(22) 5210 B-2001	D	MAD	
Total Suspended Solids	**372**	2.50	mg/L	06/21/18 17:00	06/21/18 17:00		SM(22) 2540 D-1997	D	SAR	L
Phosphorus, Total	**4.97**	0.297	mg/L	06/27/18 10:30	06/27/18 13:24	SM 4500-P B	SM(22) 4500-P E-1999	A	STG	D1
Metals by ICP										
Copper	**0.101**	0.00200	mg/L	06/20/18 10:00	06/20/18 16:40	EPA 200.2 (Rev. 2.8)	EPA 200.7 (Rev 4.4-1994)	A	RJD	
Volatile Organic Compounds by GC/MS										
Bromodichloromethane	<0.260	0.260	µg/L	06/28/18 22:54	06/28/18 22:54		EPA 624	A	JMG	
Dibromochloromethane	**0.370**	0.330	µg/L	06/28/18 22:54	06/28/18 22:54		EPA 624	A	JMG	J
Surrogate: 1,2-Dichloroethane-d4		*94.7 %*	*80-120*	*06/28/18 22:54*	*06/28/18 22:54*	*EPA 624*				
Surrogate: 4-Bromofluorobenzene		*105 %*	*80-120*	*06/28/18 22:54*	*06/28/18 22:54*	*EPA 624*				
Surrogate: Dibromofluoromethane		*98.8 %*	*80-120*	*06/28/18 22:54*	*06/28/18 22:54*	*EPA 624*				
Surrogate: Toluene-d8		*95.4 %*	*80-120*	*06/28/18 22:54*	*06/28/18 22:54*	*EPA 624*				

Mountain Research, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

MOUNTAIN RESEARCH, LLC

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Fax (304) 930-1975

Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8060519
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:** 07/03/18 11:09
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	

Pine Street Effluent Grab

8060519-02 (Aqueous) Sampled: 06/19/18 09:15

Analyte	Result	RL	Units	Prepared	Analyzed	Prep Method	Method	Lab	Analyst	Notes
Mountain Research, LLC										
General Microbiology										
Fecal Coliform	**34.500**	1.0000	MPN/100 ml	06/19/18 16:10	06/20/18 10:15		Colilert-18	D	SAR	

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

MOUNTAIN RESEARCH, LLC

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Altoona, PA 16601
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(304) 930-1972
Fax (304) 930-1975

Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8060519
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:** 07/03/18 11:09
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	

Pine Street - Effluent

8060519-03 (Aqueous) Sampled: 06/19/18 07:30

Mountain Research, LLC

Analyte	Result	RL	Units	Prepared	Analyzed	Prep Method	Method	Lab	Analyst	Notes
General Chemistry by Discrete Analyzer										
Ammonia	**0.259**	0.0439	mg/L	06/28/18 10:15	06/29/18 12:03	SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	LRB	J
Total Nitrogen (NO2+NO3+TKN) Calculation	**5.52**	2.00	mg/L	06/27/18 15:25	06/27/18 18:11	[CALC]	CALC		LRB	
Nitrate + Nitrite	**3.40**	0.0355	mg/L	06/27/18 15:25	06/27/18 18:11		SM(22) 4500-NO3 E-2000	A	LRB	
TKN	**2.11**	2.00	mg/L	06/25/18 14:04	06/26/18 11:14	SM 4500-Norg-C/ SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	LRB	
General Chemistry										
Carbonaceous Biochemical Oxygen Demand	**2.77**	2.00	mg/L	06/20/18 10:00	06/25/18 11:00		SM(22) 5210 B-2001	D	MAD	
Total Suspended Solids	**5.20**	2.50	mg/L	06/21/18 17:00	06/21/18 17:00		SM(22) 2540 D-1997	D	SAR	L
Phosphorus, Total	**1.04**	0.0297	mg/L	06/27/18 10:30	06/27/18 13:24	SM 4500-P B	SM(22) 4500-P E-1999	A	STG	
Metals by ICP										
Copper	**0.00603**	0.00200	mg/L	06/20/18 10:00	06/20/18 16:42	EPA 200.2 (Rev. 2.8)	EPA 200.7 (Rev 4.4-1994)	A	RJD	
Volatile Organic Compounds by GC/MS										
Bromodichloromethane	**2.06**	0.260	µg/L	06/28/18 23:20	06/28/18 23:20		EPA 624	A	JMG	
Dibromochloromethane	<0.330	0.330	µg/L	06/28/18 23:20	06/28/18 23:20		EPA 624	A	JMG	
Surrogate: 1,2-Dichloroethane-d4		*92.3 %*	*80-120*	*06/28/18 23:20*	*06/28/18 23:20*	*EPA 624*				
Surrogate: 4-Bromofluorobenzene		*109 %*	*80-120*	*06/28/18 23:20*	*06/28/18 23:20*	*EPA 624*				
Surrogate: Dibromofluoromethane		*98.2 %*	*80-120*	*06/28/18 23:20*	*06/28/18 23:20*	*EPA 624*				
Surrogate: Toluene-d8		*100 %*	*80-120*	*06/28/18 23:20*	*06/28/18 23:20*	*EPA 624*				

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

MOUNTAIN RESEARCH, LLC

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Fax (304) 930-1975

Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8060519
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:**
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	07/03/18 11:09

Certifications

Code	Description	Number	Expires
MDDOE	Maryland Department of the Environment	257	06/30/2018
PADEP-Altoona	Pennsylvania Department of Environmental Protection	009	03/31/2019
WVDEP	West Virginia Department of Environmental Protection	225	12/31/2018
PADEP-DuBois	Pennsylvania Department of Environmental Protection	008	09/30/2018
WVDEP-HydroChem	West Virginia Department of Environmental Protection	038	11/01/2018

Notes and Definitions

L	The laboratory fortified blank did not meet laboratory acceptance criteria. The associated analytical results may be biased high.
J	The analyte is considered to be present at a confidence level of 99% but the numerical value associated with the result is an estimated quantity because it falls below the PQL and at or above the MDL.
D1	The sample was analyzed at a dilution.
RL	Reporting Limit - either the practical quantitation limit or the method detection limit
dry	Sample results reported on a dry weight basis
A	Analysis Performed by Mountain Research Altoona Laboratory - PADEP #07-00418, WVDEP #225
D	Analysis Performed by Mountain Research DuBois Laboratory - PADEP # 33-00258
W	Analysis Performed by Mountain Research - HydroChem Laboratory - WVDEP #038

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

CLIENT PROJECT #	MRI PROJECT NAME:
6094	NPDES ANALYSIS
MRI PROJECT #:	**SITE LOCATION:**
6094.10.01.01	PINE STREET

CLIENT: BOROUGH OF KANE

SAMPLER (print full name): Jason Giordano

MOUNTAIN RESEARCH, LLC - DUBOIS OFI
110 McCracken Run Road
DuBois, PA 15801
Phone: (814) 371-6030 Fax: (814) 375-0

CHAIN OF CUSTODY RECOF

ON ICE: ☑ YES ☐ NO

SAMPLE TEMP: 3.3 °C

CONTACT: PHIL LINGENFELTER - (814) 837-6201 - Kinzua Avenue
(814) 366-0737 - Cell Phone
(814) 366-0738 - Duty Cell

TODD MESEROLE (814) 837-6041 - Pine Street

ADDRESS: 112 BAYARD STREET, KANE, PA 16735

COMMENTS:

SAMPLE TYPE CODE

DW DRINKING WATER SO SOLID AQ AQUEOUS

PRESERVATIVE LIST:

1 - NONE
2 - NAzS2O3
3 - H2SO4
4 - NAOH
5 - HNO3
6 - HCl
7 - ASCORBIC ACID
8 - OTHER

FIELD ID.NO.	LOCATION	DATE	TIME	GRAB	COMP	SAMPLE TYPE (SEE CODE LIST)	NUMBER & TYPE OF CONTAINERS	PARAMETERS: BOD	TSS	COPPER	TOTAL NITROGEN	NH3-N	NO2+NO3	TOTAL PHOSPHORUS	FECAL COLIFORM	CBOD	VOLATILES (CHLORODIBROMOMETHANE, DICHLORODIBROMOMETHANE)	PRESERV.	LAB NUMBER
PINE STREET	INFLUENT	START 6-18-18 / END 6-19-18	START 0730 / END 0730		X	AQ	1 - 500ml plastic	X										1	-01
							1 - 1 ltr plastic		X									1	
							1 - 500ml plastic			X								5	
							1 - 500ml plastic				X	X	X	X				3	
							8 - 40 mL Vials										X	6	
PINE STREET	EFFLUENT	6-19-18	0915	X		AQ	1 - 4oz sterile plastic								X			2	-02
PINE STREET	EFFLUENT	START 6-18-18 / END 6-19-18	START 0730 / END 0730		X	AQ	1 - 1 ltr plastic		X									1	-03
							1 - 500ml plastic			X								5	
							1 - 500ml plastic				X	X	X	X				3	
							1 - 1 ltr plastic									X		1	
							8-40 mL Vials										X	6	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	Logged In By:	Labeled By:	SPECIAL HANDLING
Jason Giordano	6-19-18	1123		6/19/18	1143	SSA 6/19/18		RUSH / NORMAL
RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:	DATE	TIME	COC #	Scheduled By:	FAX / QA/QC
				6/19/18	1522	8060519		

METHOD OF DELIVERY:
☐ HAND DELIVER ☐ UPS ☑ SAMPLE RUNNER
☐ U.S. MAIL ☐ FEDEX ☐ OTHER

MOUNTAIN RESEARCH SAMPLE RECEIPT PROTOCOL

WORK ORDER: 8060519

CLIENT: Borough of Kane

DATE SAMPLED: 6/18-19/18 DATE RECEIVED: 6/19/18 TIME RECEIVED: 1522

1. CHECK ALL THAT APPLY: PA ☑ WV ☐ MD ☐ P W S ☐ NPDES/COMPLIANCE ☑ DAIRY ☐ RUSH ☐

2. WERE ANY OF THE SAMPLE CONTAINERS DAMAGED/LEAKING? (ARE CUSTODY SEALS BROKEN?) YES ☐ NO ☑

IF YES, EXPLAIN: _____

3. NUMBER OF CONTAINERS RECEIVED: 25

4. WERE THE SAMPLES RECEIVED ON ICE/OTHER ACCEPTABLE REFRIGERANT? YES ☑ NO ☐

IF NO, EXPLAIN: _____

5. RECEIVING TEMP: 3.3 °C TEMP CONTROL(S) PRESENT YES ☐ NO ☐ BOTTLE(S) TEMPED: 25

6. WERE THE SAMPLES PROPERLY PRESERVED? YES ☑ NO ☐

IF NO, EXPLAIN: _____

7. WERE THE SAMPLES COLLECTED IN THE CORRECT CONTAINERS? YES ☑ NO ☐

IF NO, EXPLAIN: _____

8. IS THERE HEADSPACE PRESENT FOR VOLATILES/ODOR SAMPLES? YES ☐ NO ☑ N/A ☐

9. WAS THE COC FILLED OUT PROPERLY? YES ☑ NO ☐

IF NO, EXPLAIN: _____

10. DID THE SAMPLE LABEL(S) CONTAIN ADEQUATE INFO? (CLIENT/DATE/TIME/PRESERVATIVE) YES ☑ NO ☐

IF NO, EXPLAIN: _____

11. WERE ANY OF THE SAMPLES RECEIVED OUTSIDE OF HOLDING TIME? YES ☐ NO ☑

IF YES, EXPLAIN: _____

12. DO THE SAMPLES REQUIRE ANALYSES THAT HAVE A SHORT HOLDING TIME? YES ☑ NO ☐

IF YES, WHAT ANALYSES? CBOD, BOD, Fecal **PLEASE NOTIFY LABORATORY ANALYSTS!**

13. IS SUBCONTRACTING REQUIRED? YES ☐ NO ☑

IF YES, WHAT ANALYSES? _____

14. WAS THE CLIENT CONTACTED? YES ☐ NO ☑ IF YES, FILL OUT THE FOLLOWING:

MR EMPLOYEE INITIALS: _____ CLIENT SPOKEN TO: _____ DATE/TIME: _____

OUTCOME: _____

SIGNATURE: _____

Pine Street WWTP
Laboratory Report

pH

Sample Date	Sample Description	Sample Time	*pH S.U.	Analysis Date/Time	Sampler/Analyst
6/18/2018	**Pine Street WWTP Effluent**	0750 Q	6.63	6/18/18 0759	JG/JG
6/19/2018	**Pine Street WWTP Effluent**	0820 Q	6.61	6/19/18 0829	JG/JG

Dissolved Oxygen

Sample Date	Sample Description	Sample Time	**DO mg/L	Analysis Date/Time	Sampler/Analyst
6/18/2018	**Pine Street WWTP Effluent**	0750 Q	7.24	6/18/18 0755	JG/JG
6/19/2018	**Pine Street WWTP Effluent**	0820 Q	7.11	6/19/18 0825	JG/JG

Total Residual Chlorine

Sample Date	Sample Description	Sample Time	***TRC mg/L	Analysis Date/Time	Sampler/Analyst
6/18/2018	**Pine Street WWTP Effluent**	0750 Q	<0.02	6/18/18 0800	JG/JG
6/19/2018	**Pine Street WWTP Effluent**	0820 Q	<0.02	6/19/18 0830	JG/JG

Sample Location: Effluent Water Tank (after chlorination/dechlorination)

Q indicates quiescent period & **D-#** indicates that # SBR decanting

*pH Method # 4500H+B (Std. Methods, 18th Ed.)

**DO Method # 4500-OG (Std. Methods, 18th Ed.)

***TRC Method # 4500-Cl G (Std. Methods, 18th Ed.)

Pine Street WWTP In-House Laboratory PA DEP Registration # 42-1378

Sampler Start Date: 6/18/2018 Time: 0730 Sampler End Date: 6/19/2018 Time: 0730

Total Flow: 0.635 MG

Was sample a normally scheduled 24hr composite sample with overflow occurring during sampling? Yes

MOUNTAIN RESEARCH, LLC

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Hydrochem Laboratories
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(304) 930-1972
Fax (304) 930-1975

30 April 2018

Philip Lingenfelter
Kane Borough
112 Bayard Street
Kane, PA 16735

Lab ID #: 8040163

RE: WWTP Analysis for NPDES Permit

Enclosed are the results of analyses for samples received by the laboratory on 04/05/18 15:22. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Megan Davidson-Rager

Megan Davidson-Rager
Project Manager

Authorized Reviewer

MOUNTAIN RESEARCH, LLC

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(304) 930-1972
Fax (304) 930-1975

Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8040163
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:** 04/30/18 13:42
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
Pine Street - Influent	8040163-01	Aqueous	Composite	04/04/18 07:30 to 04/05/18 07:30	04/05/18 15:22
Pine Street Effluent Grab	8040163-02	Aqueous	Grab	04/05/18 08:31	04/05/18 15:22
Pine Street - Effluent	8040163-03	Aqueous	Composite	04/04/18 07:30 to 04/05/18 07:30	04/05/18 15:22

Mountain Research, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

MOUNTAIN RESEARCH, LLC

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Hydrochem Laboratories
85 Potomac Avenue
Shenandoah Junction, WV 25442
(304) 930-1972
Fax (304) 930-1975

Kane Borough
112 Bayard Street
Kane PA, 16735

Project Name: WWTP Analysis for NPDES Permit
Project Number: 6094.10.01.01
Lab Project Manager: Megan Davidson-Rager

Lab ID#: 8040163
Reported: 04/30/18 13:42

Pine Street - Influent

8040163-01 (Aqueous) Sampled: 04/05/18 07:30

Analyte	Result	RL	Units	Prepared	Analyzed	Prep Method	Method	Lab	Analyst	Notes
Mountain Research, LLC										
General Chemistry by Discrete Analyzer										
Ammonia	**3.02**	0.0439	mg/L	04/13/18 10:55	04/18/18 11:43	SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	STG	
Total Nitrogen (NO2+NO3+TKN) Calculation	**13.9**	2.00	mg/L	04/16/18 10:03	04/17/18 16:48	[CALC]	CALC		LRB	
Nitrate + Nitrite	**1.47**	0.0355	mg/L	04/11/18 13:02	04/11/18 15:27		SM(22) 4500-NO3 E-2000	A	STG	
TKN	**12.4**	2.00	mg/L	04/16/18 10:03	04/17/18 16:48	SM 4500-Norg-C/ SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	LRB	
General Chemistry										
Biochemical Oxygen Demand	**154**	2.00	mg/L	04/06/18 10:15	04/11/18 11:25		SM(22) 5210 B-2001	D	SAR	
Total Suspended Solids	**148**	2.50	mg/L	04/10/18 15:00	04/10/18 15:00		SM(22) 2540 D-1997	D	BPM	
Phosphorus, Total	**1.75**	0.297	mg/L	04/12/18 11:51	04/12/18 14:02	SM 4500 P-B	SM(22) 4500-P E-1999	A	STG	D1

Pine Street Effluent Grab

8040163-02 (Aqueous) Sampled: 04/05/18 08:31

Analyte	Result	RL	Units	Prepared	Analyzed	Prep Method	Method	Lab	Analyst	Notes
Mountain Research, LLC										
General Microbiology										
Fecal Coliform	**14.500**	1.0000	MPN/100 ml	04/05/18 15:45	04/06/18 10:05		Colilert-18	D	SAR	

Mountain Research, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

MOUNTAIN RESEARCH, LLC

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(304) 930-1972
Fax (304) 930-1975

Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8040163
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:** 04/30/18 13:42
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	

Pine Street - Effluent

8040163-03 (Aqueous) Sampled: 04/05/18 07:30

Analyte	Result	RL	Units	Prepared	Analyzed	Prep Method	Method	Lab	Analyst	Notes
Mountain Research, LLC										
General Chemistry by Discrete Analyzer										
Ammonia	**0.288**	0.0439	mg/L	04/17/18 10:00	04/18/18 12:12	SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	STG	J
Total Nitrogen (NO2+NO3+TKN) Calculation	**2.92**	2.00	mg/L	04/18/18 15:00	04/18/18 16:58	[CALC]	CALC		LRB	
Nitrate + Nitrite	**2.92**	0.0355	mg/L	04/18/18 15:00	04/18/18 16:58		SM(22) 4500-NO3 E-2000	A	STG	
TKN	<2.00	2.00	mg/L	04/16/18 10:03	04/17/18 16:50	SM 4500-Norg-C/ SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	LRB	
General Chemistry										
Carbonaceous Biochemical Oxygen Demand	**1.94**	2.00	mg/L	04/06/18 10:45	04/11/18 13:10		SM(22) 5210 B-2001	D	SAR	K6
Total Suspended Solids	**4.70**	2.50	mg/L	04/10/18 15:00	04/10/18 15:00		SM(22) 2540 D-1997	D	BPM	D2
Phosphorus, Total	**0.386**	0.0297	mg/L	04/12/18 11:51	04/12/18 14:02	SM 4500 P-B	SM(22) 4500-P E-1999	A	STG	

Mountain Research, LLC

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Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

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Shenandoah Junction, WV 25442
(304) 930-1972
Fax (304) 930-1975

Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8040163
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:**
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	04/30/18 13:42

Certifications

Code	Description	Number	Expires
MDDOE	Maryland Department of the Environment	257	06/30/2018
PADEP-Altoona	Pennsylvania Department of Environmental Protection	009	03/31/2018
WVDEP	West Virginia Department of Environmental Protection	225	12/31/2018
PADEP-DuBois	Pennsylvania Department of Environmental Protection	008	09/30/2018
WVDEP-HydroChem	West Virginia Department of Environmental Protection	038	11/01/2018

Notes and Definitions

K6	CBOD estimated, results less than PQL.
J	The analyte is considered to be present at a confidence level of 99% but the numerical value associated with the result is an estimated quantity because it falls below the PQL and at or above the MDL.
D2	The Relative Percent Difference between the sample and its duplicate did not meet laboratory acceptance criteria.
D1	The sample was analyzed at a dilution.
RL	Reporting Limit - either the practical quantitation limit or the method detection limit
dry	Sample results reported on a dry weight basis
A	Analysis Performed by Mountain Research Altoona Laboratory - PADEP #07-00418, WVDEP #225
D	Analysis Performed by Mountain Research DuBois Laboratory - PADEP # 33-00258
W	Analysis Performed by Mountain Research - HydroChem Laboratory - WVDEP #038

Mountain Research, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

CLIENT PROJECT #	MRI PROJECT NAME:
6094	NPDES ANALYSIS
MRI PROJECT #:	**SITE LOCATION:**
6094.10.01.01	PINE STREET

CLIENT: BOROUGH OF KANE

SAMPLER (print full name): Todd Meserole

CONTACT: PHIL LINGENFELTER - (814) 837-6201 - Kinzua Avenue
(814) 366-0737 Cell Phone
(814) 366-0738 Duty Cell

TODD MESEROLE - (814) 837-6041 Pine Street

ADDRESS: 112 BAYARD STREET, KANE, PA 16735

COMMENTS:

SAMPLE TYPE CODE

DW - DRINKING WATER SO - SOLID AQ - AQUEOUS

MOUNTAIN RESEARCH, LLC - DUBOIS OFF
110 McCracken Run Road
DuBois, PA 15801
Phone: (814) 371-6030 Fax: (814) 375-08

CHAIN OF CUSTODY RECOR

ON ICE
☑ YES
☐ NO

SAMPLE TEMP
1.0 °C

PRESERVATIVE LIST:
1 - NONE
2 - NA2S2O3
3 - H2SO4
4 - NAOH
5 - HNO3
6 - HCl
7 - ASCORBIC ACID
8 - OTHER

FIELD ID.NO.	LOCATION	DATE	TIME	GRAB	COMP	SAMPLE TYPE (SEE CODE LIST)	NUMBER & TYPE OF CONTAINERS	BOD ✓	TSS ✓	COPPER	TOTAL NITROGEN	NH3-N	NO2+NO3	TOTAL PHOSPHORUS	FECAL COLIFORM	CBOD ✓	VOLATILES (CHLORODIBROMOMETHANE DICHLOROBROMOMETHANE)	PRESERV.	LAB NUMBER
PINE STREET	INFLUENT	START 4-4-18 / END 4-5-18	START 0730 / END 0730		X	AQ	1 - 500ml plastic	X										1	-01
							1 - 1 ltr plastic		X									1	
							1 - 500ml plastic											5	
							1 - 500ml plastic				X	X	X	X				3	
							8 - 40 mL Vials											6	
PINE STREET	EFFLUENT	4-5-18	0831	X		AQ	1 - 4oz sterile plastic								X			2	-02
PINE STREET	EFFLUENT	START 4-4-18 / END 4-5-18	START 0730 / END 0730		X	AQ	1 - 1 ltr plastic		X									1	-03
							1 - 500ml plastic											5	
							1 - 500ml plastic				X	X	X	X				3	
							1 - 1 ltr plastic									X		1	
							8-40 mL Vials											6	

RELINQUISHED BY: Todd Meserole	DATE 4-5-18	TIME 1045	RECEIVED BY:	DATE 4/5/18	TIME 1045	Logged In By: JSA 4/5/18	Labeled By:	SPECIAL HANDLING: RUSH / NORMAL
RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:	DATE 4/5/18	TIME 1522	COC # 8040163	Scheduled By:	FAX / QA/QC

METHOD OF DELIVERY:
☐ HAND DELIVERY ☐ UPS ☑ SAMPLE RUNNER
☐ U S MAIL ☐ FEDEX ☐ OTHER

MOUNTAIN RESEARCH SAMPLE RECEIPT PROTOCOL

WORK ORDER: 8040163

CLIENT: Borough of Kane

DATE SAMPLED: 4/4-5/18 DATE RECEIVED: 4/5/18 TIME RECEIVED: 1522

1. CHECK ALL THAT APPLY: PA ☑ WV ☐ MD ☐ P W S ☐ NPDES/COMPLIANCE ☑ DAIRY ☐ RUSH ☐

2. WERE ANY OF THE SAMPLE CONTAINERS DAMAGED/LEAKING? (ARE CUSTODY SEALS BROKEN?) YES ☐ NO ☑

IF YES, EXPLAIN: _____

3. NUMBER OF CONTAINERS RECEIVED: 7

4. WERE THE SAMPLES RECEIVED ON ICE/OTHER ACCEPTABLE REFRIGERANT? YES ☑ NO ☐

IF NO, EXPLAIN: _____

5. RECEIVING TEMP: 1.0 °C TEMP CONTROL(S) PRESENT YES ☐ NO ☐ BOTTLE(S) TEMPED: 7

6. WERE THE SAMPLES PROPERLY PRESERVED? YES ☑ NO ☐

IF NO, EXPLAIN: _____

7. WERE THE SAMPLES COLLECTED IN THE CORRECT CONTAINERS? YES ☑ NO ☐

IF NO, EXPLAIN: _____

8. IS THERE HEADSPACE PRESENT FOR VOLATILES/ODOR SAMPLES? YES ☐ NO ☐ N/A ☑

9. WAS THE COC FILLED OUT PROPERLY? YES ☑ NO ☐

IF NO, EXPLAIN: _____

10. DID THE SAMPLE LABEL(S) CONTAIN ADEQUATE INFO? (CLIENT/DATE/TIME/PRESERVATIVE) YES ☑ NO ☐

IF NO, EXPLAIN: _____

11. WERE ANY OF THE SAMPLES RECEIVED OUTSIDE OF HOLDING TIME? YES ☐ NO ☑

IF YES, EXPLAIN: _____

12. DO THE SAMPLES REQUIRE ANALYSES THAT HAVE A SHORT HOLDING TIME? YES ☑ NO ☐

IF YES, WHAT ANALYSES? CBOD, BOD, Fecal **PLEASE NOTIFY LABORATORY ANALYSTS!**

13. IS SUBCONTRACTING REQUIRED? YES ☐ NO ☑

IF YES, WHAT ANALYSES? _____

14. WAS THE CLIENT CONTACTED? YES ☐ NO ☑ IF YES, FILL OUT THE FOLLOWING:

MR EMPLOYEE INITIALS: _____ CLIENT SPOKEN TO: _____ DATE/TIME: _____

OUTCOME: _____

SIGNATURE: _____

Pine Street WWTP
Laboratory Report

pH

Sample Date	Sample Description	Sample Time	*pH S.U.	Analysis Date/Time	Sampler/Analyst
4/4/2018	**Pine Street WWTP Effluent**	0757 Q	6.62	4/4/18 0805	TM/TM
4/5/2018	**Pine Street WWTP Effluent**	0747 Q	6.73	4/5/18 0758	TM/TM

Dissolved Oxygen

Sample Date	Sample Description	Sample Time	**DO mg/L	Analysis Date/Time	Sampler/Analyst
4/4/2018	**Pine Street WWTP Effluent**	0757 Q	10.84	4/4/18 0802	TM/TM
4/5/2018	**Pine Street WWTP Effluent**	0747 Q	11.24	4/5/18 0755	TM/TM

Total Residual Chlorine

Sample Date	Sample Description	Sample Time	***TRC mg/L	Analysis Date/Time	Sampler/Analyst
4/4/2018	**Pine Street WWTP Effluent**	0757 Q	0.02	4/4/18 0806	TM/TM
4/5/2018	**Pine Street WWTP Effluent**	0747 Q	0.02	4/5/18 0759	TM/TM

Sample Location: Effluent Water Tank (after chlorination/dechlorination)

Q indicates quiescent period & **D-#** indicates that # SBR decanting

*pH Method # 4500H+B (Std. Methods, 18th Ed.)

**DO Method # 4500-OG (Std. Methods, 18th Ed.)

***TRC Method # 4500-Cl G (Std. Methods, 18th Ed.)

Pine Street WWTP In-House Laboratory PA DEP Registration # 42-1378

Sampler Start Date: 4/4/2018 Time: 0730 Sampler End Date: 4/5/2018 Time: 0730

Total Flow: 1.174 MG

Was sample a normally scheduled 24hr composite sample with overflow occurring during sampling? Yes

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Shenandoah Junction, WV 25442
(304) 930-1972
Fax (304) 930-1975

27 September 2018

Philip Lingenfelter
Kane Borough
112 Bayard Street
Kane, PA 16735

Lab ID #: 8090253

RE: WWTP Analysis for NPDES Permit

Enclosed are the results of analyses for samples received by the laboratory on 09/11/18 16:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Megan Davidson-Rager

Megan Davidson-Rager
Project Manager

Authorized Reviewer

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Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8090253
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:** 09/27/18 09:09
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
Pine Street - Influent	8090253-01	Aqueous	Composite	09/10/18 07:30 to 09/11/18 07:30	09/11/18 16:15
Pine Street Effluent Grab	8090253-02	Aqueous	Grab	09/11/18 09:52	09/11/18 16:15
Pine Street - Effluent	8090253-03	Aqueous	Composite	09/10/18 07:30 to 09/11/18 07:30	09/11/18 16:15

Mountain Research, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

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Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8090253
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:** 09/27/18 09:09
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	

Pine Street - Influent

8090253-01 (Aqueous) Sampled: 09/11/18 07:30

Analyte	Result	RL	Units	Prepared	Analyzed	Prep Method	Method	Lab	Analyst	Notes
Mountain Research, LLC										
General Chemistry by Discrete Analyzer										
Ammonia	**1.75**	0.0439	mg/L	09/13/18 14:55	09/14/18 10:37	SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	JJF	
Total Nitrogen	**9.76**	2.00	mg/L	09/14/18 10:39	09/17/18 14:17	[CALC]	CALC		LRB	
Nitrate + Nitrite	**2.39**	0.0355	mg/L	09/12/18 12:40	09/12/18 15:22		SM(22) 4500-NO3 E-2000	A	LRB	
TKN	**7.37**	2.00	mg/L	09/14/18 10:39	09/17/18 14:17	SM 4500-Norg-C/ SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	LRB	
General Chemistry										
Biochemical Oxygen Demand	**42.7**	2.00	mg/L	09/12/18 09:45	09/17/18 12:00		SM(22) 5210 B-2001	D	SAR	
Total Suspended Solids	**126**	2.50	mg/L	09/14/18 15:55	09/14/18 15:55		SM(22) 2540 D-1997	D	SAR	
Phosphorus, Total	**1.52**	0.297	mg/L	09/14/18 11:00	09/14/18 14:15	SM 4500-P B	SM(22) 4500-P E-1999	A	STG	D1
Metals by ICP										
Copper	**0.106**	0.00250	mg/L	09/12/18 13:00	09/18/18 13:38	EPA 200.2 (Rev. 2.8)	EPA 200.7 (Rev 4.4-1994)	A	SEG	
Volatile Organic Compounds by GC/MS										
Bromodichloromethane	<0.260	0.260	µg/L	09/14/18 01:28	09/14/18 01:28		EPA 624	A	JMG	
Dibromochloromethane	<0.330	0.330	µg/L	09/14/18 01:28	09/14/18 01:28		EPA 624	A	JMG	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*80-120*	*09/14/18 01:28*	*09/14/18 01:28*	*EPA 624*				
Surrogate: 4-Bromofluorobenzene		*91.0 %*	*80-120*	*09/14/18 01:28*	*09/14/18 01:28*	*EPA 624*				
Surrogate: Dibromofluoromethane		*105 %*	*80-120*	*09/14/18 01:28*	*09/14/18 01:28*	*EPA 624*				
Surrogate: Toluene-d8		*103 %*	*80-120*	*09/14/18 01:28*	*09/14/18 01:28*	*EPA 624*				

Mountain Research, LLC

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Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

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Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8090253
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:** 09/27/18 09:09
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	

Pine Street Effluent Grab

8090253-02 (Aqueous) Sampled: 09/11/18 09:52

Analyte	Result	RL	Units	Prepared	Analyzed	Prep Method	Method	Lab	Analyst	Notes
Mountain Research, LLC										
General Microbiology										
Fecal Coliform	**115.30**	1.0000	MPN/100 ml	09/11/18 16:55	09/12/18 10:55		Colilert-18	D	MAD	

Mountain Research, LLC

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Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

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Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8090253
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:** 09/27/18 09:09
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	

Pine Street - Effluent

8090253-03 (Aqueous) Sampled: 09/11/18 07:30

Mountain Research, LLC

Analyte	Result	RL	Units	Prepared	Analyzed	Prep Method	Method	Lab	Analyst	Notes
General Chemistry by Discrete Analyzer										
Ammonia	**0.475**	0.0439	mg/L	09/13/18 14:55	09/14/18 10:39	SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	JJF	J
Total Nitrogen	**2.81**	2.00	mg/L	09/14/18 10:39	09/17/18 14:23	[CALC]	CALC		LRB	
Nitrate + Nitrite	**2.81**	0.0355	mg/L	09/12/18 12:40	09/12/18 15:32		SM(22) 4500-NO3 E-2000	A	LRB	N
TKN	<2.00	2.00	mg/L	09/14/18 10:39	09/17/18 14:23	SM 4500-Norg-C/ SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	A	LRB	
General Chemistry										
Carbonaceous BOD	**3.77**	2.00	mg/L	09/12/18 09:45	09/17/18 12:50		SM(22) 5210 B-2001	D	SAR	
Total Suspended Solids	**14.4**	2.50	mg/L	09/14/18 15:55	09/14/18 15:55		SM(22) 2540 D-1997	D	SAR	
Phosphorus, Total	**0.740**	0.0594	mg/L	09/14/18 11:00	09/14/18 14:15	SM 4500-P B	SM(22) 4500-P E-1999	A	STG	D1
Metals by ICP										
Copper	**0.0239**	0.00250	mg/L	09/12/18 13:00	09/18/18 13:40	EPA 200.2 (Rev. 2.8)	EPA 200.7 (Rev 4.4-1994)	A	SEG	
Volatile Organic Compounds by GC/MS										
Bromodichloromethane	**0.850**	0.260	µg/L	09/14/18 01:54	09/14/18 01:54		EPA 624	A	JMG	J
Dibromochloromethane	<0.330	0.330	µg/L	09/14/18 01:54	09/14/18 01:54		EPA 624	A	JMG	
Surrogate: 1,2-Dichloroethane-d4		*98.3 %*	*80-120*	*09/14/18 01:54*	*09/14/18 01:54*	*EPA 624*				
Surrogate: 4-Bromofluorobenzene		*91.1 %*	*80-120*	*09/14/18 01:54*	*09/14/18 01:54*	*EPA 624*				
Surrogate: Dibromofluoromethane		*104 %*	*80-120*	*09/14/18 01:54*	*09/14/18 01:54*	*EPA 624*				
Surrogate: Toluene-d8		*103 %*	*80-120*	*09/14/18 01:54*	*09/14/18 01:54*	*EPA 624*				

Mountain Research, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

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Kane Borough	Project Name: WWTP Analysis for NPDES Permit	**Lab ID#:** 8090253
112 Bayard Street	Project Number: 6094.10.01.01	**Reported:**
Kane PA, 16735	Lab Project Manager: Megan Davidson-Rager	09/27/18 09:09

Certifications

Code	Description	Number	Expires
MDDOE	Maryland Department of the Environment	257	06/30/2018
PADEP-Altoona	Pennsylvania Department of Environmental Protection	009	03/31/2019
WVDEP	West Virginia Department of Environmental Protection	225	12/31/2018
PADEP-DuBois	Pennsylvania Department of Environmental Protection	008	09/30/2018
WVDEP-HydroChem	West Virginia Department of Environmental Protection	038	11/01/2018

Notes and Definitions

N	Matrix spike recovery was outside of the laboratory acceptance criteria.
J	The analyte is considered to be present at a confidence level of 99% but the numerical value associated with the result is an estimated quantity because it falls below the PQL and at or above the MDL.
D1	The sample was analyzed at a dilution.
CC	Calculated analytes are reported based on unrounded results of the individual analytes used in the calculation. Therefore, using the rounded values of the analytes as reported may lead to a result that varies slightly from the reported result.
RL	Reporting Limit - either the practical quantitation limit or the method detection limit
dry	Sample results reported on a dry weight basis
A	Analysis Performed by Mountain Research Altoona Laboratory - PADEP #07-00418, WVDEP #225
D	Analysis Performed by Mountain Research DuBois Laboratory - PADEP # 33-00258
W	Analysis Performed by Mountain Research - HydroChem Laboratory - WVDEP #038

Report Revised:.....9.27.18 Added bromodichloromethane to report. This report replaces all previous reports.

CLIENT PROJECT #	MRI PROJECT NAME:
6094	NPDES ANALYSIS
MRI PROJECT #:	**SITE LOCATION:**
6094.10.01.01	PINE STREET

CLIENT: BOROUGH OF KANE

SAMPLER (print full name): Todd Meserole, Jason Giordano

MOUNTAIN RESEARCH, LLC - DUBOIS OFF
110 McCracken Run Road
DuBois, PA 15801
Phone: (814) 371-6030 Fax: (814) 375-08

CHAIN OF CUSTODY RECORI

ON ICE: ☑ YES ☐ NO

SAMPLE TEMP: 1.8 °C

CONTACT: PHIL LINGENFELTER (814) 837-6201 Kinzua Avenue
(814) 366-0737 Cell Phone
(814) 366-0738 Duty Cell

TODD MESEROLE - (814) 837-6041 - Pine Street

ADDRESS: 113 BAYARD STREET, KANE, PA 16735

COMMENTS:

SAMPLE TYPE CODE: DW DRINKING WATER; SO SOLID; AQ AQUEOUS

PRESERVATIVE LIST: 1 - NONE; 2 - NA2S2O3; 3 - H2SO4; 4 - NAOH; 5 - HNO3; 6 - HCl; 7 - ASCORBIC ACID; 8 - OTHER

FIELD ID.NO.	LOCATION	DATE	TIME	GRAB	COMP	SAMPLE TYPE (SEE CODE LIST)	NUMBER & TYPE OF CONTAINERS	BOD ✓	TSS ✓	COPPER ✓✓	TOTAL NITROGEN ✓✓	NH3-N	NO2+NO3 ✓✓	TOTAL PHOSPHORUS	FECAL COLIFORM	CBOD ✓	VOLATILES (CHLORODIBROMOMETHANE, DICHLOROBROMOMETHANE)	PRESERV	LAB NUMBER
PINE STREET	INFLUENT	START 9-10-18 / END 9-11-18	START 0730 / END 0730		X	AQ	1 - 500ml plastic	X										1	-01
							1 - 1 ltr plastic		X									1	
							1 - 500ml plastic			X								5	
							1 - 500ml plastic				X	X	X	X				3	
							8 - 40 mL Vials										X	6	
PINE STREET	EFFLUENT	9-11-18	0952	X		AQ	1 - 4oz sterile plastic								X			2	-02
		START 9-10-18	START 0730				1 - 1 ltr plastic		X									1	
							1 - 500ml plastic			X								5	
PINE STREET	EFFLUENT	END 9-11-18	END 0730		X	AQ	1 - 500ml plastic				X	X	X	X				3	-03
							1 - 1 ltr plastic									X		1	
							8-40 mL Vials										X	6	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	Logged In By:	Labeled By:	SPECIAL HANDLING
Todd Meserole	9-11-18	1107		9/11/18	1107	JSA 9/11/18		RUSH / NORMAL
RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:	DATE	TIME	COC #	Scheduled By:	FAX / QA/QC
				9/11/18	1615	8090253		

METHOD OF DELIVERY:
☐ HAND DELIVERY ☐ UPS ☑ SAMPLE RUNNER
☐ U.S. MAIL ☐ FEDEX ☐ OTHER

MOUNTAIN RESEARCH SAMPLE RECEIPT PROTOCOL

WORK ORDER: 8090253

CLIENT: Kane Borough

DATE SAMPLED: 9/10-11/18 DATE RECEIVED: 9/11/18 TIME RECEIVED: 1615

MOUNTAIN RESEARCH LLC

1. CHECK ALL THAT APPLY: PA ☑ WV ☐ MD ☐ P W S ☐ NPDES/COMPLIANCE ☑ DAIRY ☐ RUSH ☐

2. WERE ANY OF THE SAMPLE CONTAINERS DAMAGED/LEAKING? (ARE CUSTODY SEALS BROKEN?) YES ☐ NO ☑

IF YES, EXPLAIN: _____

3. NUMBER OF CONTAINERS RECEIVED: 25

4. WERE THE SAMPLES RECEIVED ON ICE/OTHER ACCEPTABLE REFRIGERANT? YES ☑ NO ☐

IF NO, EXPLAIN: _____

5. RECEIVING TEMP: 1.8 °C TEMP CONTROL(S) PRESENT YES ☐ NO ☐ BOTTLE(S) TEMPED: _____

6. WERE THE SAMPLES PROPERLY PRESERVED? YES ☑ NO ☐

IF NO, EXPLAIN: _____

7. WERE THE SAMPLES COLLECTED IN THE CORRECT CONTAINERS? YES ☑ NO ☐

IF NO, EXPLAIN: _____

8. IS THERE HEADSPACE PRESENT FOR VOLATILES/ODOR SAMPLES? YES ☐ NO ☑ N/A ☐

9. WAS THE COC FILLED OUT PROPERLY? YES ☑ NO ☐

IF NO, EXPLAIN: _____

10. DID THE SAMPLE LABEL(S) CONTAIN ADEQUATE INFO? (CLIENT/DATE/TIME/PRESERVATIVE) YES ☑ NO ☐

IF NO, EXPLAIN: _____

11. WERE ANY OF THE SAMPLES RECEIVED OUTSIDE OF HOLDING TIME? YES ☐ NO ☑

IF YES, EXPLAIN: _____

12. DO THE SAMPLES REQUIRE ANALYSES THAT HAVE A SHORT HOLDING TIME? YES ☑ NO ☐

IF YES, WHAT ANALYSES? CBOD, BOD, Fecal **PLEASE NOTIFY LABORATORY ANALYSTS!**

13. IS SUBCONTRACTING REQUIRED? YES ☐ NO ☑

IF YES, WHAT ANALYSES? _____

14. WAS THE CLIENT CONTACTED? YES ☐ NO ☑ IF YES, FILL OUT THE FOLLOWING:

MR EMPLOYEE INITIALS: _____ CLIENT SPOKEN TO: _____ DATE/TIME: _____

OUTCOME: _____

SIGNATURE: _____

For MR Use Only

Pine Street WWTP
Laboratory Report

pH

Sample Date	Sample Description	Sample Time	*pH S.U.	Analysis Date/Time	Sampler/Analyst
9/10/2018	**Pine Street WWTP Effluent**	0820 Q	7.06	9/10/18 0830	TM/TM
9/11/2018	**Pine Street WWTP Effluent**	0756 Q	7.01	9/11/18 0807	TM/TM

Dissolved Oxygen

Sample Date	Sample Description	Sample Time	**DO mg/L	Analysis Date/Time	Sampler/Analyst
9/10/2018	**Pine Street WWTP Effluent**	0820 Q	8.04	9/10/18 0827	TM/TM
9/11/2018	**Pine Street WWTP Effluent**	0756 Q	8.07	9/11/18 0804	TM/TM

Total Residual Chlorine

Sample Date	Sample Description	Sample Time	***TRC mg/L	Analysis Date/Time	Sampler/Analyst
9/10/2018	**Pine Street WWTP Effluent**	0820 Q	0.03	9/10/18 0832	TM/TM
9/11/2018	**Pine Street WWTP Effluent**	0756 Q	<0.02	9/11/18 0809	TM/TM

Sample Location: Effluent Water Tank (after chlorination/dechlorination)

Q indicates quiescent period & **D-#** indicates that # SBR decanting

*pH Method # 4500H+B (Std. Methods, 18th Ed.)

**DO Method # 4500-OG (Std. Methods, 18th Ed.)

***TRC Method # 4500-Cl G (Std. Methods, 18th Ed.)

Pine Street WWTP In-House Laboratory PA DEP Registration # 42-1378

Sampler Start Date: 9/10/18 Time: 0730 Sampler End Date: 9/11/18 Time: 0730

Total Flow: 1.454 MG

Was sample a normally scheduled 24hr composite sample with overflow occurring during sampling? Yes

MOUNTAIN RESEARCH, LLC

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814.371.6030 **Phone**
814.375.0823 **Fax**
EPA Lab# PA00155

10 December 2018

Kane Borough
Philip Lingenfelter
112 Bayard Street
Kane PA, 16735

Work Order: 8110691
Project: WWTP Analysis for NPDES Permit

ANALYTICAL REPORT

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
Pine Street Influent	8110691-01	Aqueous	11/26/18 07:30 to 11/27/18 07:30	11/27/18 16:00
Pine Street Effluent / Grab	8110691-02	Aqueous	11/27/18 09:02	11/27/18 16:00
Pine Street Effluent	8110691-03	Aqueous	11/26/18 07:30 to 11/27/18 07:30	11/27/18 16:00

NARRATIVE

The result(s) contained in this report are respresentative of the sample(s) received. Analyses were performed in accordance with Mountain Research, LLC's applicable certifications and Quality Assurance Program, unless otherwise noted below or within the body of the report. Mountain Research, LLC is not responsible for the use or interpretation of the data included herein. If necessary, this analytical report must be reproduced in its entirety.

DEFINITIONS

J	The analyte is considered to be present at a confidence level of 99% but the numerical value associated with the result is an estimated quantity because it falls below the PQL and at or above the MDL.
D1	The sample was analyzed at a dilution.
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
dry	Sample results reported on a dry weight basis

APPROVED BY:

Megan Davidson-Rager

Megan Davidson-Rager, Project Manager

CERTIFICATIONS

Altoona PA Lab ID: 07-00418 - Dubois PA Lab ID: 33-00258 - Maryland Certificate #: 257 - WV Lab ID #: 225

MOUNTAIN RESEARCH, LLC

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814.375.0823 **Fax**
EPA Lab# PA00155

Kane Borough
112 Bayard Street
Kane PA, 16735

Reported: 12/10/18 12:02

CLIENT SAMPLE ID: Pine Street Influent
LAB SAMPLE ID: 8110691-01
MATRIX: Aqueous
SAMPLE TYPE: Composite

SAMPLE DATE: 11/26/18 07:30 to 11/27/18 07:30
RECEIPT DATE: 11/27/18 16:00

Analyte	Result	Units	PQL	MDL	Prepared	Analyzed	Prep Method	Method	Analyst	Notes
GENERAL CHEMISTRY										
Ammonia	**1.36**	mg/L	0.500	0.0439	11/29/18 09:20	12/03/18 13:06	SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	JJF	
Total Nitrogen	**12.0**	mg/L	2.00		12/05/18 12:00	12/05/18 14:07	[CALC]	CALC	JJF	
Nitrate + Nitrite	**1.35**	mg/L	0.250	0.0355	12/05/18 12:00	12/05/18 14:07		SM(22) 4500-NO3 E-2000	LRB	
Phosphorus, Total	**1.62**	mg/L	1.00	0.297	12/04/18 10:23	12/04/18 10:23	SM 4500-P B	SM(22) 4500-P E-1999	STG	D1
TKN	**10.6**	mg/L	2.00		12/03/18 11:35	12/05/18 08:38	SM 4500-Norg-C/ SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	JJF	
GENERAL CHEMISTRY - MOUNTAIN RESEARCH DUBOIS										
Biochemical Oxygen Demand	**72.2**	mg/L	2.00		11/28/18 11:00	12/03/18 10:50		SM(22) 5210 B-2001	SAR	
Total Suspended Solids	**116**	mg/L	2.50	2.50	12/03/18 17:15	12/03/18 17:15		SM(22) 2540 D-1997	BPM	
METALS BY ICP										
Copper	**0.0464**	mg/L	0.00500	0.00250	11/28/18 12:08	11/29/18 16:34	EPA 200.2 (Rev. 2.8)	EPA 200.7 (Rev 4.4-1994)	SEG	

CLIENT SAMPLE ID: Pine Street Effluent / Grab
LAB SAMPLE ID: 8110691-02
MATRIX: Aqueous
SAMPLE TYPE: Grab

SAMPLE DATE: 11/27/18 09:02
RECEIPT DATE: 11/27/18 16:00

Analyte	Result	Units	PQL	MDL	Prepared	Analyzed	Prep Method	Method	Analyst	Notes
GENERAL MICROBIOLOGY - MOUNTAIN RESEARCH DUBOIS										
Fecal Coliform	**50.400**	MPN/100 ml	1.0000		11/27/18 16:35	11/28/18 10:55		Colilert-18	BPM	

CERTIFICATIONS

Altoona PA Lab ID: 07-00418 - Dubois PA Lab ID: 33-00258 - Maryland Certificate #: 257 - WV Lab ID #: 225

MOUNTAIN RESEARCH, LLC

Corporate Office and Laboratory
825 25th Street
Altoona, PA 16601
814.949.2034 **Phone**
800.837.4674 **Toll Free**
814.949.9591 **Fax**
EPA Lab# PA00165

DuBois Office and Laboratory
110 McCracken Run Road
DuBois, PA 15801
814.371.6030 **Phone**
814.375.0823 **Fax**
EPA Lab# PA00155

Kane Borough
112 Bayard Street
Kane PA, 16735

Reported: 12/10/18 12:02

CLIENT SAMPLE ID: **Pine Street Effluent**
LAB SAMPLE ID: 8110691-03
MATRIX: Aqueous
SAMPLE TYPE: Composite

SAMPLE DATE: 11/26/18 07:30 to 11/27/18 07:30
RECEIPT DATE: 11/27/18 16:00

Analyte	Result	Units	PQL	MDL	Prepared	Analyzed	Prep Method	Method	Analyst	Notes
GENERAL CHEMISTRY										
Ammonia	**0.282**	mg/L	0.500	0.0439	11/29/18 09:20	12/03/18 13:08	SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	JJF	J
Total Nitrogen	**2.00**	mg/L	2.00		12/05/18 12:00	12/05/18 14:09	[CALC]	CALC	JJF	
Nitrate + Nitrite	**2.00**	mg/L	0.250	0.0355	12/05/18 12:00	12/05/18 14:09		SM(22) 4500-NO3 E-2000	LRB	
Phosphorus, Total	**0.244**	mg/L	0.200	0.0594	12/04/18 10:23	12/04/18 10:23	SM 4500-P B	SM(22) 4500-P E-1999	STG	D1
TKN	<2.00	mg/L	2.00		12/03/18 11:35	12/05/18 08:45	SM 4500-Norg-C/ SM 4500-NH3-B	SM(22) 4500-NH3 F-1997	JJF	
GENERAL CHEMISTRY - MOUNTAIN RESEARCH DUBOIS										
Carbonaceous BOD	**9.37**	mg/L	2.00	2.00	11/28/18 11:00	12/03/18 11:30		SM(22) 5210 B-2001	SAR	
Total Suspended Solids	<2.50	mg/L	2.50	2.50	12/03/18 17:15	12/03/18 17:15		SM(22) 2540 D-1997	BPM	
METALS BY ICP										
Copper	**0.00564**	mg/L	0.00500	0.00250	11/28/18 12:08	11/29/18 16:37	EPA 200.2 (Rev. 2.8)	EPA 200.7 (Rev 4.4-1994)	SEG	

CERTIFICATIONS

Altoona PA Lab ID: 07-00418 - Dubois PA Lab ID: 33-00258 - Maryland Certificate #: 257 - WV Lab ID #: 225

CLIENT PROJECT #	MRI PROJECT NAME:
6094	NPDES ANALYSIS
MRI PROJECT #:	**SITE LOCATION:**
6094.10.01.01	PINE STREET

CLIENT: BOROUGH OF KANE

SAMPLER (print full name): Todd Meserole

CONTACT: PHIL LINGENFELTER - (814) 837-6201 - Kinzua Avenue
(814) 366-0737 - Cell Phone
(814) 366-0738 - Duty Cell

TODD MESEROLE - (814) 837-6041 - Pine Street

ADDRESS: 112 BAYARD STREET, KANE, PA 16735

COMMENTS:

SAMPLE TYPE CODE

DW - DRINKING WATER SO - SOLID AQ - AQUEOUS

MOUNTAIN RESEARCH, LLC - DUBOIS OF
110 McCracken Run Road
DuBois, PA 15801
Phone: (814) 371-6030 Fax: (814) 375-0

CHAIN OF CUSTODY RECOF

ON ICE: [X] YES [ ] NO

SAMPLE TEMP: 3.4 °C

PRESERVATIVE LIST:
1 - NONE
2 - NA2S2O3
3 - H2SO4
4 - NAOH
5 - HNO3
6 - HCl
7 - ASCORBIC ACID
8 - OTHER

FIELD ID.NO.	LOCATION	DATE	TIME	GRAB	COMP	SAMPLE TYPE (SEE CODE LIST)	NUMBER & TYPE OF CONTAINERS	BOD /	TSS /	COPPER <2	TOTAL NITROGEN <2	NH3-N	NO2+NO3	TOTAL PHOSPHORUS	FECAL COLIFORM	CBOD /	VOLATILES (CHLORODIBROMOMETHANE, DICHLOROBROMOMETHANE)	PRESERV.	LAB NUMBER
PINE STREET	INFLUENT	START 11-26-18 / END 11-27-18	START 0730 / END 0730		X	AQ	1 - 500ml plastic	X										1	01
							1 - 1 ltr plastic		X									1	
							1 - 500ml plastic			X								5	
							1 - 500ml plastic				X	X	X	X				3	
							8 - 40 mL Vials											6	
PINE STREET	EFFLUENT	11-27-18	0902	X		AQ	1 - 4oz sterile plastic								X			2	02
PINE STREET	EFFLUENT	START 11-26-18 / END 11-27-18	START 0730 / END 0730		X	AQ	1 - 1 ltr plastic		X									1	03
							1 - 500ml plastic			X								5	
							1 - 500ml plastic				X	X	X	X				3	
							1 - 1 ltr plastic									X		1	
							8-40 mL Viala											6	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	Logged In By:	Labeled By:	SPECIAL HANDLING
Todd Meserole	11-27-18	1110	JPW	11/27/18	1110	JPW		RUSH NORMAL
RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:	DATE	TIME	COC #	Scheduled By:	FAX QA/QC
			JPW	11/27/18	1600	810691		

METHOD OF DELIVERY:
[ ] HAND DELIVERY [ ] UPS [X] SAMPLE RUNNER
[ ] U.S. MAIL [ ] FEDEX [ ] OTHER

MOUNTAIN RESEARCH SAMPLE RECEIPT PROTOCOL

WORK ORDER: 8110691

CLIENT: Borough of Kane.

DATE SAMPLED: 11/26-11/27/18 DATE RECEIVED: 11/27/18 TIME RECEIVED: 1600

1. CHECK ALL THAT APPLY: PA [X] WV ☐ MD ☐ P W S ☐ NPDES/COMPLIANCE [X] DAIRY ☐ RUSH ☐

2. WERE ANY OF THE SAMPLE CONTAINERS DAMAGED/LEAKING? (ARE CUSTODY SEALS BROKEN?) YES ☐ NO [X]

IF YES, EXPLAIN: _____

3. NUMBER OF CONTAINERS RECEIVED: 9

4. WERE THE SAMPLES RECEIVED ON ICE/OTHER ACCEPTABLE REFRIGERANT? YES [X] NO ☐

IF NO, EXPLAIN: _____

5. RECEIVING TEMP: 3.4 °C TEMP CONTROL(S) PRESENT YES ☐ NO [X] BOTTLE(S) TEMPED: 9

6. WERE THE SAMPLES PROPERLY PRESERVED? YES [X] NO ☐

IF NO, EXPLAIN: _____

7. WERE THE SAMPLES COLLECTED IN THE CORRECT CONTAINERS? YES [X] NO ☐

IF NO, EXPLAIN: _____

8. IS THERE HEADSPACE PRESENT FOR VOLATILES/ODOR SAMPLES? YES ☐ NO ☐ N/A [X]

9. WAS THE COC FILLED OUT PROPERLY? YES [X] NO ☐

IF NO, EXPLAIN: _____

10. DID THE SAMPLE LABEL(S) CONTAIN ADEQUATE INFO? (CLIENT/DATE/TIME/PRESERVATIVE) YES [X] NO ☐

IF NO, EXPLAIN: _____

11. WERE ANY OF THE SAMPLES RECEIVED OUTSIDE OF HOLDING TIME? YES ☐ NO [X]

IF YES, EXPLAIN: _____

12. DO THE SAMPLES REQUIRE ANALYSES THAT HAVE A SHORT HOLDING TIME? YES [X] NO ☐

IF YES, WHAT ANALYSES? BOD, CBOD, Fecal. PLEASE NOTIFY LABORATORY ANALYSTS!

13. IS SUBCONTRACTING REQUIRED? YES ☐ NO [X]

IF YES, WHAT ANALYSES? _____

14. WAS THE CLIENT CONTACTED? YES ☐ NO [X] IF YES, FILL OUT THE FOLLOWING:

MR EMPLOYEE INITIALS: CLIENT SPOKEN TO: DATE/TIME:

OUTCOME:

SIGNATURE:

For MR Use Only

Pine Street WWTP
Laboratory Report

pH

Sample Date	Sample Description	Sample Time	*pH S.U.	Analysis Date/Time	Sampler/Analyst
11/26/2018	**Pine Street WWTP Effluent**	0732 Q	6.82	11/26/18 0740	TM/TM
11/27/2018	**Pine Street WWTP Effluent**	0755 Q	6.75	11/27/18 0804	TM/TM

Dissolved Oxygen

Sample Date	Sample Description	Sample Time	**DO mg/L	Analysis Date/Time	Sampler/Analyst
11/26/2018	**Pine Street WWTP Effluent**	0732 Q	10.56	11/26/18 0737	TM/TM
11/27/2018	**Pine Street WWTP Effluent**	0755 Q	10.33	11/27/18 0801	TM/TM

Total Residual Chlorine

Sample Date	Sample Description	Sample Time	***TRC mg/L	Analysis Date/Time	Sampler/Analyst
11/26/2018	**Pine Street WWTP Effluent**	0732 Q	0.02	11/26/18 0741	TM/TM
11/27/2018	**Pine Street WWTP Effluent**	0755 Q	0.02	11/27/18 0805	TM/TM

Sample Location: Effluent Water Tank (after chlorination/dechlorination)

Q indicates quiescent period & **D-#** indicates that # SBR decanting

*pH Method # 4500H+B (Std. Methods, 18th Ed.)

**DO Method # 4500-OG (Std. Methods, 18th Ed.)

***TRC Method # 4500-Cl G (Std. Methods, 18th Ed.)

Pine Street WWTP In-House Laboratory PA DEP Registration # 42-1378

Sampler Start Date: 11/26/18 Time: 0730 Sampler End Date: 11/27/18 Time: 0730

Total Flow: 2.682 MG

Was sample a normally scheduled 24hr composite sample with overflow occurring during sampling? Yes