NPDES/ NJPDES Compliance Sampling Inspection Report

Pennsville Sewerage Authority WWTP

183 Delaware Drive
Pennsville, NJ 08070

NJPDES Permit: NJ0021598

Inspection Dates: July 25-26, 2023

Report Prepared by:

MOLLY HILLENBRAND
Digitally signed by MOLLY HILLENBRAND
Date: 2023.09.05 13:17:37 -04'00'

Molly Hillenbrand, Life Scientist

Report Reviewed by:

THUAN TRAN
Digitally signed by THUAN TRAN
Date: 2023.09.05 13:33:27 -04'00'

Thuan Tran, Physical Scientist

Report Approved by:

PHILIP COCUZZA
Digitally signed by PHILIP COCUZZA
Date: 2023.09.05 15:08:47 -04'00'

Phil Cocuzza, Chief
Monitoring Operations Section

1.0 OBJECTIVE

On July 25-26, 2023, at the request of the New Jersey Department of Environmental Protection (NJDEP), the United States Environmental Protection Agency (USEPA) conducted a National Pollutant Discharge Elimination System (NPDES) Compliance Sampling Inspection (CSI) at the Pennsville Sewerage Authority Wastewater Treatment Plant (WWTP) in Pennsville New Jersey, 08070. The objective of the CSI was to gather information necessary to determine compliance with the requirements and limitations of their NPDES/ NJPDES permit No. NJ0021598. The facility is currently operating under an expired NJPDES Permit while awaiting permit renewal.

2.0 KEY PARTICIPANTS

Listed below are key inspection participants and contact information, grouped by organization.

U.S. Environmental Protection Agency
Molly Hillenbrand, Lead Inspector
Hillenbrand.molly@epa.gov, 732-321-4452
Thuan Tran, Physical Scientist

New Jersey Department of Environmental Protection
Shanya Pressley, Environmental Scientist 3
Cell: 609-439-9405; Office: 856-614-3655
Shanya.Pressley@dep.nj.gov

Environmental & Technical Services
Thomas Grant, Project Manager/ Superintendent
Cell: 856- 689-1473; Office:609-861-7000
tgant@etsengineersconsulting.com

Pennsville Sewerage Authority WWTP
Mark Kuhns, Assistant Superintendent
Cell: 609-743-6401; Office: 856-678-7570
pvsewer@comcast.net

3.0 FACILITY DESCRIPTION

3.1 General Information

Pennsville Sewage Authority Wastewater Treatment Plant (PSA WWTP) is located at 183 Delaware Drive, Pennsville New Jersey, 08070. Constructed in 1959, PSA WWTP consisted of preliminary treatment, a primary clarifier, and disinfection. In the 1980's the facility was upgraded to include two primary clarifiers, six rotating biological contactors, two secondary clarifiers, and a chlorine contact tank. Two trickling filters were added as an upgrade in the 1990's. The latest upgrade to the facility was performed in 2010 with the addition of a third primary clarifier.

PSA WWTP has a design treatment capacity of 1.875 million gallons per day (MGD). The sewer connections receive wastewater from residential, commercial, and industrial sources, with a service area spanning from Pennsville Township, Deepwater, and a few residential connections in Carneys Point, adjacent to the northern boundary of Pennsville (Attachment Figure 1). The plant employs a Project Manager/Superintendent, an Assistant Superintendent, and 5 operators. The facility is categorized as Standard Industrial Classification (SIC) 4952 – Sewerage Systems and the North American Industry and Classification System (NAICS) 221320 – Sewage Treatment Facilities.

3.2 Process Information

Wastewater enters the headworks through two influent lines. Preliminary treatment is provided through the aerated grit chamber which allows grits to settle out followed by a manual bar screen to remove rags and large matters. Following preliminary treatment, wastewater is distributed into three rectangular primary clarifiers. From the primary clarifiers, the effluent continues to one (1) of two towering trickling filters (TF). Continuing from the TF, the effluent is distributed between two trains of three rotating biological contactors (RBC's). The effluent from the RBC's is conveyed to three rectangular secondary clarifiers. The effluent flows over a rectangular weir where sodium hypochlorite is added before flowing to the chlorine contact tank. Retention time is provided in the chlorine contact tank before the treated effluent flows over the rectangular weir. An ultra-sonic flow sensor monitors the treated effluent discharge. The effluent exiting the pipe freefalls into an effluent receiving basin and is discharged to the Delaware River via Outfall 001A.

Sludge from the primary and secondary clarifiers is pumped to the gravity sludge thickener. Supernatant from the gravity sludge thickener is directed to the aerated grit chamber. The thickened sludge is pumped to one of two holding tanks with one tank being used for emergency storage. From the holding tanks the sludge is either transported to the Delaware County Regional Water Quality Control Authority (DELCORA) for incineration, or the

sludge are treated by the hauler and are land applied at Ash Lane Farms. Scum from the primary and secondary clarifiers is collected in a scum pit. The collected scum is transported to the landfill for disposal. Grits from the grit chamber as well as the solids from the manual bar screen are collected disposed of at the local landfill. A flow schematic diagram is denoted in Attachment Figure 2.

3.3 Facility Self-Monitoring Information

Permit compliance samples are collected by plant personnel. Plant personnel analyze dissolved oxygen (DO), temperature, pH, and total residual chlorine (TRC) on site. Sample analysis for five-day biological oxygen demand (BOD_5), total suspended solids (TSS), total dissolved solids (TDS), ammonia (NH_3), nitrate (NO_3^-), total phosphorous, oil and grease (O&G), and fecal coliforms are contracted to Vineland Environmental Laboratories, located at 782 South Brewster Road, Vineland, New Jersey 08361. Vineland Environmental Laboratories provides sample containers and personnel pick up samples for laboratory analyses.

4.0 EPA SAMPLING/INSPECTION ACTIVITIES

4.1 Sampling Activities

An ISCO automatic composite sampler was setup at the effluent (Outfall 001A) monitoring location (Photo 1). The automatic composite sampler was packed with ice to ensure sample preservation and programed to collect 96 sample aliquots during the 24-hour sampling period. The 24-hour composite sample was collected and analyzed for BOD_5, TSS, TDS, Total Phosphorous, and Nitrate. On-site grab samples were collected at the free-fall into the effluent receiving basin and analyzed for pH, DO, Temperature and TRC (Photo 2).

In addition, an ISCO automatic composite sampler was setup at the influent monitoring location (Photo 3). The automatic composite sampler was packed with ice to ensure sample preservation and programed to collect 96 sample aliquots during the 24-hour sampling period. The 24-hour composite sample was collected and analyzed for BOD_5 and TSS.

All sample containers, preservation techniques and holding times were in accordance with USEPA requirements specified in 40 CFR Part 136. Signed and dated custody seals were placed across the lids and along the sides of the sample containers. The custody sealed sample containers were placed inside plastic sample bags and sealed. All samples were transported on ice to the USEPA Laboratory in Edison, New Jersey for analysis. A chain of custody form recorded sampling and handling activity (Attachment Figure 3).

Flow data was obtained directly from PSA WWTP instrumentation which was last calibrated on April 3, 2023.

The facility representative declined the EPA offer for split samples.

4.2 Inspection Activities

A NPDES CSI was conducted at the Pennsville Sewerage Authority Wastewater Treatment Plant in Pennsville, New Jersey, 08070. The inspectors met with Tom Grant, the Project Manager/Superintendent, Environmental & Technical Services (contractor); Mark Kuhns, Assistant Superintendent with Pennsville Sewerage Authority; and Shanya Pressley, New Jersey Department of Environmental Protection (NJDEP) Southern Bureau of Water and Compliance and Enforcement. Inspector credentials were presented, and contact information was exchanged. Inspectors explained to the facility's representatives that the inspection was to determine if the facility is in compliance with their NJPDES permit, NJ0021598.

A physical inspection occurred, assisted by facility staff, to observe and evaluate the wastewater treatment process, sampling and flow monitoring equipment, effluent and influent monitoring locations, and sampling procedures. Observations and concerns were communicated to facility staff throughout the inspection and reiterated during the closing conference. Inspection findings observed through the facilities physical inspection are listed in Section 6.2.

4.3 Deviations and/or Environmental Conditions

At the time of the inspection only one of the two trickling filters was in operation. Thunderstorms and heavy rains were also observed during the afternoon of July 25, 2023. Due to safety concerns, the trickling filter operations were observed via a facility camera.

5.0 ANALYTICAL RESULTS

Pennsville Sewerage Authority WWTP
July 25-26, 2023

Parameter	Location	Units	Permit Limit	EPA Result
Flow	Eff.	MGD	1.875	1.561
BOD_5	Inf.	mg/L	Monitor	139
BOD_5 ***	Eff.	mg/L	30 (Monthly Average) 40 (Weekly Average)	4.57
BOD_5 % removal ***	---	%	≥87.5 (Monthly Average Minimum)	96.7
BOD_5 loading ***	Eff.	kg/day	185 (Monthly Average) 319 (Weekly Average)	27.0
TSS	Inf	mg/L	Monitor	134
TSS ***	Eff.	mg/L	30 (Monthly Average) 45 (Weekly Average)	11.0
TSS % Removal ***	---	%	≥85 (Monthly Average Minimum)	92.0
TSS Loading ***	Eff.	kg/day	213 (Monthly Average)	65.1

Parameter	Location	Units	Permit Limit	EPA Result
			319 (Weekly Average)	
Nitrogen (Ammonia) Total (as N) ***	Eff	mg/L	35 (Monthly Average)	6.65
Nitrogen, Nitrate Total (as N)	Eff	mg/L	Report	8.55
Solids, Total Dissolved (TDS)	Eff.	mg/L	Report	468
Phosphorous, Total as P	Eff.	mg/L	Report	2.76
Oil and Grease	Eff.	mg/L	10-15	U
Coliform, Fecal General	Eff.	#/100 ml	200 (Monthly Geometric Average) 400 (Weekly Geometric)	34.0 (Geometric Mean)
pH	Eff.	SU	6.0-9.0	7.54
Temperature	Eff.	°C	Report	25.5
Chlorine Produced Oxidants	Eff.	mg/L	2.0 (Daily maximum)	0.6
Dissolved Oxygen (DO)	Eff.	mg/L	Report	1st run: 4.9 2nd run: 5.1

U- The analyte was not detected at or above the Reporting Limit.
*** Permit limit is an average; EPA result is for a single sample.

6.0 FINDINGS

6.1 Sampling Result Findings

The EPA analytical results obtained during this inspection are within the acceptable limits.

6.2 Inspection Findings

In addition to the sampling, an inspection of the facility operations was conducted as discussed in Section 4.2 above. During this inspection the following observations were noted which may contravene the requirements of the permit or the applicable regulations:

6.2.1 The trickling filter was observed to have vegetative growth around the rotary distributor's central column, expanding to the media. The vegetative growth can potentially lead to ponding on the media. According to 40 CFR 122.41(e): Proper Operation and Maintenance, *"The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve*

compliance with the conditions of the permit.". In addition, N.J.A.C 7:14A-6.12(a) for Operation, Maintenance, and Emergency Conditions, it states "*A permittee shall, at all times, maintain in good working order and operate the treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of the discharge permit."*.

6.2.2 Bubbles and sludge bulking were observed rising to the surface of the chlorine contact chamber. Furthermore, the sludge was observed to overflow the rectangular weir into the discharge pipe. According to 40 CFR 122.41(e): Proper Operation and Maintenance, *"The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit."*. In addition, N.J.A.C 7:14A-6.12(a) for Operation, Maintenance, and Emergency Conditions, it states "*A permittee shall, at all times, maintain in good working order and operate the treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of the discharge permit."*.

6.2.3 The effluent composite sampling silastic tubing was observed to have a buildup of algae (Attachment Photo 1). During the purging process the algae built up in the silastic tubing can become dislodged, potentially biasing the sample result. According to 40 CFR 122.41(e): Proper Operation and Maintenance, *"The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit."*. In addition, N.J.A.C 7:14A-6.12(a) for Operation, Maintenance, and Emergency Conditions, it states "*A permittee shall, at all times, maintain in good working order and operate the treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of the discharge permit."*.

7.0 Photographs

Photograph 1: EPA automatic composite sampler was setup at the effluent monitoring location

Photograph 2: Grab samples were collected from the free-fall into the effluent receiving basin.

Photograph 3: EPA automatic composite sampler was setup at the influent monitoring location.

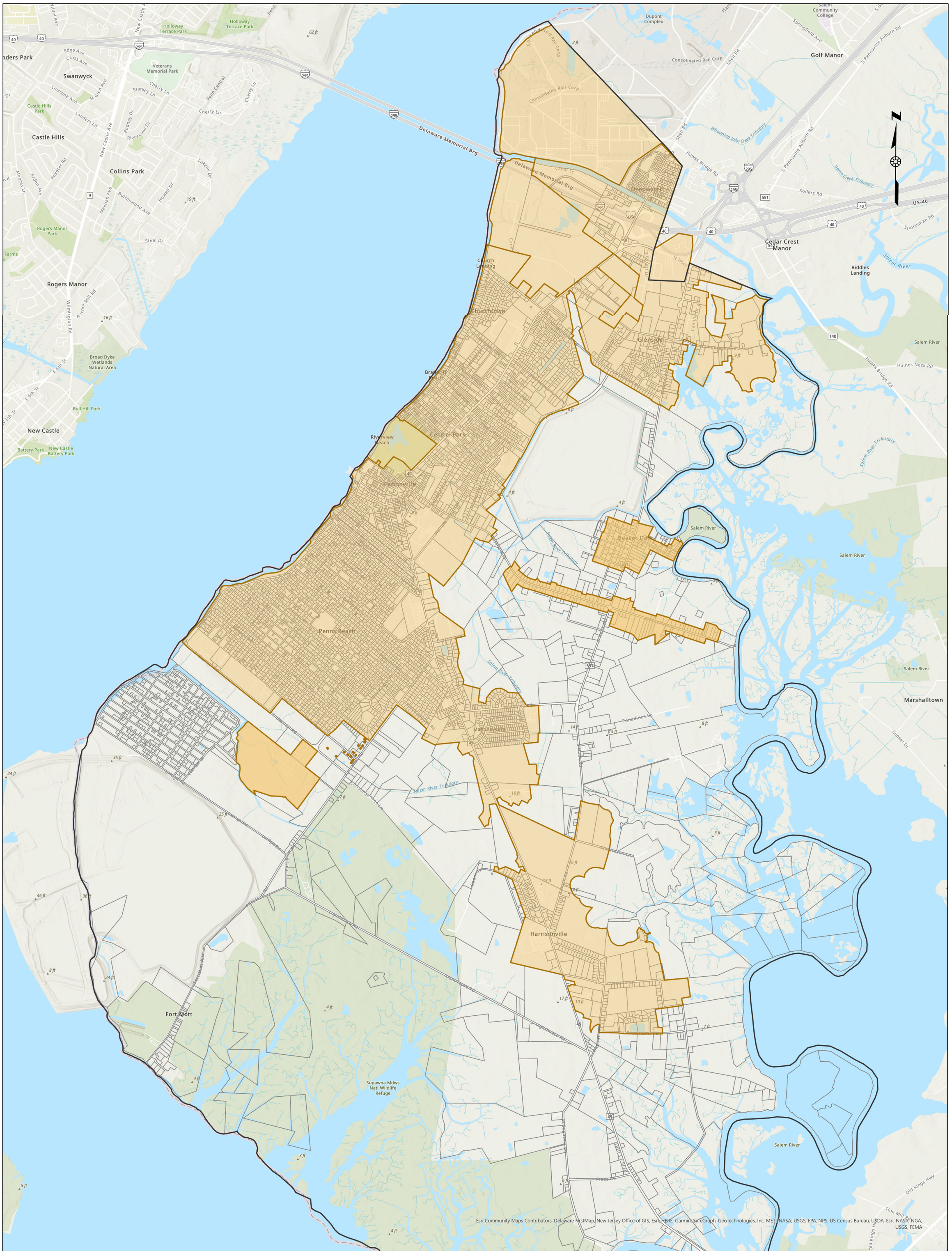
Photograph 4: Vegetative growth was observed on the trickling filter via the facility cameras.

Photograph 5: Bubbles and sludge bulking was observed in the chlorine contact chamber.

Photograph 6: Algae was observed in the silastic tubing of the composite effluent sampler.

8.0 ATTACHMENTS

Attachment 1: The service area for Pennsville Sewerage Authority WWTP is highlighted in yellow



0 1,000 2,000 4,000 6,000 8,000 Feet

SEWER SERVICE AREA MAP

PENNSVILLE SEWER AUTHORITY

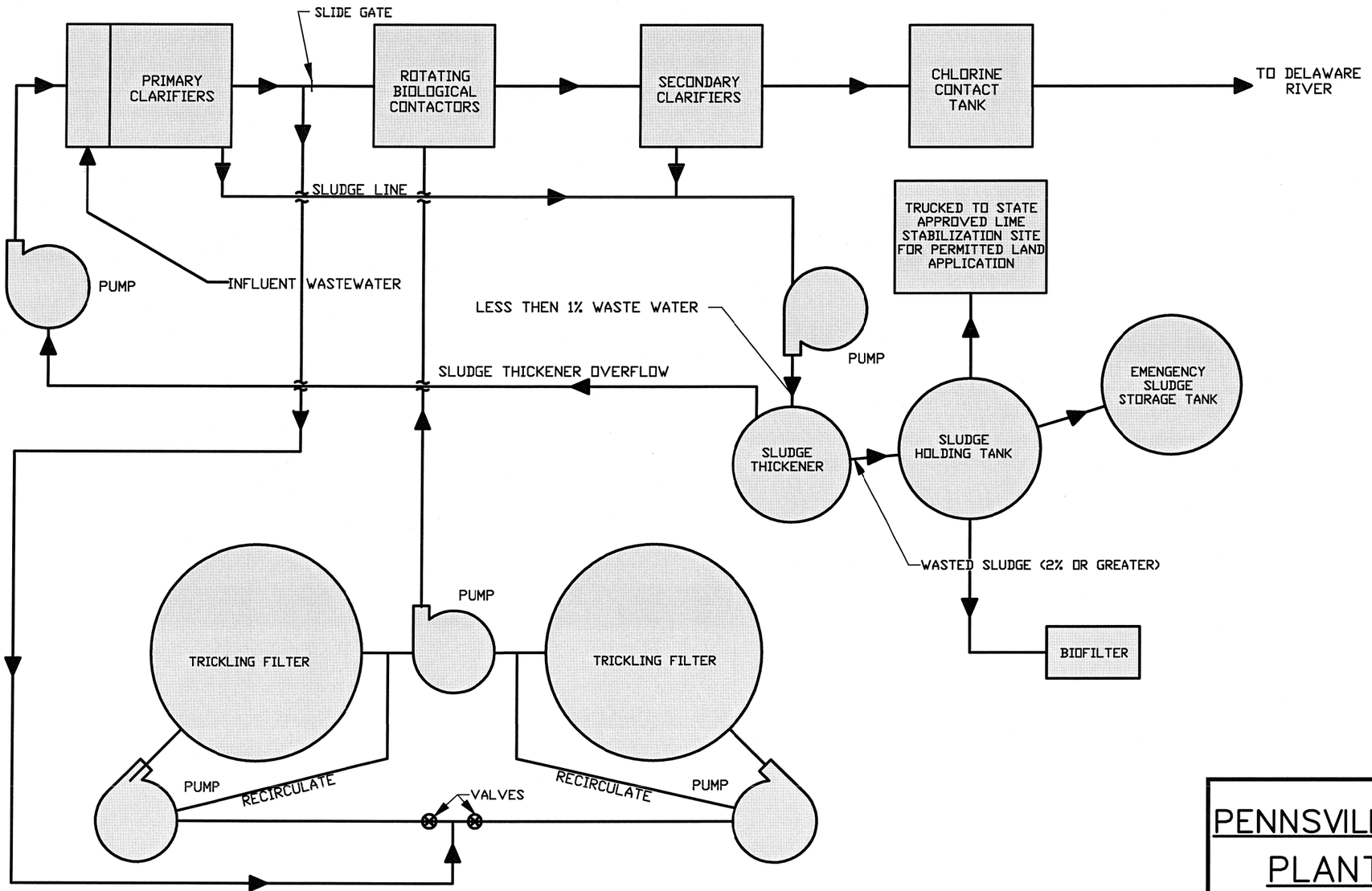
TOWNSHIP OF PENNSVILLE, SALEM COUNTY, NEW JERSEY

SICKELS & ASSOCIATES INC.
SHERWOOD MEWS
833 KINGS HIGHWAY
WOODBURY, NEW JERSEY 08096-3110
N.J. CERTIFICATE OF AUTHORIZATION No. 24GA27994900
PH: (856)-848-6800
FAX: (856)-848-8520

DRAWN BY: DJP
CHECKED BY: DSP
DATE: 7-13-23
FILE NO. PSA-118
SCALE: AS NOTED
DWG. NO.

MAP 1

Attachment 2: Pennsville Sewerage Authority Wastewater Treatment Plant's Flow Process Diagram, outlining PSA WWTP's treatment processes



PENNSVILLE SEWER AUTHORITY
PLANT FLOW DIAGRAM

PENNSVILLE TOWNSHIP, SALEM COUNTY, N.J.

SICKELS & ASSOCIATES INC.
SHERWOOD MEWS
833 KINGS HIGHWAY
WOODBURY, NEW JERSEY 08096-3110
N.J. CERTIFICATE OF AUTHORIZATION No. GA27994900
856-848-6800
FAX 848-8520

DRW./CH: CDH/DJP	SCALE: NTS
DATE: 9-14-12	FILE: PSA-110

Attachment 3: Samples were submitted to the USEPA Laboratory in Edison, New Jersey for analysis on July 25, 2023.

US EPA REGION 2 LABORATORY

Page 1 of 1 pages

CHAIN OF CUSTODY/ FIELD DATA FORM

SURVEY NAME & LOCALITY Pennsville Sewage Treatment Plant | PROJECT LEADER Molly Hillenbrand

PROGRAM SF ☐ : | SITE ID | OPERABLE UNIT | PROGRAM RESULTS CODE

Decision	RCRA ☐	RCRA ENF ☐	NPDES ☒	SDWA ☐	AM ☐	CAA ☐	TSCA ☐	OD ☐	FIFR ☐	CRIMINA
Unit Code	Y206	D210	D307	B304	C215	B224	A305	L306	B253	

Permit #: NJ0021598

LAB ID/ FIELD ID	# OF CONTERS	MATRIX	CHECK IF SPLIT SAMPLE	DESCRIPTION & INSTRUCTIONS INCLUDING LOCATION, ESTIMATED CONCENTRATIONS, SPECIAL REPORTING LIMITS, SPECIAL TEST REQUIREMENTS & ALIQUOTING	Res	Preserv (circle)	Collection Time (24hr clock) Begin	End
Outfall 001- Composit	2	B	☐	2, 1L Plastic Bottles, BOD5 - 24 hr Comp	☐	230 7008-01 0	10:40:00 AM	10:39
	1	B	☐	1, 500ml Plastic Bottles, TSS- 24 hr Comp	☐	-01 0	10:40:00 AM	10:39
	1	B	☐	1, 500 mL Plastic BottleTotal Dissolved Solids (TDS)	☐	-01 0	10:40:00 AM	10:39
	1	B	☐	1, 125 mL Plastic Bottles, Nitrate 24-Comp	☐	-01 0	10:40:00 AM	10:39
	1	B	☐	1, 250 ml Plastic Bottles, NH3, Phosphorous 24- hr Comp	☐	-01 0 1	10:40:00 AM	10:39
Outfall 001 - Grab composit	3	B	☐	3, 1L, Glass Widemouth, Oil & Greese Grab	☐	-02 0 3		10:57
Outfall 001 - Grab	1	B	☐	1, 290 mL Sterilized Plastic Bottle, Feacl Coliform Grab #1	☐	-03 0 4		10:33
	1	B	☐	1, 290 mL Sterilized Plastic Bottle, Feacl Coliform Grab #2	☐	-04 0 4		10:51
	1	B	☐	1, 290 mL Sterilized Plastic Bottle, Feacl Coliform Grab #3	☐	-05 0 4		11:10
	1	B	☐	1, 290 mL Sterilized Plastic Bottle, Feacl Coliform Grab #4	☐	-06 0 4		11:26
	1		☐	1, 290 mL Sterilized Plastic Bottle, Feacl Coliform Grab #5	☐	-07 0.4		11:47
Influent	1	B	☐	1, 1L Plastic Bottle, BOD5- 24 hr Comp	☐	-08 0	10:20	10:15
	1	B	☐	1, 250 ml Plastic Bottle- TSS 24 hr Comp	☐	-08 0	10:20 -	10:15

COMMENTS & SPECIAL REQUIREMENTS:

Sterilized bottle tracking #: L3A2613

7/26/23

Preservative Added & Chec
0=ice
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NaOH pH>9

		Time	
Person Assuming Responsibility for Sample(s): Molly Hillenbrand		14:50	7/26/23
Relinquished By: Molly Hillenbrand	Received By:	14:50	7/26/23
Relinquished By:	Received By:		
Relinquished By:	Received By:		

Matrix:
A=aqueous, B=aqueous (chlorinated), C=soil, D=sediment, E=sludge, F=multiphasic, G=solvent, H=biota, I=oil, J=other

Survey Complete? Y ☐ N ☐

Direct from Sample 7/26/23

revised 10/25/2004

Note: Oil and Greese Sample was collected as a Grab sample not a Grab Composite- Molly Hillenbrand

US EPA REGION 2 LABORATORY

CHAIN OF CUSTODY/ FIELD DATA FORM

AL ENF ☐

Collection Date mm/dd/yy
7/25-26/2023
7/25-26/2023
7/26/2023
7/25-26/2023
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7/25-26/2023
7/25-26/2023

ked
6=Ascorbic Acid
7=FAS
8=ZnAc
9=NaOH pH>12
10=NH4Cl

Date

2023

revised 10/25/2004

Attachment 4: USEPA Analytical Data Package was received on Thursday, August 3, 2023

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory
2890 Woodbridge Avenue
Edison , New Jersey 08837
732-906-6886 Phone
732-906-6165 Fax

August 03, 2023

Philip Cocuzza
Monitoring & Assessment Branch
LSASD/MAB
Edison, NJ 08837

RE: Pennsville Sewage Authority - 2307008

Enclosed are the results of analyses for samples received by the laboratory on 07/26/2023. The signature below reflects the laboratory's approval of the reported results. If you have any questions concerning this report, please refer to Project Number 2307008 and contact the laboratory.

Sincerely,

John R. Bourbon
Chief, LSASD/LB

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Final Report

Project: Pennsville Sewage Authority - 2307008

Project Number: 2307008

Project Narrative:

The National Environmental Laboratory Accreditation Conference Institute (TNI) is a voluntary environmental laboratory accreditation association of State and Federal agencies. TNI established and promoted a National Environmental Laboratory Accreditation Program (NELAP) that provides a uniform set of standards for the generation of environmental data that are of known and defensible quality. The EPA Region 2 Laboratory is NELAP accredited. The Laboratory tests that are accredited have met all the requirements established under the TNI Standards.

Condition Comments

None

Comment(s):

The "Sample Analysis Date and Time" is included in the results section for any analyte with a prescribed holding time of 72 hours or less.

Data Qualifier(s):

U- The analyte was not detected at or above the Reporting Limit.
J- The identification of the analyte is acceptable; the reported value is an estimate.
K- The identification of the analyte is acceptable; the reported value may be biased high.
L- The identification of the analyte is acceptable; the reported value may be biased low.
NJ- There is presumptive evidence that the analyte is present; the analyte is reported as a tentative identification. The reported value is an estimate.

Final Report

Project: Pennsville Sewage Authority - 2307008

Project Number: 2307008

Reporting Limit(s):

The Laboratory was able to achieve the appropriate limit for each analyte requested.

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
Outfall 001-Composite	2307008-01	Aqueous	07/26/2023 10:39	07/26/2023 14:50
Outfall 001-Grab Composite	2307008-02	Aqueous	07/26/2023 10:57	07/26/2023 14:50
Outfall 001-Grab#1	2307008-03	Aqueous	07/26/2023 10:33	07/26/2023 14:50
Outfall 001-Grab#2	2307008-04	Aqueous	07/26/2023 10:51	07/26/2023 14:50
Outfall 001-Grab#3	2307008-05	Aqueous	07/26/2023 11:10	07/26/2023 14:50
Outfall 001-Grab#4	2307008-06	Aqueous	07/26/2023 11:26	07/26/2023 14:50
Outfall 001-Grab#5	2307008-07	Aqueous	07/26/2023 11:47	07/26/2023 14:50
Influent	2307008-08	Aqueous	07/26/2023 10:15	07/26/2023 14:50

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Final Report

Project: Pennsville Sewage Authority - 2307008

Project Number: 2307008

SUMMARY REPORT FOR METHODS

Analysis	Method	Certification	Matrix
Ammonia [As N]	EPA 350.1 SOP C-80 Rev 2.8	NELAP	Aqueous
Biochemical Oxygen Demand	SM 5210B SOP C-21 Rev 2.8	NELAP	Aqueous
Coliform, Fecal	SM9221B,E / SOP B-8 Rev 2.8	NELAP	Aqueous
Nitrate [As N]	EPA 353.2 SOP C-79 Rev 3.7	NELAP	Aqueous
Oil & Grease	EPA 1664A SOP C-126 Rev 1.7	NELAP	Aqueous
Phosphorus	EPA 365.1 SOP C-68 Rev 2.8	NELAP	Aqueous
Residue, Filterable	SM 2540C SOP C-37 Rev 2.8	NELAP	Aqueous
Residue, Non-Filterable	SM 2540D SOP C-33 Rev 3.8	NELAP	Aqueous

Final Report

Project: Pennsville Sewage Authority - 2307008

Project Number: 2307008

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: Outfall 001-Composite			**Sample ID: 2307008-01**			
Sanitary						
Ammonia [As N]	5.65		0.100	mg/L	B308006	
Biochemical Oxygen Demand	4.57		2.00	mg/L	B307092	08/01/2023 09:32
Nitrate [As N]	8.55		0.500	mg/L	B307103	07/27/2023 10:28
Phosphorus	2.76		0.500	mg/L	B308004	
Total Dissolved Solids	468		10.0	mg/L	B307107	
Total Suspended Solids	11.0		10.0	mg/L	B307106	
Field ID: Outfall 001-Grab Composite			**Sample ID: 2307008-02**			
GC						
Oil & Grease	---	U J	5.88	mg/L	B307105	
Field ID: Outfall 001-Grab#1			**Sample ID: 2307008-03**			
Microbiology, MPN						
Coliform, Fecal	12		1.8	MPN/100 mL	B307102	07/27/2023 13:45
Field ID: Outfall 001-Grab#2			**Sample ID: 2307008-04**			
Microbiology, MPN						
Coliform, Fecal	45		1.8	MPN/100 mL	B307102	07/27/2023 13:55
Field ID: Outfall 001-Grab#3			**Sample ID: 2307008-05**			
Microbiology, MPN						
Coliform, Fecal	17		1.8	MPN/100 mL	B307102	07/27/2023 14:00
Field ID: Outfall 001-Grab#4			**Sample ID: 2307008-06**			
Microbiology, MPN						
Coliform, Fecal	110		1.8	MPN/100 mL	B307102	07/27/2023 14:40

Final Report

Project: Pennsville Sewage Authority - 2307008

Project Number: 2307008

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: Outfall 001-Grab#5			**Sample ID: 2307008-07**			
Microbiology, MPN						
Coliform, Fecal	45		1.8	MPN/100 mL	B307102	07/27/2023 15:00
Field ID: Influent			**Sample ID: 2307008-08**			
Sanitary						
Biochemical Oxygen Demand	139		2.00	mg/L	B307092	08/01/2023 09:32
Total Suspended Solids	134		10.0	mg/L	B307106	

Final Report

Project: Pennsville Sewage Authority - 2307008

Project Number: 2307008

GC - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B307105									
Blank (B307105-BLK1)									
Oil & Grease	--- U	5.00	mg/L						
LCS (B307105-BS1)									
Oil & Grease	34.7	5.00	mg/L	40.00		86.8	78-114		
LCS Dup (B307105-BSD1)									
Oil & Grease	24.1	5.00	mg/L	40.00		60.2	78-114	36.1	20
Matrix Spike (B307105-MS1)	**Source: 2307010-01**								
Oil & Grease	37.8	5.10	mg/L	40.82	ND	92.6	78-114		
Matrix Spike (B307105-MS2)	**Source: 2307008-02**								
Oil & Grease	41.9	5.95	mg/L	47.62	ND	88.0	78-114		

Final Report

Project: Pennsville Sewage Authority - 2307008

Project Number: 2307008

Sanitary - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B307092									
Blank (B307092-BLK1)									
Biochemical Oxygen Demand	--- U	2.00	mg/L						
LCS (B307092-BS1)									
Biochemical Oxygen Demand	161		mg/L	198.0		81.3	84.6-115.4		
LCS (B307092-BS2)									
Biochemical Oxygen Demand	213		mg/L	198.0		108	84.6-115.4		
LCS (B307092-BS3)									
Biochemical Oxygen Demand	217		mg/L	198.0		110	84.6-115.4		
Duplicate (B307092-DUP1)	**Source: 2307008-08**								
Biochemical Oxygen Demand	160	2.00	mg/L		139			13.8	25
Matrix Spike (B307092-MS1)	**Source: 2307008-08**								
Biochemical Oxygen Demand	489	2.00	mg/L	396.0	139	88.3	75-125		
Matrix Spike Dup (B307092-MSD1)	**Source: 2307008-08**								
Biochemical Oxygen Demand	495	2.00	mg/L	396.0	139	89.9	75-125	1.33	200
Batch B307103									
Blank (B307103-BLK1)									
Nitrate [As N]	--- U	0.0500	mg/L						
Blank (B307103-BLK2)									
Nitrate [As N]	--- U	0.0500	mg/L						

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B307103									
LCS (B307103-BS1)									
Nitrate [As N]	15.3	0.500	mg/L	16.50		93	90-110		
LCS Dup (B307103-BSD1)									
Nitrate [As N]	15.9	0.500	mg/L	16.50		96	90-110	4	20
Matrix Spike (B307103-MS1)	**Source: 2307008-01**								
Nitrate [As N]	9.02	0.500	mg/L	0.2000	8.55	235	90-110		
Matrix Spike (B307103-MS2)	**Source: 2307044-04**								
Nitrate [As N]	4.34	0.500	mg/L	0.2000	4.05	145	90-110		
Batch B307106									
Blank (B307106-BLK1)									
Residue, Non-Filterable	--- U	10.0	mg/L						
LCS (B307106-BS1)									
Residue, Non-Filterable	55.0	10.0	mg/L	56.20		97.9	85-115		
LCS Dup (B307106-BSD1)									
Residue, Non-Filterable	53.0	10.0	mg/L	56.20		94.3	85-115	3.70	20
Duplicate (B307106-DUP1)	**Source: 2307008-01**								
Residue, Non-Filterable	12.0	10.0	mg/L		11.0			8.70	20
Batch B307107									
Blank (B307107-BLK1)									
Residue, Filterable	--- U	10.0	mg/L						

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B307107									
Blank (B307107-BLK2)									
Residue, Filterable	--- U	10.0	mg/L						
LCS (B307107-BS1)									
Residue, Filterable	495	10.0	mg/L	480.0		103	85-115		
LCS Dup (B307107-BSD1)									
Residue, Filterable	501	10.0	mg/L	480.0		104	85-115	1.20	20
Duplicate (B307107-DUP1)	**Source: 2307008-01**								
Residue, Filterable	454	10.0	mg/L		468			3.04	20
Batch B308004									
Blank (B308004-BLK1)									
Phosphorus	--- U	0.0500	mg/L						
Blank (B308004-BLK2)									
Phosphorus	--- U	0.0500	mg/L						
LCS (B308004-BS1)									
Phosphorus	8.42	0.250	mg/L	8.450		100	90-110		
LCS Dup (B308004-BSD1)									
Phosphorus	8.51	0.250	mg/L	8.450		101	90-110	1	20
Matrix Spike (B308004-MS1)	**Source: 2307008-01**								
Phosphorus	3.39	0.500	mg/L	1.000	2.76	63	90-110		

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B308004									
Matrix Spike (B308004-MS2)		**Source: 2307044-05**							
Phosphorus	2.61	0.500	mg/L	1.000	1.83	78	90-110		
Batch B308006									
Blank (B308006-BLK1)									
Ammonia [As N]	--- U	0.100	mg/L						
Blank (B308006-BLK2)									
Ammonia [As N]	--- U	0.100	mg/L						
LCS (B308006-BS1)									
Ammonia [As N]	7.99	0.100	mg/L	8.340		96	90-110		
LCS Dup (B308006-BSD1)									
Ammonia [As N]	8.09	0.100	mg/L	8.340		97	90-110	1	20
Matrix Spike (B308006-MS1)		**Source: 2307008-01**							
Ammonia [As N]	11.1	1.00	mg/L	5.000	5.65	109	90-110		
Matrix Spike (B308006-MS2)		**Source: 2307044-04**							
Ammonia [As N]	9.68	0.100	mg/L	5.000	5.49	84	90-110		