pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0054810**
Facility Type	**Municipal**	APS ID	**1045284**
Major / Minor	**Minor**	Authorization ID	**1364954**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Upper Frederick Township**	Facility Name	**Perkiomen Crossing STP**
Applicant Address	3205 Big Road P O Box 597	Facility Address	Valley Stream Drive
	Frederick, PA 19435-0597		Frederick, PA 19435-0597
Applicant Contact	Tracy Tackett	Facility Contact	Richard Sacks
Applicant Phone	(610) 754-6436	Facility Phone	(610) 828-3078
Client ID	93286	Site ID	484317
Ch 94 Load Status	Not Overloaded	Municipality	Upper Frederick Township
Connection Status	No Limitations	County	Montgomery
Date Application Received	August 9, 2021	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Permit Renewal

Summary of Review

The applicant requests renewal of an NPDES permit to discharge 0.04785 MGD of treated sewage from Perkiomen Crossing STP into Goshenhoppen Creek. The receiving stream, Goshenhoppen Creek which ultimately discharges to Perkiomen Creek watershed 3-E, is classified as Trout Stocking Fisheries.

The STP is an extended aeration system with two equalization tanks, two anoxic tanks, six aeration tanks, two clarifiers, tertiary filter, chlorine contact tank, post aeration tank, and one sludge holding tank.

The review of the recent e-DMR shows that the discharge is generally in compliance with the existing permit limits. There were few violations between 2016 to 2019 for effluent limits of NPDES permit. The Department (DEP) executed Consent assessment of Civil Penalty (CACP) dated April 8, 2021 resolving violations of the NPDES permit. There are no changes in the effluent, treatment units, stream designation etc. The proposed effluent limits are the same as the existing limits. The effluent monitoring for E. Coli is included in this permit renewal and is consistent with SOP. Influent monitoring for BOD5 and TSS were included based on Chapter 94 requirement and to check compliance with 85 percent removal requirement for secondary treatment. Effluent limits are based on previous WQM model, BAT, BPJ and are necessary to protect & maintain the water quality and designated use of the stream.

The influent samples are collected at the last collection system manhole located inside the treatment plant gate due to aeration in EQ tanks and the filter backwash and sludge decant returned to the in-ground EQ tank. The groundwater/spring discharge is monitored weekly for Flow and sampled quarterly for Fecal Coliform and discharged through outfall 002.

Sludge use and disposal description and location(s): The sewage sludge is sent to Pottstown Wastewater Treatment Plant for treatment and disposal.

Approve	Deny	Signatures	Date
X		Ketan Thaker Ketan Thaker / Project Manager	February 11, 2022
X		Pravin Patel Pravin C. Patel, P.E. / Environmental Engineer Manager	02/11/2022

Summary of Review

Following are effluent limits:

PARAMETER	EFFLUENT LIMIT (mg/l) Av. Monthly	BASIS
CBOD5	10	BAT/existing
Total Suspended Solids	10	BAT/existing
Ammonia as N (5/1 to 10/31)	1.5	Previous WQM/existing
Ammonia as N (11/1 to 4/30)	4.5	Previous WQM/existing
Total Phosphorus	0.5	BPT/existing
Nitrite-Nitrate as N	10	BAT/existing
Dissolved Oxygen	6.0	Previous WQM/existing
Total Residual Chlorine	0.1	Existing
Fecal Coliform (#/100 ml)	#200/ 100 ml (Geo Mean)	Ch. 92a.47
pH (Standard Units – SU)	6.0 to 9.0 STD at all times	Ch. 92a.47, 95.2
Total Nitrogen	Report	Ch. 92a.61
E. Coli	Report	Ch. 92a.47, SOP

Act-14 notification to Upper Frederick Township on July 16, 2021.
Act-14 notification to Montgomery County Planning Commission on July 28, 2021

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.04785
Latitude	40Âº 18' 2.51"	Longitude	-75Âº 29' 42.81"
Quad Name	Perkiomenville	Quad Code	1642
Wastewater Description:	Sewage Effluent		

Receiving Waters	Goshenhoppen Creek (TSF, MF)	Stream Code	01310
NHD Com ID	25987420	RMI	2.98
Drainage Area	0.99 mi^2	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.0293	Q_{7-10} Basis	Stream Stats (previous factsheet)
Elevation (ft)	275	Slope (ft/ft)	
Watershed No.	3-E	Chapter 93 Class.	TSF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	NUTRIENTS		
Source(s) of Impairment	MUNICIPAL POINT SOURCE DISCHARGES		
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake			
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40Âº 18' 2.51"	Longitude	-75Âº 29' 42.81"
Quad Name	Perkiomenville	Quad Code	1642
Wastewater Description:	Groundwater / Spring Discharge		

Receiving Waters	Goshenhoppen Creek (TSF, MF)	Stream Code	01310
NHD Com ID	25987420	RMI	2.64
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	3-E	Chapter 93 Class.	TSF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	NUTRIENTS		
Source(s) of Impairment	MUNICIPAL POINT SOURCE DISCHARGES		
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake			
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Treatment Facility Summary

Treatment Facility Name: Perkiomen Crossing STP

WQM Permit No.	Issuance Date
4607404	8/16/2007

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration With Solids Removal	Hypochlorite	0.0479

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.04785	105	Not Overloaded	Aerobic Digestion	Other WWTP

Compliance History

DMR Data for Outfall 001 (from January 1, 2021 to December 31, 2021)

Parameter	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21
Flow (MGD) Average Monthly	0.041	0.043	0.043	0.045	0.042	0.038	0.039	0.039	0.039	0.043	0.043	0.043
Flow (MGD) Daily Maximum	0.052	0.058	0.065	0.086	0.079	0.055	0.063	0.055	0.064	0.079	0.064	0.065
pH (S.U.) Instantaneous Minimum	7.3	7.4	7.6	7.6	7.5	7.4	7.2	7.2	7.3	7.4	7.5	7.2
pH (S.U.) Instantaneous Maximum	8.0	7.8	7.7	7.8	7.8	8.0	7.8	7.8	7.8	7.8	7.9	8.1
DO (mg/L) Instantaneous Minimum	7.8	7.7	8.0	7.7	7.3	7.6	7.4	7.7	8.6	9.1	9.1	8.9
TRC (mg/L) Average Monthly	0.05	0.03	0.04	0.06	0.04	0.03	0.03	0.05	0.07	0.06	0.05	0.03
TRC (mg/L) Instantaneous Maximum	0.18	0.15	0.12	0.18	0.12	0.12	0.18	0.17	0.18	0.20	0.18	0.08
CBOD5 (lbs/day) Average Monthly	< 1.0	1.5	< 0.7	< 0.7	< 0.8	< 0.8	1.2	1.1	1.9	2.0	1.1	1.6
CBOD5 (lbs/day) Weekly Average	1.3	2.0	0.8	< 0.8	< 0.8	0.9	1.4	1.1	2.6	2.2	1.2	1.8
CBOD5 (mg/L) Average Monthly	< 3.2	3.6	< 2.2	< 2.0	< 2.0	< 2.4	2.7	3.2	4.9	5.7	3.1	3.9
CBOD5 (mg/L) Weekly Average	4.3	4.7	2.3	< 2.0	< 2.0	2.7	2.8	3.4	6.1	5.7	3.3	4.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	128	106	86	160	85	114	117	104	126	108	167	219
BOD5 (mg/L) Raw Sewage Influent Average Monthly	402	264	255	433	227	314	267	308	347	315	456	503
TSS (lbs/day) Average Monthly	< 1.4	< 1.6	< 1.3	< 1.5	< 1.5	< 1.4	< 1.7	< 1.4	< 1.5	< 1.4	< 1.6	< 1.7

TSS (lbs/day) Raw Sewage Influent Average Monthly	119	65	45	78	86	100	99	52	66	33	169	111
TSS (lbs/day) Weekly Average	1.4	< 1.7	1.4	< 1.6	< 1.6	< 1.5	< 2.0	< 1.5	< 1.7	< 1.6	< 1.6	< 1.9
TSS (mg/L) Average Monthly	< 4.3	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.5	< 4.0
TSS (mg/L) Raw Sewage Influent Average Monthly	367	159	132	209	228	274	226	148	174	95	460	262
TSS (mg/L) Weekly Average	4.5	< 4.0	4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	5.0	4.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	< 1	< 1	< 1	< 3	< 1	< 1	< 1	< 2	< 14	< 1	< 1
Fecal Coliform (No./100 ml) Instantaneous Maximum	1	< 1	< 1	2	11	< 1	1	1	3	208	< 1	< 1
Nitrate-Nitrite (lbs/day) Average Monthly	2.5	2.8	2.5	3.3	2.3	2.5	3.9	2.1	2.4	2.3	2.5	3.8
Nitrate-Nitrite (mg/L) Average Monthly	7.8	6.9	7.4	8.7	6.0	6.9	8.8	6.3	6.6	6.6	7.1	9.0
Total Nitrogen (mg/L) Average Monthly	8.66	7.98	7.41	9.24	6.93	7.99	10.27	7.35	7.86	9.46	8.06	10.16
Ammonia (lbs/day) Average Monthly	< 0.03	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.2	< 0.03	< 0.04	< 0.6	< 0.04	0.2
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.6	< 0.1	< 0.1	< 2.0	< 0.1	0.4
Total Phosphorus (lbs/day) Average Monthly	0.08	0.08	0.05	0.06	< 0.06	0.08	< 0.1	0.1	0.1	0.1	0.08	0.09
Total Phosphorus (mg/L) Average Monthly	0.3	0.2	0.1	0.2	< 0.2	0.2	< 0.1	0.2	0.3	0.3	0.2	0.2

DMR Data for Outfall 002 (from January 1, 2021 to December 31, 2021)

Parameter	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21
Flow (MGD) Average Monthly	0.0053	0.0077	0.0112	0.0166	0.0219	0.0179	0.0116	0.0147	0.0134	0.029	0.0355	0.0168
Fecal Coliform (No./100 ml) Geometric Mean	27			< 1			< 1			49		
Fecal Coliform (No./100 ml) Instantaneous Maximum	27			< 1			< 1			49		

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.10	XXX	0.20	1/day	Grab
CBOD5	4.0	6.0	XXX	10.0	15.0	20	2/month	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS	4.0	6.0	XXX	10.0	15.0	20	2/month	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Nitrate-Nitrite	4.0	XXX	XXX	10.0	XXX	20	2/month	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	1.8	XXX	XXX	4.5	XXX	9	2/month	24-Hr Composite

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia May 1 - Oct 31	0.6	XXX	XXX	1.5	XXX	3	2/month	24-Hr Composite
Total Phosphorus	0.2	XXX	XXX	0.5	XXX	1	2/month	24-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 002, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/week	Estimate
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	Report Avg Qrtly	XXX	Report	1/quarter	Grab

WQM Model

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03E	1310	GOSHENHOPPEN CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
2.980	Perkiomen Cross	PA0054810	0.048	CBOD5	10		
				NH3-N	1.5	3	
				Dissolved Oxygen			6

Permit No. PA0054810

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03E	1310	GOSHENHOPPEN CREEK	**2.980**	275.00	0.99	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.03	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Perkiomen Cross	PA0054810	0.0479	0.0000	0.0000	0.000	25.00	7.50

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	10.00	2.00	0.00	1.50
Dissolved Oxygen	6.00	8.24	0.00	0.00
NH3-N	1.50	0.00	0.00	0.70

Permit No. PA0054810

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03E	1310	GOSHENHOPPEN CREEK	**1.800**	250.00	1.62	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.06	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
03E	1310	GOSHENHOPPEN CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (ºC)	Analysis pH
Q7-10 Flow												
2.980	0.03	0.00	0.03	.074	0.00401	.357	5	14	0.06	1.239	23.56	7.29
Q1-10 Flow												
2.980	0.02	0.00	0.02	.074	0.00401	NA	NA	NA	0.05	1.317	23.97	7.34
Q30-10 Flow												
2.980	0.04	0.00	0.04	.074	0.00401	NA	NA	NA	0.06	1.172	23.22	7.25

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

Permit No. PA0054810

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03E	1310	GOSHENHOPPEN CREEK

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
2.980	Perkiomen Cross	5.37	3	5.37	3	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
2.980	Perkiomen Cross	1.31	1.5	1.31	1.5	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
2.98	Perkiomen Cross	10	10	1.5	1.5	6	6	0	0

Permit No. PA0054810

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
03E	1310	GOSHENHOPPEN CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.980	0.048	23.558	7.290
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
5.001	0.357	13.996	0.058
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
7.69	0.924	1.07	0.920
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.647	23.580	Owens	6
Reach Travel Time (days)			
1.239			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.124	6.72	0.95	7.73
0.248	5.88	0.85	7.73
0.372	5.14	0.76	7.73
0.495	4.49	0.68	7.73
0.619	3.92	0.60	7.73
0.743	3.43	0.54	7.73
0.867	3.00	0.48	7.73
0.991	2.62	0.43	7.73
1.115	2.29	0.38	7.73
1.239	2.00	0.34	7.73