pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0031062**
Facility Type	**Municipal**	APS ID	**24498**
Major / Minor	**Major**	Authorization ID	**1463471**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Robesonia Wernersville Municipal Authority - Berks County**	Facility Name	**Robesonia Wernersville STP**
Applicant Address	P.O. Box 202, 3885 N Church Street Wernersville, PA 19565-0202	Facility Address	3885 North Church Street Wernersville, PA 19565
Applicant Contact	Lucas Blakeslee	Facility Contact	Lucas Blakeslee, RWMA
Applicant Phone	(610) 678-5115 /lucasrwma@comcast.net	Facility Phone	(610) 678-5115
Client ID	35112	Site ID	452551 (PF #479853)
Ch 94 Load Status		Municipality	Heidelberg Twp
Connection Status		County	Berks
Date Application Received	November 30, 2023	EPA Waived?	No
Date Application Accepted	January 25, 2024	If No, Reason	Major Facility
Purpose of Application	Renewal of permit		

Summary of Review

The last NPDES permit for this facility was issued May 30, 2019, with an expiration date of May 31, 2024. The existing permit was administratively extended by DEP past its expiration date.

The NPDES permit renewal application was submitted via DEP's electronic OnBase system (Reference ID # 131314) on November 30, 2023. Upon DEP's request, additional sample results were received as an email attachment on January 25, 2024. The permittee opted to forward additional effluent samples that were received on March 25, 2025.

The application represented that:

-there were no industrial users;
-there were no hauled-in wastes accepted or intended to be accepted for next 5 years;
-domestic wastewater contributions are from Robesonia Borough, Wernersville Borough (including Wernersville State Hospital), Heidelberg Township (Twp), Lower Heidelberg Twp, and Southern Heidelberg Twp;
-the discharge is continuous;
-there are no combined sewer outfalls (CSOs);
-there are no stormwater outfalls;
-three stream Hardness samples upstream of outfall 001 yielded an average concentration of 152 mg/l.

The facility's 2023 Chapter 94 Municipal Wasteload report was reviewed and matched the application's information. (The facility's 2024 Chapter 94 Report was received but has not yet been approved. The flow spreadsheet does not show past or projected hydraulic overloads. The Annual average flows for 2020 through 2024 and for the next 5 years are below 1.4 MGD. See attached.)

Design Flow

The design flow used as the basis for effluent limitations in the existing NPDES permit is 1.4 MGD. The application reported no planned increase in design flow. A review of the 2024 Chapter 94 Municipal Annual Wasteload Report and the past three

Approve	Deny	Signatures	Date
x		*Bonnie Boylan* Bonnie Boylan / Environmental Engineering Specialist	April 6, 2025 ~~October 29, 2024~~
x		*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	April 22, 2025

Summary of Review

years of flows reported on the facility's Discharge Monitoring Reports (DMRs) (**see attached**) do not indicate that a larger design flow is warranted. The same design flow of 1.4 MGD has been used to develop effluent limitations for this renewal permit.

EPA Pretreatment Program

Not applicable. The facility's design flow is < 5 MGD and they do not have industrial users. (The existing permit also did not include an EPA-Pretreatment Program requirement).

Sludge use and disposal description and location(s)

According to the permit application, sludge is disposed at a landfill or a POTW. The facility had coverage under DEP's PAG-08 general permit for biosolids beneficial use (permit PAG083581), but it is inactive. They are seeking DEP approval to again land apply biosolids under a PAG-03 general permit.

Variances

There were no variances requested.

Delaware River Basin Commission (DRBC)

The discharge is within the Delaware River watershed. A copy of the draft permit and Fact Sheet will therefore be sent to the DRBC for their review in accordance with State regulations and an interagency agreement and any comments will be considered. The most recent DRBC docket #D-1988-023 CP-4 was approved for this facility on June 7, 2023 and expires on May 31, 2029.

Outstanding Violations

There are no outstanding violations for this client according to DEP's Compliance History Summary report.

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)	1.4 per appl & last permit
Latitude	40º 20' 58"	Longitude	-76º 05' 04"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Spring Creek (TSF)	Stream Code	01878
NHD Com ID	25995684	RMI	5
Drainage Area	19.6 sq. miles	Yield (cfs/mi^2)	0.23
Q_{7-10} Flow (cfs)	4.49	Q_{7-10} Basis	USGS Pa Stream Stats Online Tool (see attached)
Elevation (ft)	340’	Slope (ft/ft)	
Watershed No.	3-C	Chapter 93 Class.	TSF , MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired for Recreational Use (assessment 22192, category 4c) and for Aquatic Life (assessment 18846, category 5, needing TMDL)		
Cause(s) of Impairment	Pathogens – Habitat Modifications		
Source(s) of Impairment	Unknown		
TMDL Status	None (yet)	Name	

Secondary Waters:

Spring Creek enters Tulpehocken Creek (WWF, stream code 1846) at RMI 10.2, in Blue Marsh Lake (WWF, impaired for recreational uses due to pathogens and impaired for aquatic life due to nutrients and organic enrichment (assessments 3033 and 3034); Tulpehocken Creek empties into Schuylkill River at RMI 77

Background/Ambient Data - none		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)	152	Application (average of 3 stream samples upstream of 001)

Nearest Downstream Public Water Supply Intake		Western Berks Water Authority	
PWS Waters	Tuplehocken Creek	Flow at Intake (cfs)	
PWS RMI	Approx.. 6	Distance from Outfall (mi)	Approx. 9

Changes Since Last Permit Issuance: an additional PADWIS intake (proposed) farther north on Tulpehocken Creek from existing one now shows on eMapPA

Last permit development used Q7-10 of 4.42 cfs , D.A. of 19.5 mi.^{2}, same LFY of 0.23 cfs/mi^2

Qs : Qd ratio = 2.1 : 1

-The receiving stream and downstream waters are **NOT** designated as Class A Wild Trout or HQ or EV waters
-The receiving stream is considered ‘Trout Natural Reproduction’ waters.
-The receiving stream and treatment plant are not located in an ‘Environmental Justice Area’ according to DEP’s eMapPa
-No sewage treatment plants are located nearby to include in modeling.

Treatment Facility Summary

Treatment Facility Name: Robesonia Wernersville STP

WQM Permit No.	Issuance Date
0688405 A-5	8/22/2022
0688405 A-4	2/26/2014

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Rotating Biological Contactors and Cloth Media Filters	Gas Chlorine	1.4

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
1.4	2382		Aerobic Digestion	Off-site

Description of Treatment Plant provided in application:

The WWTP receives wastewater flow by gravity, which enters a headworks complex consisting of flow meters and an influent screening device, a wet well, and a raw wastewater pump station. The flow is then piped to alum mixing tanks. From the alum tanks, flow enters two (2) primary clarifiers. Following primary clarification, wastewater flows by gravity to two (2) rows of baffled rotating biological contactor (RBC) units. The RBC units provide organics and nitrogen removal.

Effluent from the RBC units is again treated with alum and polymer flocculant prior to sedimentation and filtration. Sedimentation is provided with two (2) final clarifiers followed by filtration in two (2) tertiary disk filter units. Filtration is utilized to remove fine suspended solids, which is necessary to achieve a high removal of phosphorus. Following filtration, the wastewater enters a chlorine contact tank and flow meter prior to discharge to Spring Creek.

The facility includes two 2 treatment trains

The RBCs and the secondary treatment processes reduce Total Nitrogen. The use of a flocculant and filtration is utilized for the reduction of Total Phosphorus.

The sludge is thickened and aerobically digested in the two (2) aerobic digester and thickener tanks. Digested and settled sludge is either sent to the facility's reed beds or hauled off site by a contract hauler for disposal. A sludge press is used to dewater the sludge. Dewatered sludge is hauled to a landfill. Screenings and grit are disposed of at a landfill.

EXISTING NPDES PERMIT LIMITS:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instant. Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.31	XXX	1.0	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	291	Report	XXX	25.0	40.0	50	2/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	350	Report	XXX	30.0	45.0	60	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
Ammonia-Nitrogen Nov 1 - Apr 30 [sic]	70 [sic]	XXX	XXX	6.0 [sic]	XXX	12 [sic]	2/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31 [sic]	210 [sic]	XXX	XXX	18.0 [sic]	XXX	20 [sic]	2/week	24-Hr Composite
Total Phosphorus	11.6	XXX	XXX	1.0	XXX	2	2/week	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Copper, Total	XXX	XXX	XXX	XXX	XXX	Report Daily Max	1/month	24-Hr Composite
Lead, Total	XXX	XXX	XXX	XXX	XXX	Report Daily Max	1/month	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite

Compliance History

DMR Data for Outfall 001 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
Flow (MGD) Average Monthly	0.633881	0.593254	0.631681	0.566492	0.547955	0.563516	0.605714	0.55087	0.526302	0.605524	1.160022	0.941868
Flow (MGD) Daily Maximum	1.013173	0.673416	0.986263	0.696096	0.649957	0.626755	0.892941	0.669621	0.712756	0.789293	3.549088	1.746783
pH (S.U.) Instantaneous Minimum	6.1	6.1	6.3	6.1	6.2	6.2	6.3	6.1	6.0	6.0	6.0	6.1
pH (S.U.) Instantaneous Maximum	6.7	6.9	6.8	7.3	6.8	6.7	6.9	6.9	6.7	6.5	7.0	6.8
DO (mg/L) Instantaneous Minimum	8.6	8.6	7.9	7.3	6.5	7.1	6.4	6.1	6.3	6.8	8.4	8.4
TRC (mg/L) Average Monthly	0.25	0.25	0.25	0.23	0.24	0.27	0.24	0.22	0.25	0.26	0.23	0.23
TRC (mg/L) Instantaneous Maximum	0.31	0.31	0.35	0.33	0.32	0.34	0.33	0.33	0.33	0.34	0.38	0.34
CBOD5 (lbs/day) Average Monthly	18.5	11.7	10.6	9.7	34	56.0	74.7	45.6	33.2	34.4	76.8	17.8
CBOD5 (lbs/day) Weekly Average	23.34	16.2	11.55	10.925	45.2	89.15	110.95	57.2	72.1	62.85	207.17	26.0
CBOD5 (mg/L) Average Monthly	3.6	2.4	2.07	2.1	7.0	12.1	15.1	10.1	7.58	6.81	4.78	2.24
CBOD5 (mg/L) Weekly Average	4.25	3.34	2.35	2.3	10.1	20.45	21.95	12.6	16.65	12.7	7.93	2.5
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	1095	987	621	656	1102	1208	899	893	865	837	834	1016
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	1444	1532	844	860.5	1421	1603	1242	1367	1483	1143	1177	1538
BOD5 (mg/L) Raw Sewage Influent Average Monthly	209	201.75	125	146	240	252	187	212	209	176	101	128

TSS (lbs/day) Average Monthly	37.9	31.9	23.4	19.8	26	30.1	27.2	28.1	29.1	27.8	87.6	35.1
TSS (lbs/day) Raw Sewage Influent Average Monthly	463	465	375	373.0	696	888	625	610	631	650	719	735
TSS (lbs/day) Raw Sewage Influent Daily Maximum	651	773	675	409.0	1168	1422	1232	1093	1319	1050	1105	1126
TSS (lbs/day) Weekly Average	42.5	36.8	31.5	24.0	28	36.5	35.5	37.5	43.5	32.0	212	41.5
TSS (mg/L) Average Monthly	7.41	6.0	4.52	4.29	6.0	6.4	5.3	6.1	6.6	5.5	6.4	4.5
TSS (mg/L) Raw Sewage Influent Average Monthly	86.7	95	75.5	83.0	151	184	128	145	153	138	89.5	90.6
TSS (mg/L) Weekly Average	9.0	7.5	5.4	5.15	6.1	7.5	6.25	8.4	9.85	6.5	9.0	5.0
Total Dissolved Solids (mg/L) Average Quarterly			608			506			454			431
Fecal Coliform (No./100 ml) Geometric Mean	1	1	2	2.0	4	2	2	5	4	8.0	26	29
Fecal Coliform (No./100 ml) Instantaneous Maximum	1	1	1400	17.0	16	4	10	32	49	88.0	8600	362
Total Nitrogen (mg/L) Average Monthly	35.8	33.1	24.6	26.7	30.9	20.6	14.8	20.6	23.0	21.5	21.6	23.6
Ammonia (lbs/day) Average Monthly	6.33	14.5	8.51	4.57	1	1.42	1.63	0.56	1.09	1.1	5.05	7.32
Ammonia (mg/L) Average Monthly	1.24	2.99	1.64	0.98	0.29	0.3	0.27	0.12	0.25	0.21	0.43	0.98
Total Phosphorus (lbs/day) Average Monthly	3.0	2.0	2.0	4.0	3.0	3.0	4.0	4.0	6.0	5.0	7.0	6.0
Total Phosphorus (mg/L) Average Monthly	0.5	0.41	0.44	0.84	0.56	0.64	0.66	0.9	1.32	0.92	0.7	0.81

Total Copper (mg/L) Daily Maximum	0.010	0.011	0.012	0.012	0.009	0.01	0.009	0.013	0.015	0.017	0.019	0.016
Total Lead (mg/L) Daily Maximum	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Effluent Violations for Outfall 001: from August 1, 2022 to February 28, 2025:

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Phosphorus	6/30/2024	Avg. Monthly	1.32	Mg/l	1.0	Mg/l
Fecal Coliform	07/31/23	IMAX	4800	No./100 ml	1000	No./100 ml
Fecal Coliform	06/30/23	IMAX	1500	No./100 ml	1000	No./100 ml
Total Residual Chlorine	11/30/2022	Avg. Monthly	0.33	Mg/l	0.31	Mg/l

Hydraulic Overloads Reported: from August 1, 2022 to February 28, 2025:

	Date	Location	Volume	Duration	Impact on Surface Waters	DEP Notified	Comments
Hydraulic Overload at plant	4/03/2024	Disc filters	Unknown	17 hours	None Observed	Yes	Storm event
Hydraulic Overload at plant	12/18/2023	Disc Filters	Unknown	24 hours (est)	None Observed	Yes	Storm event

Summary of Recent DEP Inspections:

3/13/2025 - Compliance Evaluation Inspection, No violations. Effluent appeared very clear, no noticeable solids or discoloration, no foam, or scum. A chlorine solution is dosed into the wet well. Influent pumps were recently serviced with new impellers, wear plates, and shims. Aluminum sulfate used for settling and phosphorus removal. 5 reed beds are seldom used but kept for emergencies. Facility was approved March 24, 2025 for land applying biosolids under PAG-08 permit. 8 Pump Stations in collection system.

9/27/2024 – Sewage Sludge Generator Inspection – Biosolids have not been land applied since 2018. A Notice of Intent was received by DEP 9/11/2024 and has been reviewed. The NOI has not been approved. Recommendations were instead made.

2/8/2024 – Biosolids (File) Review – No Violations

8/17/2023 – Compliance Evaluation Inspection, No violations.

3/10/2023 - Biosolids (File) Review – No Violations

1/25/2022 - Biosolids (File) Review – No Violations

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 1.4
Latitude 40º 20' 58" **Longitude** -76º 05' 04"
Wastewater Description: Sewage Effluent

DEP separately determines Technology-Based Effluent Limitations (TBELs), Best Professional Judgement limitations (BPJ), and Water Quality-Based Effluent Limitations (WQBELs), compares them to existing permit limits, then decides which to impose as permit limits for the renewal permit.

Technology-Based Effluent Limitations (TBELs)

The following technology-based limitations apply, subject to water quality analysis and Best Professional Judgement (BPJ) where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation	DRBC*
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)	
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)	
Total Suspended Solids (TSS)	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)	
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)	
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)	
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)	
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)	
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)	
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)	
Total Residual Chlorine (TRC)	0.5	Average Monthly	-	92a.48(b)(2)	
Total Phosphorus	2.0 when the receiving water or downstream waterway is impaired for nutrients	Average Monthly		96.5	
Total Dissolved Solids (TDS)	1000**	Average Monthly			18 CFR Part 410
Ammonia	20	Average Monthly			18 CFR Part 410

*DEP has an interagency agreement with the Delaware River Basin Commission and incorporates their requirements (per 18 CFR Part 410 Water Quality Regulations and approved dockets) into our permits where appropriate.

**Or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives and recognizes the need for reserve capacity to serve future dischargers (i.e. a limit based on a TDS Determination submitted to DRBC proving that the discharge will not cause the TDS in the receiving water to exceed the lesser of 500 mg/l or 133% of background. The DRBC docket for this facility does not include such a TDS variance).

The above TBELs have been imposed in the draft renewal permit as permit limits for **CBOD5, TSS, pH, Fecal Coliform**, and **TDS**. Average weekly mass load limits were included in the renewal permit for CBOD5 and TSS as recommended in DEP's Technical Guidance for the Development and Specification of Effluent Limitations, document #386-0400-001, and consistent with NPDES permit for other sewage treatment plants whereas they were not included in the existing permit.

Only the TBEL for **TDS** was not in the existing permit. A review of the facility's DMRs from January 1, 2022 through March 31, 2025 (see attached) indicate that the facility can meet the new TDS limit without the need for a compliance

schedule. The average TDS concentration in the facility's effluent according to the referenced DMRs was approximately 548 mg/l and the maximum quarterly average was 653 mg/l (and there are no industrial users contributing to the facility).

In the case of **Total Residual Chlorine (TRC), Total Phosphorus (TP), and Ammonia**, the WQBELs are more stringent than the limits shown in the above table. The WQBELs are discussed in the next section of this Fact Sheet.

Best Professional Judgment (BPJ) Limitations

None

Water Quality-Based Effluent Limitations (WQBELs)

TMDL:

There is no TMDL yet developed for Blue Marsh Lake or for Spring Creek although they appear in DEP's 2024 Integrated Water Quality Report as impaired. There was a 1987 DEP study conducted of Blue Marsh Lake/Reservoir, however, which recommended that a **phosphorus** limit of 1.0 mg/l be included in all permits for facilities which discharge upstream of the reservoir. This limit is currently in the permit and will be carried forward in accordance with anti-backsliding provisions and because the Blue Marsh Lake/Reservoir is still included on the most recent State Integrated Water Quality Report with high levels of nutrients as a concern. The mass loading phosphorus limit of 11.6 lbs/day will similarly be carried forward from the previous permit.

WQBELs other than TMDL:

The following limitations were determined through water quality modeling (input values used and output files attached) and have been included in the renewal permit:

Parameter	Limit (mg/l)	Statistical Base Code	Model
Total Residual Chlorine	0.28 / 0.92	Avg. Monthly / IMAX	TRC Excel Spreadsheet
Dissolved Oxygen	5.0	Instant. Min.	WQM 7.0
Ammonia (NH3-N)	6.0 / 12.0	Avg. Monthly / Maximum	WQM 7.0

DEP uses a model known as WQM 7.0 to determine appropriate limits for CBOD5, Ammonia (NH3-N), and Dissolved Oxygen (DO). DEP's Guidance document #386-2000-022 provides the methods and calculations contained in the WQM 7.0 model for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. For more explanation of the WQM 7.0 model, see Technical Reference Guide WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, document #386-2000-016.

The source of the River Mile Indices (RMI's) and elevations that were used in the WM 7.0 model (and TMS model discussed below) are DEP's eMapPA while the source of the Drainage Areas and stream design low-flows (Q7-10) are the USGS PA Stream Stats online tool (see attached). Low Flow Yield (LFY) is calculated as stream low-flow Q7-10 divided by Drainage Area of the stream at the outfall location.

The WQM 7.0 model indicated that the existing permit limits for CBOD5 (TBELs) are protective of water quality. The model recommended a minimum limit of 5.0 mg/l for DO, the same as the DO limit in the existing permit.

Because this is an existing discharger who is not expanding, the model was not re-run using a DO goal of 8 mg/l for the early life stages of trout and other salmonids, consistent with DEP's Standard Operating Procedure (SOP) Establishing Effluent Limitations for Individual Sewage Permits. At the time of the original NPDES permit issuance, Pa Code § 93.7 did not include special protection for early life stages of trout and other salmonids; the regulations were amended in 2013.

In the case of **Ammonia**, an error was noted in the existing permit limits: miscoding in DEP's WMS software caused the limits intended for warm months to display as the limits intended for cold months and vice versa, contrary to the limits in the previous permit issued January 31, 2009. The draft renewal permit corrects this error and carries forward the same

Ammonia limits as in the permit issued January 31, 2009: 6.0 mg/l as a monthly average and 12.0 mg/l as a maximum for the months of May through October, and 18.0 mg/l as a monthly average and 20 mg/l as a maximum for the months of November through April. (DEP often allows a less stringent Ammonia limit during cold months in recognition of the fact that Ammonia is less toxic to aquatic life in cold temperatures.) DEP's WQM 7.0 model gave the same result of 6.0 mg/l as a monthly average for the warm months (see attached).

DEP's uses a TRC model (Excel spreadsheet) for TRC evaluation, consistent with Implementation Guidance for TRC, document #386-2000-011.

For **Total Residual Chlorine (TRC)**, the above limits are slightly more stringent than the existing permit limits of 0.31 mg/l as an average monthly and 1.0 mg/l as an instantaneous maximum. The DMRs reviewed from January 1, 2022 through February 28, 2025 (see attached) indicate that the facility will be able to meet the more stringent TRC limits, without the need for a compliance schedule: there was only one month in those 38 months reviewed in which the proposed Average Monthly limit of 0.28 mg/l would have been exceeded. The average concentration for TRC in the reviewed DMRs was approximately 0.22 mg/l. There were no months when the proposed maximum TRC limit of 0.92 mg/l would have been exceeded. The Instantaneous maximum TRC concentration for the 38 months of DMRs reviewed was 0.46 mg/l.

TOXICS:

DEP uses a model called the Toxics Management Spreadsheet (TMS) for toxic pollutants. It is a macro-enabled Excel version of DEP's former PENTOX model. It evaluates the reasonable potential for discharges to cause in-stream exceedances of water quality criteria and recommends Water Quality-Based Effluent Limitations (WQBELs) as permit limits as needed or recommends monitoring requirements to better evaluate 'reasonable potential' for some parameters. For more explanation of the TMS / PENTOX model, see Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, document #386-2000-015.

When there are less than 10 sample results, the maximum effluent concentration of the available data (such as from the permit application and from DMRs) is used by DEP as the discharge concentration input value in the TMS, with the exception of discharge Hardness for which the average effluent concentration is typically used.

Based on the application data and the lab Reporting Levels (also called Quantitation Limits) used for some parameters, 10 new WQBELs were recommended DEP's TMS for the following parameters:

Parameter
Total Aluminum
Total Copper
Free Cyanide
Benzo(a)Anthracene
Benzo(a)Pyrene
3,4-Benzofluoranthene
Benzo(k)Fluoranthene
Butyl Benzyl Phthalate
Dibenzo(a,h)Anthracene
Indeno(1,2,3-cd)Pyrene

Consistent with DEP's SOP 'Establishing Water-Quality Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers', a Pre-Draft Survey was sent to the permittee to alert them of the proposed new WQBELs and asking if the source of the parameters were known and for an estimated time for them to be able to meet the new WQBELs. The permittee requested time to conduct more monitoring for these parameters. The results of the monitoring were received March 25, 2025. For the 7 semi-volatile parameters that had been listed in the Pre-Draft Survey, all 10 of the subsequent effluent samples resulted in non-detect using sufficiently sensitive detection levels.

The TMS was re-run inclusive of the new data. It recommended WQBELs be imposed as permit limits as follows (see attached for model input and results pages):

Parameter	units	Average Monthly	Daily Maximum	Instant. Maximum	Model
Total Aluminum	mg/l	1.27	1.89	3.19	Toxics Management Spreadsheet
Total Copper	mg/l	0.034	0.047	0.085	Toxics Management Spreadsheet
Free Cyanide	mg/l	0.012	0.020 *	0.020 *	Toxics Management Spreadsheet

*Because the sample type for Free Cyanide is 'grab', the maximum limit is imposed in the permit as an 'instantaneous maximum' .

In addition to the above WQBELs, the TMS model recommended **monitoring** be required in the renewal permit for **Bis(2-Ethylhexyl)Phthalate** --based on the effluent concentrations reported in the application as compared to calculated WQBELs. While the application concentrations were not high enough that a permit limit has been included in the draft renewal permit, the application concentrations were high enough for the model to recommend a monitoring requirement, consistent with DEP's SOP Establishing Water-Quality Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers.

When there are more than 10 discrete sample results, DEP recommends using a statistical spreadsheet known as TOXCONC to derive the discharge concentration to use in the TMS model and the coefficient of variation. In this case, there was DMR data for Total Lead, Total Dissolved Solids (TDS), and Total Copper. In addition, there were more than 10 discrete sample results available for:

Total Aluminum
Free Cyanide
Benzo(a)Anthracene
Benzo(a)Pyrene
3,4-Benzofluoranthene
Benzo(k)Fluoranthene
Butyl Benzyl Phthalate
Dibenzo(a,h)Anthracene
Indeno(1,2,3-cd)Pyrene

Total Lead and TDS did not need to be evaluated using TOXCONC, as explained below. DEP's TOXCONC was used for the other parameters (see attached).

Total Lead was reported as non-detect in all DMRs for the past 3 years: <0.001 mg/l. Using <0.001 mg/l as the model input value for discharge concentration, the TMS indicated that no WQBEL was needed for Total Lead. The limits from the existing permit for Total Lead have therefore been dropped.

The DMRs for the past three years for **Total Dissolved Solids** showed a maximum concentration of 653 mg/l. Using 653 mg/l as the model input value for discharge concentration, the TMS indicated that no WQBEL needed to be imposed as a permit limit for TDS. Time was not spent therefore entering values in the TOXCONC spreadsheet to derive an Average Monthly Effluent concentration (AMEC) with 99% probability.

In the attached TOXCONC spreadsheet, the values for Total Copper were taken from past DMRs, Daily Effluent Supplemental DMRs, and the effluent results submitted after the application was submitted. In the attached TOXCONC spreadsheet, the values for the other parameters with more than 10 discrete sample results were taken from the application and the effluent results submitted after the application was submitted. TOXCONC yielded Average Monthly Effluent Concentrations (AMECs) with 99% probability and Daily Coefficients of Variation which were then used as input values in the TMS model. [Because TOXCONC returned an AMEC for Free Cyanide that was greater than the maximum concentration in the sample data, the TMS was run with the TOXCONC AMEC and CV for Free Cyanide but re-run using the maximum concentration of 0.014 mg/l from the 13 samples and the default CV of 0.5. Either way, the TMS recommended the calculated WQBELs for Free Cyanide be imposed as permit limits.] The TMS recommended WQBELs be imposed in the renewal permit for **Total Aluminum, Total Copper, and Free Cyanide** due to a reasonable potential for the discharge to cause in-stream exceedances of surface water quality criteria.

After considering the responses in the Pre-Draft Survey, the draft renewal permit includes a three-year compliance schedule for the permittee to meet the new WQBELs. A compliance schedule is considered appropriate because the concentrations in the discharge are uncertain, the sources are unknown, and new treatment could be needed to achieve

the limits. Also, DEP's SOP 'Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers' recommends that permittees be given the opportunity to forward site-specific data to replace any default values used in DEP's model simulations in order to refine the WQBELs. This option has been included in the Part C Conditions of the draft renewal permit. If the data is collected and forwarded to DEP, it will be reviewed and considered. Any changes to the permit limits would require a permit amendment, with due process: issuance of a draft permit, a public notice, a mandatory 30-day comment period, and issuance of a final permit. DEP's workload and staffing levels were also considered in proposing three years as the compliance schedule, especially since DEP may have to prepare multiple permit amendments for multiple facilities for changes to permit limits based on WQBELs.

Default values used in the TMS model in the absence of site-specific data include:

Stream pH = 7 s.u.
Discharge pH = 7 s.u.
Coefficient of Variability in data = 0.5 (except for Total Copper, already discussed)
Chemical translators for metals
Background concentration of toxics = 0 mg/l

In addition, the TMS model estimates the stream width, depth, slope, velocity, and partial mix factors.

NOTE: To be sure no other WQBELs were needed to protect the downstream Public Water Supply (PWS), another TMS simulation was run with the PWS as the Reach endpoint. Limits for TDS, Sulfate, Chloride, and Total Phenols, parameters specific for PWS, were not indicated as needed.

Anti-Backsliding

No limits in the renewal permit are less stringent than the previous permit, other than the correction of the seasonal Ammonia limits previously discussed in the Fact Sheet. The limits for Total Lead were dropped, as previously discussed, based on sampling data that did not demonstrate a reasonable potential to cause an in-stream exceedance of a water quality criteria (and no impairment of the stream for Total Lead).

Mass Load vs. Concentration Limits

Consistent with the Technical Guidance for the Development and Specification of Effluent Limitations, document #386-0400-001, and the SOP for Establishing Effluent Limitations for Individual Sewage Permits, average monthly mass loading limits have been established for CBOD5, TSS, Ammonia, and toxic parameters and average weekly mass loading limits have additionally been established for CBOD5 and TSS. The mass load limit for total Phosphorus was carried forward from the previous permit to protect the Blue Marsh Reservoir.

Sample Types and Frequencies

Sample Types and Frequencies are consistent with the Technical Guidance for the Development and Specification of Effluent Limitations, document #386-0400-001, and/or carried forward from the previous permit when deemed appropriate.

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Influent BOD & TSS Monitoring

The existing influent monitoring reporting requirement for TSS and BOD5 will be maintained in the renewal permit, consistent with the permits of other municipal wastewater treatment facilities.

E. Coli Monitoring

Consistent with the SOP Establishing Effluent Limitations for Individual Sewage Permits and due to the regulatory change in the State Water Quality Standards, E. Coli monitoring has been included. The statutory basis for this requirement is found at PA Code Chapter 92a.61.

Total Nitrogen (TN) and Total Phosphorus (TP) Monitoring

In an effort to understand nutrient loading on PA streams, sewage dischargers with design flows greater than 2000 gpd are being required to monitor for Total Nitrogen and Total Phosphorus (TP), at a minimum, in new and reissued permits. The monitoring will also serve to inform any future TMDL needed for Blue Marsh Lake.

The last three years of DMR data for TN (from January 1, 2022 through February 28, 2025) show an average concentration in the effluent of 25.5 mg/l. The average load for the same period was calculated as:
25.5 mg/l x 0.7 MGD (the average monthly flow according to the same DMRs) x 8.34 conversion factor = 149 lbs/day

The last three years of DMR data for TP (from January 1, 2022 through February 28, 2025) show an average concentration in the effluent of 0.7 mg/l and an average load of 3.9 lbs/day.

Per- and Polyfluoroalkyl Substances (PFAS) Monitoring

The application did not include any sampling results for PFAS parameters because the application was received before the application forms were changed to include 4 PFAS parameters in the Pollutant Group tables. The forms were changed to include PFAS samples as a result of concerns over the potential for PFAS in waterways. While there are many PFAS compounds, DEP has initiated a policy to identify PFAS in discharges using 4 indicator parameters: Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), Perfluorobutane sulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA). For major sewage facilities who do not receive wastewater from an industrial category that is suspected to have generated PFAS, annual monitoring can be imposed instead of quarterly monitoring. DEP's policy for PFAS monitoring in NPDES permits allows a footnote to be included for the limits tables which allows monitoring to be discontinued if 4 consecutive monitoring periods indicate non-detect results at or below sufficiently sensitive Quantitation Levels. The sufficiently sensitive Quantitation Levels are specified.

Also, the general Pretreatment conditions in Part B have changed to require that facilities report industrial dischargers suspected of having PFAS in their wastewater to EPA. (The NPDES permits include a list of such industrial dischargers in Part B.I.D.4.) While this does not affect this facility at this time since they do not have industrial users, it is standard permit language now included in NPDES permits for major sewage dischargers.

Antidegradation

The permit limits and conditions are intended to protect the designated and existing uses of the receiving stream. No High Quality or Exceptional Value waters are impacted by this discharge.

303(d) Listed Streams – Impaired Waters

Spring Creek was "listed" as an impaired water for Recreational Use in 2016. DEP's Integrated Water Quality Report is forwarded to the US EPA in compliance with Section 303(d) of the federal Clean Water Act.

The downstream Blue Marsh Lake appeared in the State's 2008 Integrated Water Quality Report. The Lake was assessed as impaired for Aquatic Life due to low Dissolved Oxygen and high nutrient content as well as impaired for Recreational Use due to pathogens. It appears from the 2008 report that the "listing" dated back to 2002.

Because of the waterways' impairment, Total Phosphorus concentration and loading limits have been included in the permit. The permittee has been meeting these limits.

Whole Effluent Toxicity Testing (WETT)

Because the facility's design flow is >1 MGD, Whole Effluent Toxicity testing is required, as it was in the existing permit.
Continued on next page.

Whole Effluent Toxicity (WET) – Outfall 001

For Outfall 001, ☐ **Acute** ☒ **Chronic** WET Testing was completed:

☐ For the permit renewal application (4 tests).
☐ Quarterly throughout the permit term.
☐ Quarterly throughout the permit term and a TIE/TRE was conducted.
☒ Other: Annually throughout the permit term

The dilution series used for the tests was: 100%, 67%, 33%, 17%, and 8%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 33%.

Summary of Four Most Recent Test Results

TST Data Analysis

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
7/14/2020			Pass	Pass
7/13/2020	Pass	Pass		
7/6/2021			Pass	Pass
7/5/2021	Pass	Pass		
6/28/2022			Pass	Pass
6/27/2022	Pass	Pass		
5/17/2023	Pass	Pass	Pass	Pass
6/17/2024	Pass	Pass		
6/18/2024			Pass	Pass

***** *A "passing" result is that in which the replicate data for the TIWC is not statistically significant from the control condition. This is exhibited when the calculated t value ("T-Test Result") is greater than the critical t value. A "failing" result is exhibited when the calculated t value ("T-Test Result") is less than the critical t value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests?

☐ **YES** ☒ **NO**

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): 0.9 Chronic Partial Mix Factor (PMFc): 1 (PMF's from TMS modeling, attached)

1. Determine IWC – Acute (IWCa):

$(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

[(1.4 MGD x 1.547) / ((4.49 cfs x **0.9**) + (1.4 MGD x 1.547))] x 100 = IWCa = 35%

Is IWCa < 1%? ☐ **YES** ☒ **NO** *(YES - Acute Tests Required OR NO - Chronic Tests Required)*

Type of Test for Permit Renewal: **Chronic**

2. Determine Target IWCc (If Chronic Tests Required)

$(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFc) + (Q_d \times 1.547)$

[(1.4 MGD x 1.547) / ((4.49 cfs x **1**) + (1.4 MGD x 1.547))] x 100 = **TIWCc% = 33%**

3. Determine Dilution Series

(NOTE – check Attachment C of WET SOP for dilution series based on TIWCa or TIWCc, whichever applies).

Dilution Series = 100%, 67%, 33%, 17, and 8%. (No change from existing permit.)

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

Will WET limits be established in the permit? ☐ YES ☒ NO

STORMWATER:

Stormwater discharges at a sewage treatment plant whose design flow is over 1 MGD fall within the federal definition of "stormwater associated with industrial activity" [40 CFR 122.26(b)(14)]. However, there are no stormwater outfalls at this facility.

When the facility contact was asked, he replied that chemicals are stored inside and not exposed to any stormwater.

The existing permit did not identify stormwater outfalls or any requirements for stormwater. The draft renewal permit does include requirements in the Part C conditions: a) to develop and implement a Preparedness, Prevention, and Contingency (PPC) plan and b) to implement Best Management Practices (BMPs) in order to prevent any stormwater runoff from becoming contaminated and leaving the property.

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 as needed. Instantaneous Maximum (IMAX) limits are generally 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" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Effective Date + 3 Years .

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day unless otherwise indicated)		Concentrations (mg/L unless otherwise indicated)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.28	XXX	0.92	1/day	Grab
CBOD5	291	467 Weekly Avg	XXX	25.0	40.0 Weekly Avg	50	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	350	525 Weekly Avg	XXX	30.0	45.0 Weekly Avg	60	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	1000.0	XXX	XXX	1/month	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Ammonia Nov 1 - Apr 30	210	XXX	XXX	18.0	XXX	20	2/week	24-Hr Composite
Ammonia May 1 - Oct 31	70	XXX	XXX	6.0	XXX	12	2/week	24-Hr Composite
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

Outfall 001, Effective Period: Permit Effective Date through Permit Effective Date + 3 Years .

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day unless otherwise indicated)		Concentrations (mg/L unless otherwise indicated)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Kjeldahl Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	11.6	XXX	XXX	1.0	XXX	2	2/week	24-Hr Composite
Total Aluminum	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Copper	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Free Cyanide	Report	Report	XXX	Report	XXX	Report	1/week	Grab
Bis(2-Ethyl Hexyl) Phthalate (ug/l)	XXX	XXX	XXX	Report	Report	XXX	1/month	24-Hr Composite
PFOA (ng/l) *	XXX	XXX	XXX	XXX	XXX	Report *	1/year	Grab
PFOS (ng/l) *	XXX	XXX	XXX	XXX	XXX	Report *	1/year	Grab
PFBS (ng/l) *	XXX	XXX	XXX	XXX	XXX	Report *	1/year	Grab
HFPO-DA (ng/l) *	XXX	XXX	XXX	XXX	XXX	Report *	1/year	Grab

*The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of “GG” on DMRs.

Compliance Sampling Location: at discharge from the facility

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 as needed. Instantaneous Maximum (IMAX) limits are generally 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" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date + 3 Years through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day unless otherwise indicated))		Concentrations (mg/L unless otherwise indicated)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.28	XXX	0.92	1/day	Grab
CBOD5	291	467 Weekly Avg	XXX	25.0	40.0 Weekly Avg	50	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	350	525 Weekly Avg	XXX	30.0	45.0 Weekly Avg	60	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	1000.0	XXX	XXX	1/month	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Ammonia Nov 1 - Apr 30	210	XXX	XXX	18.0	XXX	20	2/week	24-Hr Composite
Ammonia May 1 - Oct 31	70	XXX	XXX	6.0	XXX	12	2/week	24-Hr Composite
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

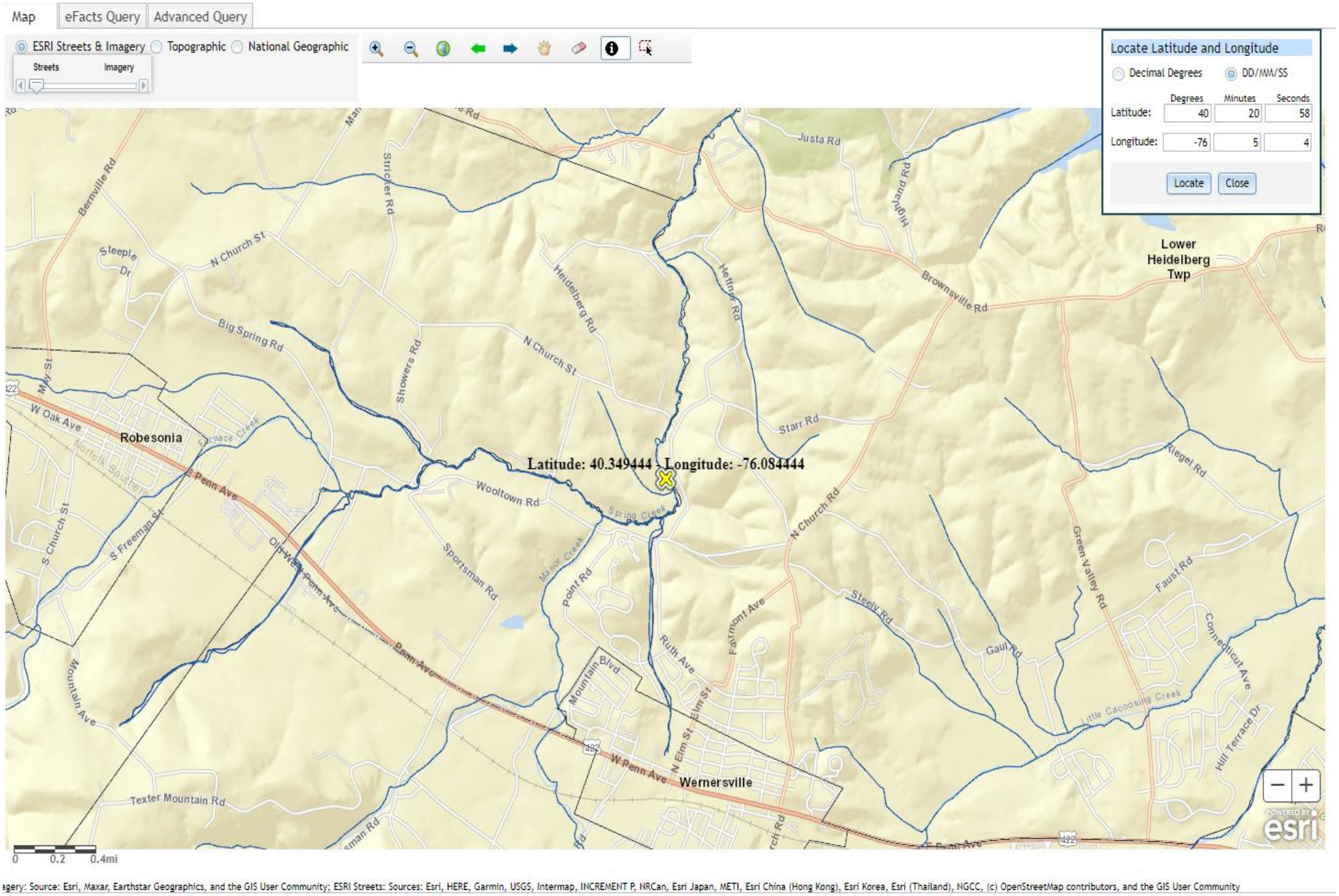
Outfall 001, Effective Period: Permit Effective Date + 3 Years through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day unless otherwise indicated))		Concentrations (mg/L unless otherwise indicated)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Kjeldahl Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	11.6	XXX	XXX	1.0	XXX	2	2/week	24-Hr Composite
Total Aluminum	14.9	22.1	XXX	1.27	1.89	3.19	1/week	24-Hr Composite
Total Copper	0.40	0.55	XXX	0.034	0.047	0.085	1/week	24-Hr Composite
Free Cyanide	0.14	0.24	XXX	0.012	XXX	0.020	1/week	Grab
Bis(2-Ethyl Hexyl) Phthalate (ug/l)	XXX	XXX	XXX	Report	Report	XXX	1/month	24-Hr Composite
PFOA (ng/l) *	XXX	XXX	XXX	XXX	XXX	Report *	1/year	Grab
PFOS (ng/l) *	XXX	XXX	XXX	XXX	XXX	Report *	1/year	Grab
PFBS (ng/l) *	XXX	XXX	XXX	XXX	XXX	Report *	1/year	Grab
HFPO-DA (ng/l) *	XXX	XXX	XXX	XXX	XXX	Report *	1/year	Grab

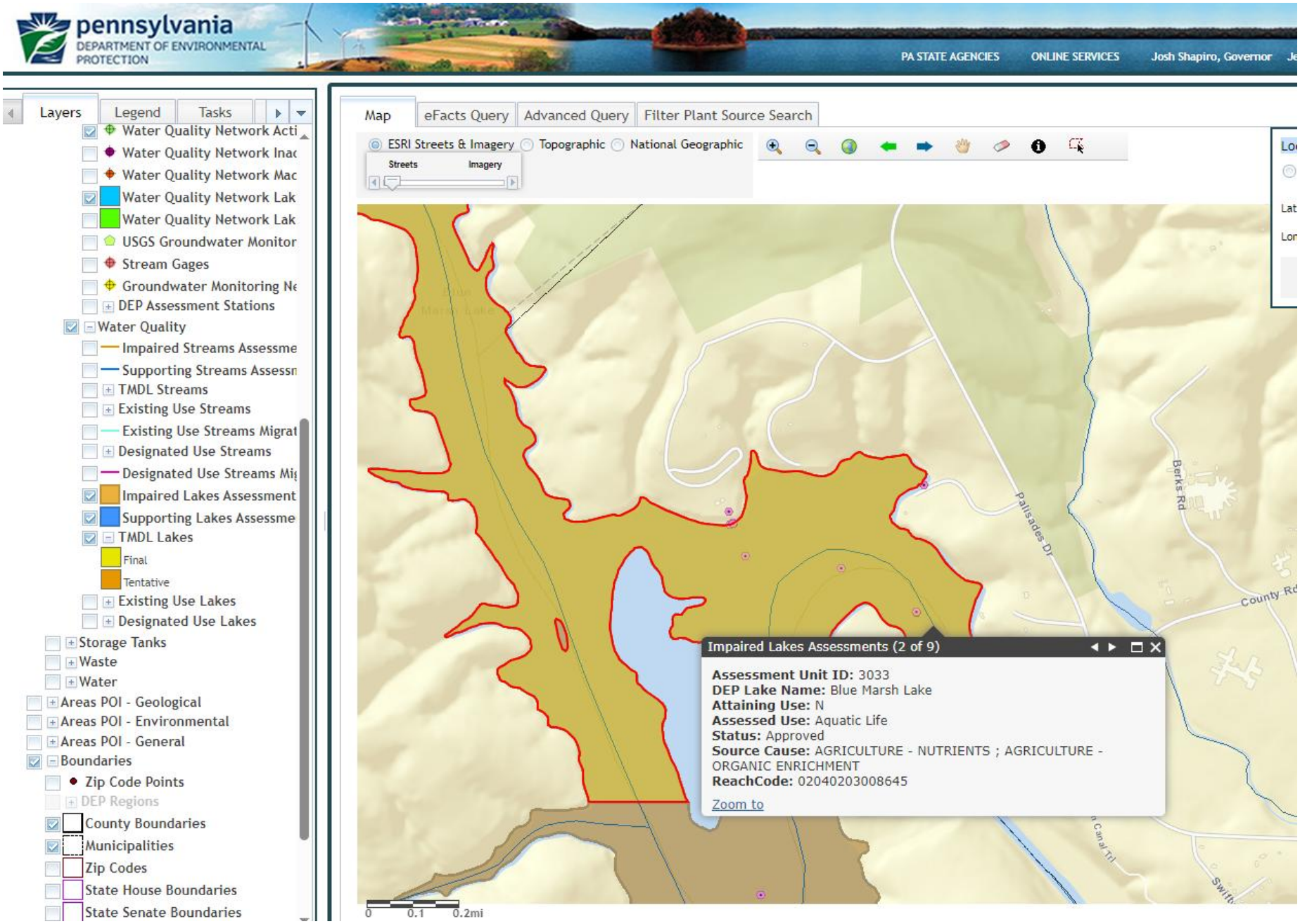
*The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of “GG” on DMRs.

Compliance Sampling Location: at discharge from the facility

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☒	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☒	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☒	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☒	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☒	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: New and Reissuance Sewage Individual NPDES Permit Applications, Version 2.0, February 3, 2022
☒	SOP: Establishing Effluent Limitations in Individual Sewage NPDES Permits, version 2.0, February 5, 2024
☒	SOP: Establishing Water-Quality Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers. Version 1.5, May 20, 2021.
☒	SOP: Whole Effluent Toxicity (WET), No. BPNPSM-PMT-03, Revised, May 13, 2014.



agery: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community; ESRI Streets: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community


pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
PA STATE AGENCIES
ONLINE SERVICES
Josh Shapiro, Governor
Layers
Legend
Tasks
Water Quality Network Acti
Water Quality Network Inac
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Water Quality Network Lak
USGS Groundwater Monitor
Stream Gages
Groundwater Monitoring Ne
DEP Assessment Stations
Water Quality
Impaired Streams Assessme
Supporting Streams Assessn
TMDL Streams
Existing Use Streams
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Designated Use Streams
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Impaired Lakes Assessment
Supporting Lakes Assessme
TMDL Lakes
Final
Tentative
Existing Use Lakes
Designated Use Lakes
Storage Tanks
Waste
Water
Areas POI - Geological
Areas POI - Environmental
Areas POI - General
Boundaries
Zip Code Points
DEP Regions
County Boundaries
Municipalities
Zip Codes
State House Boundaries
State Senate Boundaries
Map
eFacts Query
Advanced Query
Filter Plant Source Search
ESRI Streets & Imagery
Topographic
National Geographic
Streets
Imagery
Palisades Dr
Berks Rd
Impaired Lakes Assessments (2 of 9)
Assessment Unit ID: 3033
DEP Lake Name: Blue Marsh Lake
Attaining Use: N
Assessed Use: Aquatic Life
Status: Approved
Source Cause: AGRICULTURE - NUTRIENTS ; AGRICULTURE - ORGANIC ENRICHMENT
ReachCode: 02040203008645
Zoom to
0
0.1
0.2mi

DMR data:

PERMIT	MONITORIN	MONITORING	DMR_VERS	OUTFAL	PARAMETE	LOAD_UNI	LOAD_1_V	LOAD_1_	LOAD_1_SB	LOAD_2_V	LOAD_2	LOAD_2_S	CON
PA0031062	1/1/2022	1/31/2022	1	001	Flow	MGD	0.66362	Monitor	Average Mor	0.83922	Monitor	Daily Maximum	
PA0031062	2/1/2022	2/28/2022	1	001	Flow	MGD	0.82057	Monitor	Average Mor	1.91037	Monitor	Daily Maximum	
PA0031062	3/1/2022	3/31/2022	1	001	Flow	MGD	0.65943	Monitor	Average Mor	0.87479	Monitor	Daily Maximum	
PA0031062	4/1/2022	4/30/2022	1	001	Flow	MGD	0.82243	Monitor	Average Mor	1.45949	Monitor	Daily Maximum	
PA0031062	5/1/2022	5/31/2022	1	001	Flow	MGD	0.75388	Monitor	Average Mor	1.23366	Monitor	Daily Maximum	
PA0031062	6/1/2022	6/30/2022	1	001	Flow	MGD	0.5883	Monitor	Average Mor	0.70489	Monitor	Daily Maximum	
PA0031062	7/1/2022	7/31/2022	1	001	Flow	MGD	0.53609	Monitor	Average Mor	0.65675	Monitor	Daily Maximum	
PA0031062	8/1/2022	8/31/2022	1	001	Flow	MGD	0.51894	Monitor	Average Mor	0.58272	Monitor	Daily Maximum	
PA0031062	9/1/2022	9/30/2022	1	001	Flow	MGD	0.54692	Monitor	Average Mor	0.74724	Monitor	Daily Maximum	
PA0031062	10/1/2022	10/31/2022	1	001	Flow	MGD	0.58868	Monitor	Average Mor	1.01216	Monitor	Daily Maximum	
PA0031062	11/1/2022	11/30/2022	1	001	Flow	MGD	0.58284	Monitor	Average Mor	0.74925	Monitor	Daily Maximum	
PA0031062	12/1/2022	12/31/2022	1	001	Flow	MGD	0.70644	Monitor	Average Mor	1.77049	Monitor	Daily Maximum	
PA0031062	1/1/2023	1/31/2023	1	001	Flow	MGD	0.70703	Monitor	Average Mor	1.09619	Monitor	Daily Maximum	
PA0031062	2/1/2023	2/28/2023	1	001	Flow	MGD	0.59849	Monitor	Average Mor	0.77753	Monitor	Daily Maximum	
PA0031062	3/1/2023	3/31/2023	1	001	Flow	MGD	0.60658	Monitor	Average Mor	1.01304	Monitor	Daily Maximum	
PA0031062	4/1/2023	4/30/2023	1	001	Flow	MGD	0.5407	Monitor	Average Mor	0.90276	Monitor	Daily Maximum	
PA0031062	5/1/2023	5/31/2023	1	001	Flow	MGD	0.54591	Monitor	Average Mor	0.71808	Monitor	Daily Maximum	
PA0031062	6/1/2023	6/30/2023	1	001	Flow	MGD	0.52554	Monitor	Average Mor	0.67822	Monitor	Daily Maximum	
PA0031062	7/1/2023	7/31/2023	1	001	Flow	MGD	0.68293	Monitor	Average Mor	2.43974	Monitor	Daily Maximum	
PA0031062	8/1/2023	8/31/2023	1	001	Flow	MGD	0.56643	Monitor	Average Mor	0.67621	Monitor	Daily Maximum	
PA0031062	9/1/2023	9/30/2023	1	001	Flow	MGD	0.69119	Monitor	Average Mor	1.39041	Monitor	Daily Maximum	
PA0031062	10/1/2023	10/31/2023	1	001	Flow	MGD	0.58255	Monitor	Average Mor	0.7407	Monitor	Daily Maximum	
PA0031062	11/1/2023	11/30/2023	1	001	Flow	MGD	0.57657	Monitor	Average Mor	0.87679	Monitor	Daily Maximum	
PA0031062	12/1/2023	12/31/2023	1	001	Flow	MGD	0.93326	Monitor	Average Mor	3.41058	Monitor	Daily Maximum	
PA0031062	1/1/2024	1/31/2024	1	001	Flow	MGD	1.23642	Monitor	Average Mor	2.39332	Monitor	Daily Maximum	
PA0031062	2/1/2024	2/29/2024	1	001	Flow	MGD	0.75399	Monitor	Average Mor	1.19614	Monitor	Daily Maximum	
PA0031062	3/1/2024	3/31/2024	1	001	Flow	MGD	0.94187	Monitor	Average Mor	1.74678	Monitor	Daily Maximum	
PA0031062	4/1/2024	4/30/2024	1	001	Flow	MGD	1.16002	Monitor	Average Mor	3.54909	Monitor	Daily Maximum	
PA0031062	5/1/2024	5/31/2024	1	001	Flow	MGD	0.60552	Monitor	Average Mor	0.78929	Monitor	Daily Maximum	
PA0031062	6/1/2024	6/30/2024	1	001	Flow	MGD	0.5263	Monitor	Average Mor	0.71276	Monitor	Daily Maximum	
PA0031062	7/1/2024	7/31/2024	1	001	Flow	MGD	0.55087	Monitor	Average Mor	0.66962	Monitor	Daily Maximum	
PA0031062	8/1/2024	8/31/2024	1	001	Flow	MGD	0.60571	Monitor	Average Mor	0.89294	Monitor	Daily Maximum	
PA0031062	9/1/2024	9/30/2024	1	001	Flow	MGD	0.56352	Monitor	Average Mor	0.62676	Monitor	Daily Maximum	
PA0031062	10/1/2024	10/31/2024	1	001	Flow	MGD	0.54796	Monitor	Average Mor	0.64996	Monitor	Daily Maximum	
PA0031062	11/1/2024	11/30/2024	1	001	Flow	MGD	0.56649	Monitor	Average Mor	0.6961	Monitor	Daily Maximum	
PA0031062	12/1/2024	12/31/2024	1	001	Flow	MGD	0.63168	Monitor	Average Mor	0.98626	Monitor	Daily Maximum	
PA0031062	1/1/2025	1/31/2025	1	001	Flow	MGD	0.59325	Monitor	Average Mor	0.67342	Monitor	Daily Maximum	
PA0031062	2/1/2025	2/28/2025	1	001	Flow	MGD	0.63388	Monitor	Average Mor	1.01317	Monitor	Daily Maximum	
							0.6648	Avg		1.15413	Avg		
							1.2364	MMA					
							0.8557	90th Percentile					

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PADEP Chapter 94 Spreadsh
Sewage Treatment Plar

Reporting Year: 2024

Facility Name: Robesonia-Wernersville Municipal Authority

Permit No.: PA0031062

Persons/EDU: 3.5

Existing Hydraulic Design Capacity:	1.4	MGD	**Existing Organic Design Capacity:**	2,382	lbs BOD5/day
Upgrade Planned In Next 5 Years?	NO	**Year:** 2024	**Upgrade Planned in Next 5 Years?**	NO	**Year:** 2024
Future Hydraulic Design Capacity:		MGD	**Future Organic Design Capacity:**		lbs BOD5/day

Monthly Average Flows for Past Five Years (MGD)

Month	2020	2021	2022	2023	2024
January	0.797	0.768	0.64	0.759	1.303
February	0.791	0.793	0.809	0.637	0.781
March	0.775	1.103	0.65	0.649	0.966
April	0.875	0.845	0.819	0.571	1.176
May	0.802	0.65	0.744	0.539	0.562
June	0.695	0.626	0.584	0.501	0.501
July	0.771	0.687	0.539	0.652	0.512
August	1.135	0.744	0.542	0.552	0.578
September	0.677	1.342	0.572	0.684	0.581
October	0.663	0.773	0.612	0.604	0.544
November	0.695	0.724	0.612	0.604	0.555
December	0.818	0.639	0.784	0.999	0.616
Annual Avg	0.791	0.808	0.659	0.646	0.723
Max 3-Mo Avg	0.867	0.953	0.759	0.736	1.028
Max : Avg Ratio	1.10	1.18	1.15	1.14	1.42
Existing EDUs	3,397.0	3,427.0	3,435.0	3,443.0	3,459.0
Flow/EDU (GPD)	232.9	235.8	191.8	187.6	209.0
Flow/Capita (GPD)	66.5	67.4	54.8	53.6	59.7
Exist. Overload?	NO	NO	NO	NO	NO

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

Month	2020	2021	2022	2023	2024
January	1,174	1,314	1,220	1,320	1,050
February	1,144	1,547	1,333	1,007	1,096
March	1,433	1,331	997	996	1,016
April	1,026	1,245	869	876	834
May	1,346	1,309	1,293	912	796
June	1,099	1,142	775	774	864
July	1,130	1,226	833	629	893
August	1,148	801	1,005	806	872
September	1,128	791	797	777	1,208
October	1,329	939	762	761	1,104
November	1,500	1,067	729	1,051	657
December	1,427	1,558	1,134	1,126	621
Annual Avg	1,240	1,189	979	920	918
Max Mo Avg	1,500	1,558	1,333	1,320	1,208
Max : Avg Ratio	1.21	1.31	1.36	1.44	1.32
Existing EDUs	3,397	3,427	3,435	3,443	3,459
Load/EDU	0.365	0.347	0.285	0.267	0.265
Load/Capita	0.104	0.099	0.081	0.076	0.076
Exist. Overload?	NO	NO	NO	NO	NO

Projected Flows for Next Five Years (MGD)

	2025	2026	2027	2028	2029
New EDUs	66.0	158.0	135.0	101.0	52.0
New EDU Flow	0.014	0.0334	0.0285	0.0214	0.011
Proj. Annual Avg	0.739	0.7724	0.8009	0.8223	0.8333
Proj. Max 3-Mo Avg	0.885	0.925	0.959	0.985	0.998
Proj. Overload?	NO	NO	NO	NO	NO

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

	2025	2026	2027	2028	2029
New EDUs	66	158	135	101	52
New EDU Load	20.189	48.331	41.296	30.895	15.907
Proj. Annual Avg	1,069	1,118	1,159	1,190	1,206
Proj. Max Avg	1,419	1,483	1,537	1,578	1,600
Proj. Overload?	NO	NO	NO	NO	NO

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

PADEP Chapter 94 Spreadsh
Sewage Treatment Plar

Reporting Year: 2023

Facility Name: Robesonia-Wernersville Municipal Authority

Permit No.: PA0031062

Persons/EDU: 3.5

Existing Hydraulic Design Capacity:	1.4	MGD	Existing Organic Design Capacity:	2,382	lbs BOD5/day
Upgrade Planned in Next 5 Years?	NO	Year:	Upgrade Planned in Next 5 Years?	NO	Year:
Future Hydraulic Design Capacity:		MGD	Future Organic Design Capacity:		lbs BOD5/day

Monthly Average Flows for Past Five Years (MGD)

Month	2019	2020	2021	2022	2023
January	1.245	0.797	0.768	0.64	0.707
February	1.076	0.791	0.793	0.809	0.598
March	1.24	0.775	1.103	0.65	0.607
April	0.86	0.875	0.845	0.819	0.541
May	1.112	0.802	0.65	0.744	0.546
June	1.231	0.695	0.626	0.584	0.526
July	1.267	0.771	0.687	0.539	0.683
August	0.711	1.135	0.744	0.542	0.566
September	0.659	0.677	1.342	0.572	0.691
October	0.751	0.663	0.773	0.612	0.583
November	0.744	0.695	0.724	0.612	0.577
December	0.715	0.818	0.639	0.784	0.933
Annual Avg	0.968	0.791	0.808	0.659	0.63
Max 3-Mo Avg	1.203	0.867	0.953	0.759	0.701
Max : Avg Ratio	1.24	1.10	1.18	1.15	1.11
Existing EDUs	3,363.0	3,397.0	3,427.0	3,435.0	3,443.0
Flow/EDU (GPD)	287.8	232.9	235.8	191.8	183.0
Flow/Capita (GPD)	82.2	66.5	67.4	54.8	52.3
Exist. Overload?	NO	NO	NO	NO	NO

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

Month	2019	2020	2021	2022	2023
January	1,533	1,174	1,314	1,220	925
February	1,638	1,144	1,547	1,333	962
March	1,227	1,433	1,331	997	894
April	1,013	1,026	1,245	869	826
May	1,054	1,346	1,309	1,293	926
June	1,146	1,099	1,142	775	815
July	763	1,130	1,226	833	660
August	955	1,148	801	1,005	847
September	770	1,128	791	797	792
October	827	1,329	939	762	738
November	1,072	1,500	1,067	729	1,007
December	1,159	1,427	1,558	1,134	694
Annual Avg	1,096	1,240	1,189	979	841
Max Mo Avg	1,638	1,500	1,558	1,333	1,007
Max : Avg Ratio	1.49	1.21	1.31	1.36	1.20
Existing EDUs	3,363	3,397	3,427	3,435	3,443
Load/EDU	0.326	0.365	0.347	0.285	0.244
Load/Capita	0.093	0.104	0.099	0.081	0.070
Exist. Overload?	NO	NO	NO	NO	NO

Projected Flows for Next Five Years (MGD)

	2024	2025	2026	2027	2028
New EDUs	149.0	150.0	101.0	49.0	0.0
New EDU Flow	0.0337	0.0339	0.0229	0.0111	0
Proj. Annual Avg	0.805	0.8389	0.8618	0.8729	0.8729
Proj. Max 3-Mo Avg	0.931	0.97	0.997	1.01	1.01
Proj. Overload?	NO	NO	NO	NO	NO

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

	2024	2025	2026	2027	2028
New EDUs	149	150	101	49	0
New EDU Load	46.704	47.018	31.659	15.359	0.000
Proj. Annual Avg	1,116	1,163	1,194	1,210	1,210
Proj. Max Avg	1,467	1,529	1,570	1,590	1,590
Proj. Overload?	NO	NO	NO	NO	NO

Permit only required reporting of Average Quarterly concentrations for TDS.

DMR data:

PERMIT	MONITORIN	MONITORING	DMR_VERS	OUTFAL	PARAMETE	LOAD_UNI	LOAD_1_V	LOAD_1_	LOAD_1_SB	LOAD_2_V	LOAD_2_	LOAD_2_S	CONC_UN	CONC_1_\	CONC_1_L	CONC_1_S	CONC_2_\	CONC_2_L	CONC_2_S	CONC_3_
PA0031062	1/1/2022	3/31/2022	1	001	Total Dissolved Solids								mg/L				500	Monitor ar	Average	Quarterly
PA0031062	4/1/2022	6/30/2022	1	001	Total Dissolved Solids								mg/L				653	Monitor ar	Average	Quarterly
PA0031062	7/1/2022	9/30/2022	1	001	Total Dissolved Solids								mg/L				636	Monitor ar	Average	Quarterly
PA0031062	10/1/2022	12/31/2022	1	001	Total Dissolved Solids								mg/L				517	Monitor ar	Average	Quarterly
PA0031062	1/1/2023	3/31/2023	1	001	Total Dissolved Solids								mg/L				560	Monitor ar	Average	Quarterly
PA0031062	4/1/2023	6/30/2023	1	001	Total Dissolved Solids								mg/L				525	Monitor ar	Average	Quarterly
PA0031062	7/1/2023	9/30/2023	1	001	Total Dissolved Solids								mg/L				575	Monitor ar	Average	Quarterly
PA0031062	10/1/2023	12/31/2023	1	001	Total Dissolved Solids								mg/L				535	Monitor ar	Average	Quarterly
PA0031062	1/1/2024	3/31/2024	1	001	Total Dissolved Solids								mg/L				431	Monitor ar	Average	Quarterly
PA0031062	4/1/2024	6/30/2024	1	001	Total Dissolved Solids								mg/L				454	Monitor ar	Average	Quarterly
PA0031062	7/1/2024	9/30/2024	1	001	Total Dissolved Solids								mg/L				506	Monitor ar	Average	Quarterly
PA0031062	10/1/2024	12/31/2024	1	001	Total Dissolved Solids								mg/L				608	Monitor ar	Average	Quarterly
PA0031062	1/1/2025	3/31/2025	1	001	Total Dissolved Solids								mg/L				618	Monitor ar	Average	Quarterly
																	548	Avg		
																	653	Max		

USGS PA Stream Stats Online Tool:

StreamStats Output Report-001 RobesoniaWernersville STP								
State/Region ID	PA							
Workspace ID	PA20240923204004246000							
Latitude	40.34923							
Longitude	-76.08401							
Time	9/23/2024	4:40:27 PM						
Basin Characteristics								
Parameter Code	Parameter De:	Value	Unit					
CARBON	Percentage of	29.04	percent					
DRNAREA	Area that drai	19.6	square miles					
PRECIP	Mean Annual I	45	inches					
ROCKDEP	Depth to rock	5	feet					
STRDEN	Stream Densit	1.27	miles per square mile					
Low-Flow Statistics Flow	100.0 Percent Low Flow Region 2							
Statistic	Value	Unit	SE	ASEp				
7 Day 2 Year Low Flow	7.26	ft^3/s	38	38				
30 Day 2 Year Low Flow	8.52	ft^3/s	33	33				
7 Day 10 Year Low Flow	4.49	ft^3/s	51	51				
30 Day 10 Year Low Flow	5.17	ft^3/s	46	46				
90 Day 10 Year Low Flow	6.39	ft^3/s	36	36				
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USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey								
USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes								
Application Version: 4.24.0								
StreamStats Services Version: 1.2.22								
NSS Services Version: 2.2.1								

	StreamStats Output Report-downstream 001					
	State/Region ID	PA				
	Workspace ID	PA20240923205428824000				
	Latitude	40.37257				
	Longitude	-76.07783				
	Time	9/23/2024	4:54:51 PM			
	Basin Characteristics					
	Parameter Code	Parameter Des	Value	Unit		
	CARBON	Percentage of a	26.16	percent		
	DRNAREA	Area that drain	21.8	square miles		
	PRECIP	Mean Annual P	45	inches		
	ROCKDEP	Depth to rock	4.9	feet		
	STRDEN	Stream Density	1.36	miles per square mile		
	Low-Flow Statistics Flo	100.0 Percent Low Flow Region 2				
	Statistic	Value	Unit	SE	ASEp	
	7 Day 2 Year Low Flow	7.15	ft^3/s	38	38	
	30 Day 2 Year Low Flov	8.53	ft^3/s	33	33	
	7 Day 10 Year Low Flov	4.28	ft^3/s	51	51	
	30 Day 10 Year Low Flo	5.02	ft^3/s	46	46	
	90 Day 10 Year Low Flo	6.33	ft^3/s	36	36	
	USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related mate					
	USGS Software Disclaimer: This software has been approved for release by the U.S.					
	USGS Product Names Disclaimer: Any use of trade, firm, or product names is for des					
	Application Version: 4.24.0					
	StreamStats Services Version: 1.2.22					
	NSS Services Version: 2.2.1					

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **RobesoniaWernersville STP** NPDES Permit No.: **PA0031062** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **domestic sewage**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
1.4	183	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		653									
	Chloride (PWS)	mg/L		84.2									
	Bromide	mg/L	<	0.2									
	Sulfate (PWS)	mg/L		64.1									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		1754			0.42						
	Total Antimony	µg/L	<	0.4									
	Total Arsenic	µg/L	<	1									
	Total Barium	µg/L		18									
	Total Beryllium	µg/L	<	0.4									
	Total Boron	µg/L		125									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L	<	1									
	Hexavalent Chromium	µg/L	<	0.1									
	Total Cobalt	µg/L	<	1									
	Total Copper	mg/L		0.0184			0.32						
	Free Cyanide	µg/L		14.81			0.64						
	Total Cyanide	µg/L		5									
	Dissolved Iron	µg/L		22									
	Total Iron	µg/L		232									
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L		23									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		1									
	Total Phenols (Phenolics) (PWS)	µg/L	<	0.188									
	Total Selenium	µg/L	<	2									
	Total Silver	µg/L	<	1									
	Total Thallium	µg/L	<	0.4									
	Total Zinc	mg/L		0.000044									
	Total Molybdenum	µg/L		1									
	Acrolein	µg/L	<	1									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	0.5									

Group 3	Carbon Tetrachloride	µg/L	<	0.5									
	Chlorobenzene	µg/L		0.5									
	Chlorodibromomethane	µg/L	<	0.5									
	Chloroethane	µg/L	<	0.5									
	2-Chloroethyl Vinyl Ether	µg/L	<	0.5									
	Chloroform	µg/L		1.1									
	Dichlorobromomethane	µg/L	<	0.5									
	1,1-Dichloroethane	µg/L	<	0.5									
	1,2-Dichloroethane	µg/L	<	0.5									
	1,1-Dichloroethylene	µg/L	<	0.5									
	1,2-Dichloropropane	µg/L	<	0.5									
	1,3-Dichloropropylene	µg/L	<	0.5									
	1,4-Dioxane	µg/L	<	0.098									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<	0.5									
	Methyl Chloride	µg/L	<	0.5									
	Methylene Chloride	µg/L	<	0.5									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5									
	Tetrachloroethylene	µg/L	<	0.5									
	Toluene	µg/L	<	0.5									
	1,2-trans-Dichloroethylene	µg/L	<	0.5									
	1,1,1-Trichloroethane	µg/L	<	0.5									
	1,1,2-Trichloroethane	µg/L	<	0.5									
	Trichloroethylene	µg/L	<	0.5									
	Vinyl Chloride	µg/L	<	0.5									
Group 4	2-Chlorophenol	µg/L	<	0.169									
	2,4-Dichlorophenol	µg/L	<	0.21									
	2,4-Dimethylphenol	µg/L	<	0.354									
	4,6-Dinitro-o-Cresol	µg/L	<	1.14									
	2,4-Dinitrophenol	µg/L	<	1.77									
	2-Nitrophenol	µg/L	<	0.216									
	4-Nitrophenol	µg/L	<	1.33									
	p-Chloro-m-Cresol	µg/L	<	0.243									
	Pentachlorophenol	µg/L	<	0.47									
	Phenol	µg/L	<	0.188									
	2,4,6-Trichlorophenol	µg/L		0.52									
Group 5	Acenaphthene	µg/L	<	0.33									
	Acenaphthylene	µg/L	<	0.328									
	Anthracene	µg/L	<	0.308									
	Benzidine	µg/L	<	0.575									
	Benzo(a)Anthracene	µg/L	<	0.275			0.0626						
	Benzo(a)Pyrene	µg/L	<	0.3686			0.3048						
	3,4-Benzofluoranthene	µg/L	<	0.3583			0.2347						
	Benzo(ghi)Perylene	µg/L	<	0.387									
	Benzo(k)Fluoranthene	µg/L	<	0.35196			0.0858						
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.221									
	Bis(2-Chloroethyl)Ether	µg/L	<	0.254									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.254									
	Bis(2-Ethylhexyl)Phthalate	µg/L		1.53									
	4-Bromophenyl Phenyl Ether	µg/L	<	0.372									
	Butyl Benzyl Phthalate	µg/L	<	1.0417			0.051						
	2-Chloronaphthalene	µg/L	<	0.331									
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.321									
	Chrysene	µg/L	<	0.48									
	Dibenzo(a,h)Anthrancene	µg/L	<	0.3951			0.0212						
	1,2-Dichlorobenzene	µg/L	<	0.183									
	1,3-Dichlorobenzene	µg/L	<	0.402									
	1,4-Dichlorobenzene	µg/L	<	0.439									
	3,3-Dichlorobenzidine	µg/L	<	0.701									
	Diethyl Phthalate	µg/L	<	0.8									
	Dimethyl Phthalate	µg/L	<	0.481									
	Di-n-Butyl Phthalate	µg/L	<	2.55									
	2,4-Dinitrotoluene	µg/L	<	0.437									

	2,6-Dinitrotoluene	µg/L	<	0.422									
	Di-n-Octyl Phthalate	µg/L		1.24									
	1,2-Diphenylhydrazine	µg/L	<	0.496									
	Fluoranthene	µg/L	<	0.59									
	Fluorene	µg/L	<	0.292									
	Hexachlorobenzene	µg/L	<	0.393									
	Hexachlorobutadiene	µg/L	<	0.25									
	Hexachlorocyclopentadiene	µg/L	<	0.379									
	Hexachloroethane	µg/L	<	0.446									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.3825			0.0357						
	Isophorone	µg/L		0.284									
	Naphthalene	µg/L	<	0.5									
	Nitrobenzene	µg/L	<	0.228									
	n-Nitrosodimethylamine	µg/L	<	0.225									
	n-Nitrosodi-n-Propylamine	µg/L	<	0.389									
	n-Nitrosodiphenylamine	µg/L	<	0.397									
	Phenanthrene	µg/L	<	0.396									
	Pyrene	µg/L	<	0.555									
	1,2,4-Trichlorobenzene	µg/L	<	0.257									
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

RobesoniaWernersville STP, NPDES Permit No. PA0031062, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Spring Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	001878	5	340	19.6			Yes
End of Reach 1	001878	2.8	295	21.8			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	5	0.23	4.49									152	7		
End of Reach 1	2.8	0.2													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	5														
End of Reach 1	2.8														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

RobesoniaWernersville STP, NPDES Permit No. PA0031062, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☑ ***Hydrodynamics***

$Q_{7\text{-}10}$

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
5	4.49		4.49	2.166	0.004	0.676	31.89	47.21	0.309	0.435	18.358
2.8	4.93		4.93								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
5	27.61		27.61	2.166	0.004	1.306	31.89	24.42	0.715	0.188	12.903
2.8	29.96		29.96								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.904 Analysis Hardness (mg/l): 162.79 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	2,155	
Total Antimony	0	0		0	1,100	1,100	3,161	
Total Arsenic	0	0		0	340	340	977	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	60,353	
Total Boron	0	0		0	8,100	8,100	23,279	
Total Cadmium	0	0		0	3.233	3.5	10.1	Chem Translator of 0.924 applied
Total Chromium (III)	0	0		0	849.200	2,687	7,723	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	46.8	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	273	
Total Copper	0	0		0	21.270	22.2	63.7	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	63.2	

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	109.308	152	436	Chem Translator of 0.72 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	4.73	Chem Translator of 0.85 applied
Total Nickel	0	0		0	707.121	709	2,036	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	7.437	8.75	25.1	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	187	
Total Zinc	0	0		0	177.076	181	520	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	8.62	
Acrylonitrile	0	0		0	650	650	1,868	
Benzene	0	0		0	640	640	1,839	
Bromoform	0	0		0	1,800	1,800	5,173	
Carbon Tetrachloride	0	0		0	2,800	2,800	8,047	
Chlorobenzene	0	0		0	1,200	1,200	3,449	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	51,731	
Chloroform	0	0		0	1,900	1,900	5,461	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	43,110	
1,1-Dichloroethylene	0	0		0	7,500	7,500	21,555	
1,2-Dichloropropane	0	0		0	11,000	11,000	31,614	
1,3-Dichloropropylene	0	0		0	310	310	891	
Ethylbenzene	0	0		0	2,900	2,900	8,335	
Methyl Bromide	0	0		0	550	550	1,581	
Methyl Chloride	0	0		0	28,000	28,000	80,471	
Methylene Chloride	0	0		0	12,000	12,000	34,488	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	2,874	
Tetrachloroethylene	0	0		0	700	700	2,012	
Toluene	0	0		0	1,700	1,700	4,886	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	19,543	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	8,622	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	9,771	
Trichloroethylene	0	0		0	2,300	2,300	6,610	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	1,609	
2,4-Dichlorophenol	0	0		0	1,700	1,700	4,886	
2,4-Dimethylphenol	0	0		0	660	660	1,897	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	230	
2,4-Dinitrophenol	0	0		0	660	660	1,897	
2-Nitrophenol	0	0		0	8,000	8,000	22,992	
4-Nitrophenol	0	0		0	2,300	2,300	6,610	
p-Chloro-m-Cresol	0	0		0	160	160	460	
Pentachlorophenol	0	0		0	8.723	8.72	25.1	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	1,322	

Acenaphthene	0	0		0	83	83.0	239	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	862	
Benzo(a)Anthracene	0	0		0	0.5	0.5	1.44	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	86,219	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	12,933	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	776	
Butyl Benzyl Phthalate	0	0		0	140	140	402	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	2,357	
1,3-Dichlorobenzene	0	0		0	350	350	1,006	
1,4-Dichlorobenzene	0	0		0	730	730	2,098	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	11,496	
Dimethyl Phthalate	0	0		0	2,500	2,500	7,185	
Di-n-Butyl Phthalate	0	0		0	110	110	316	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	4,598	
2,6-Dinitrotoluene	0	0		0	990	990	2,845	
1,2-Diphenylhydrazine	0	0		0	15	15.0	43.1	
Fluoranthene	0	0		0	200	200	575	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	28.7	
Hexachlorocyclopentadiene	0	0		0	5	5.0	14.4	
Hexachloroethane	0	0		0	60	60.0	172	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	28,740	
Naphthalene	0	0		0	140	140	402	
Nitrobenzene	0	0		0	4,000	4,000	11,496	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	48,857	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	862	
Phenanthrene	0	0		0	5	5.0	14.4	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	374	

☑ ***CFC*** CCT (min): 18.358 PMF: 1 Analysis Hardness (mg/l): 162.09 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	

Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	676	
Total Arsenic	0	0		0	150	150	461	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	12,600	
Total Boron	0	0		0	1,600	1,600	4,917	
Total Cadmium	0	0		0	0.344	0.39	1.19	Chem Translator of 0.889 applied
Total Chromium (III)	0	0		0	110.075	128	393	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	31.9	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	58.4	
Total Copper	0	0		0	13.531	14.1	43.3	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	16.0	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	4,610	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	4.240	5.88	18.1	Chem Translator of 0.721 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2.78	Chem Translator of 0.85 applied
Total Nickel	0	0		0	78.254	78.5	241	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	15.3	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	40.0	
Total Zinc	0	0		0	177.875	180	554	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	9.22	
Acrylonitrile	0	0		0	130	130	400	
Benzene	0	0		0	130	130	400	
Bromoform	0	0		0	370	370	1,137	
Carbon Tetrachloride	0	0		0	560	560	1,721	
Chlorobenzene	0	0		0	240	240	738	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	10,756	
Chloroform	0	0		0	390	390	1,199	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	9,527	
1,1-Dichloroethylene	0	0		0	1,500	1,500	4,610	
1,2-Dichloropropane	0	0		0	2,200	2,200	6,761	
1,3-Dichloropropylene	0	0		0	61	61.0	187	
Ethylbenzene	0	0		0	580	580	1,782	
Methyl Bromide	0	0		0	110	110	338	
Methyl Chloride	0	0		0	5,500	5,500	16,902	
Methylene Chloride	0	0		0	2,400	2,400	7,376	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	645	
Tetrachloroethylene	0	0		0	140	140	430	
Toluene	0	0		0	330	330	1,014	

1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	4,302	
1,1,1-Trichloroethane	0	0		0	610	610	1,875	
1,1,2-Trichloroethane	0	0		0	680	680	2,090	
Trichloroethylene	0	0		0	450	450	1,383	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	338	
2,4-Dichlorophenol	0	0		0	340	340	1,045	
2,4-Dimethylphenol	0	0		0	130	130	400	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	49.2	
2,4-Dinitrophenol	0	0		0	130	130	400	
2-Nitrophenol	0	0		0	1,600	1,600	4,917	
4-Nitrophenol	0	0		0	470	470	1,444	
p-Chloro-m-Cresol	0	0		0	500	500	1,537	
Pentachlorophenol	0	0		0	6.693	6.69	20.6	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	280	
Acenaphthene	0	0		0	17	17.0	52.2	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	181	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.31	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	18,439	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	2,797	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	166	
Butyl Benzyl Phthalate	0	0		0	35	35.0	108	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	492	
1,3-Dichlorobenzene	0	0		0	69	69.0	212	
1,4-Dichlorobenzene	0	0		0	150	150	461	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	2,459	
Dimethyl Phthalate	0	0		0	500	500	1,537	
Di-n-Butyl Phthalate	0	0		0	21	21.0	64.5	
2,4-Dinitrotoluene	0	0		0	320	320	983	
2,6-Dinitrotoluene	0	0		0	200	200	615	
1,2-Diphenylhydrazine	0	0		0	3	3.0	9.22	
Fluoranthene	0	0		0	40	40.0	123	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	6.15	

Hexachlorocyclopentadiene	0	0		0	1	1.0	3.07	
Hexachloroethane	0	0		0	12	12.0	36.9	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	6,454	
Naphthalene	0	0		0	43	43.0	132	
Nitrobenzene	0	0		0	810	810	2,489	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	10,449	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	181	
Phenanthrene	0	0		0	1	1.0	3.07	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	79.9	

☑ ***THH*** CCT (min): 18.358 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	17.2	
Total Arsenic	0	0		0	10	10.0	30.7	
Total Barium	0	0		0	2,400	2,400	7,376	
Total Boron	0	0		0	3,100	3,100	9,527	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	12.3	
Dissolved Iron	0	0		0	300	300	922	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	3,073	
Total Mercury	0	0		0	0.050	0.05	0.15	
Total Nickel	0	0		0	610	610	1,875	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.74	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	9.22	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	

Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	307	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	17.5	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	101	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	209	
Methyl Bromide	0	0		0	100	100.0	307	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	175	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	307	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	30,731	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	92.2	
2,4-Dichlorophenol	0	0		0	10	10.0	30.7	
2,4-Dimethylphenol	0	0		0	100	100.0	307	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	6.15	
2,4-Dinitrophenol	0	0		0	10	10.0	30.7	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	12,293	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	215	
Anthracene	0	0		0	300	300	922	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	615	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	

Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.31	
2-Chloronaphthalene	0	0		0	800	800	2,459	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	3,073	
1,3-Dichlorobenzene	0	0		0	7	7.0	21.5	
1,4-Dichlorobenzene	0	0		0	300	300	922	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	1,844	
Dimethyl Phthalate	0	0		0	2,000	2,000	6,146	
Di-n-Butyl Phthalate	0	0		0	20	20.0	61.5	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	61.5	
Fluorene	0	0		0	50	50.0	154	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	12.3	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	104	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	30.7	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	61.5	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.22	

☑ ***CRL*** CCT (min): 12.903 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	

Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	0.82	
Benzene	0	0		0	0.58	0.58	7.97	
Bromoform	0	0		0	7	7.0	96.2	
Carbon Tetrachloride	0	0		0	0.4	0.4	5.5	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	11.0	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	13.1	
1,2-Dichloroethane	0	0		0	9.9	9.9	136	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	12.4	
1,3-Dichloropropylene	0	0		0	0.27	0.27	3.71	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	275	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	2.75	
Tetrachloroethylene	0	0		0	10	10.0	137	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	7.56	
Trichloroethylene	0	0		0	0.6	0.6	8.25	
Vinyl Chloride	0	0		0	0.02	0.02	0.27	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	

2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	0.41	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	20.6	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.001	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.014	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.001	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.014	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.14	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.41	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	4.4	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	1.65	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.001	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	0.69	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.69	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.69	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.41	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.001	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.14	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	1.37	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.014	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.01	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.069	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	45.4	

Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	14.9	22.1	1,274	1,891	3,186	µg/L	1,274	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Copper	0.4	0.55	0.034	0.047	0.085	mg/L	0.034	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Free Cyanide	0.14	0.24	12.3	20.5	30.7	µg/L	12.3	THH	Discharge Conc ≥ 50% WQBEL (RP)
Bis(2-Ethylhexyl)Phthalate	Report	Report	Report	Report	Report	µg/L	4.4	CRL	Discharge Conc > 25% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	7,376	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	4,917	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	1.19	µg/L	Discharge Conc < TQL
Total Chromium (III)	393	µg/L	Discharge Conc < TQL
Hexavalent Chromium	30.0	µg/L	Discharge Conc < TQL
Total Cobalt	58.4	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	922	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	4,610	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	18.1	µg/L	Discharge Conc < TQL
Total Manganese	3,073	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.15	µg/L	Discharge Conc < TQL
Total Nickel	241	µg/L	Discharge Conc ≤ 10% WQBEL

Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	15.3	µg/L	Discharge Conc < TQL
Total Silver	16.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	0.74	µg/L	Discharge Conc < TQL
Total Zinc	0.33	mg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	5.53	µg/L	Discharge Conc < TQL
Acrylonitrile	0.82	µg/L	Discharge Conc < TQL
Benzene	7.97	µg/L	Discharge Conc < TQL
Bromoform	96.2	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	5.5	µg/L	Discharge Conc < TQL
Chlorobenzene	307	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	11.0	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	10,756	µg/L	Discharge Conc < TQL
Chloroform	17.5	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	13.1	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	136	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	101	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	12.4	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	3.71	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	209	µg/L	Discharge Conc < TQL
Methyl Bromide	307	µg/L	Discharge Conc < TQL
Methyl Chloride	16,902	µg/L	Discharge Conc < TQL
Methylene Chloride	275	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	2.75	µg/L	Discharge Conc < TQL
Tetrachloroethylene	137	µg/L	Discharge Conc < TQL
Toluene	175	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	307	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	1,875	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	7.56	µg/L	Discharge Conc < TQL
Trichloroethylene	8.25	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.27	µg/L	Discharge Conc < TQL
2-Chlorophenol	92.2	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	30.7	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	307	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	6.15	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	30.7	µg/L	Discharge Conc < TQL
2-Nitrophenol	4,917	µg/L	Discharge Conc < TQL
4-Nitrophenol	1,444	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	295	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.41	µg/L	Discharge Conc < TQL
Phenol	12,293	µg/L	Discharge Conc < TQL

2,4,6-Trichlorophenol	20.6	µg/L	Discharge Conc ≤ 25% WQBEL
Acenaphthene	52.2	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	922	µg/L	Discharge Conc < TQL
Benzidine	0.001	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.014	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.001	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.014	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.14	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.41	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	615	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	166	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.31	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	2,459	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	1.65	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.001	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	492	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	21.5	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	461	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.69	µg/L	Discharge Conc < TQL
Diethyl Phthalate	1,844	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	1,537	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	61.5	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.69	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.69	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.41	µg/L	Discharge Conc < TQL
Fluoranthene	61.5	µg/L	Discharge Conc < TQL
Fluorene	154	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.001	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.14	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	3.07	µg/L	Discharge Conc < TQL
Hexachloroethane	1.37	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.014	µg/L	Discharge Conc < TQL
Isophorone	104	µg/L	Discharge Conc ≤ 25% WQBEL
Naphthalene	132	µg/L	Discharge Conc < TQL
Nitrobenzene	30.7	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.01	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.069	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	45.4	µg/L	Discharge Conc < TQL
Phenanthrene	3.07	µg/L	Discharge Conc < TQL
Pyrene	61.5	µg/L	Discharge Conc < TQL

1,2,4-Trichlorobenzene	0.22	µg/L	Discharge Conc < TQL

DEP's TOXCONC sheet, Copper, April 2025 update:

	Facility:		Robesonia Wernersville				
	NPDES #:		PA0031062				
	Outfall No:		002				
	n (Samples/Month):		4				
	Reviewer/Permit Engineer:		Boylan				
Parameter Name	Total Copper						
Units	mg/l						
Detection Limit	0.002						
Sample Date	***When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)***						
8/5/2024 Daily Effl DMR	0.009						
Jul-24	0.013						
Jun-24	0.015						
May-24	0.017						
Apr-24	0.019						
Mar-24	0.016						
Feb-24	0.017						
Jan-24	0.014						
Dec-23	0.018						
Nov-23	0.014						
Oct-23	0.012						
Sep-23	0.012						
lab pages12/18/2023	0.034						
lab pages12/21/2023	0.011						
lab pages12/22/2023	0.013						
Sep-24	0.01						
Oct-24	0.009						
Nov-24	0.012						
Dec-24	0.012						
Jan2 2025	0.011						
Jan9 2025	0.01						
Jan16 2025	0.008						
Jan23 2025	0.011						
Jan30 2025	0.011						
Feb7 2025	0.008						
Feb13 2025	0.008						
Feb20 2025	0.01						
Feb27 2025	0.01						
March6 2025	0.011						

		Reviewer/Permit Engineer:	Boylan
Facility:	Robesonia Wernersville		
NPDES #:	PA0031062		
Outfall No:	002		
n (Samples/Month):	4		
Parameter	**Distribution Applied**	**Coefficient of Variation (daily)**	**Avg. Monthly**
Total Copper (mg/l)	Lognormal	0.3188938	0.0183737

TOXCONC, updated April 2025:

	Facility:	Robesonia Wernersville		
	NPDES #:	PA0031062		
	Outfall No:	002		
	n (Samples/Month):	4		
	Reviewer/Permit Engineer:	Boylan		
Parameter Name	Total Aluminum	Free Cyanide		
Units	mg/l	mg/L		
Detection Limit	0.009	0.5		
Sample Date	***When entering values below the detection limit, enter "ND"***			
lab pages12/18/2023	1.86	0.005		
lab pages12/21/2023	0.564	0.008		
lab pages12/22/2023	0.45	0.013		
Jan2 2025	0.872	0.006		
Jan9 2025	1.03	0.002		
Jan16 2025	1.31	0.014		
Jan23 2025	1.37	0.013		
Jan30 2025	1.02	0.008		
Feb7 2025	1.53	0.004		
Feb13 2025	1.49	0.005		
Feb20 2025	0.801	0.009		
Feb27 2025	0.96	0.005		
March6 2025	0.99	0.003		

		Reviewer/Permit Engineer:	Boylan
Facility:	Robesonia Wernersville		
NPDES #:	PA0031062		
Outfall No:	002		
n (Samples/Month):	4		
Parameter	**Distribution Applied**	**Coefficient of Variation (daily)**	**Avg. Monthly**
Total Aluminum (mg/l)	Lognormal	0.4173459	1.7543472
Free Cyanide (mg/L)	Lognormal	0.6441037	0.0148072

TOXCONC, updated April 2025:

	NPDES #:		PA0031062				
	Outfall No:		001				
	n (Samples/Month):		4				
	Reviewer/Permit Engineer:		B.Boylan				
Parameter Name	Benzo(a)anthra-	Benzo(a)Pyrene	3,4Benzofloro	Benzo(k)fluoran	ButylPenzylPh	Dibenzo(a,h)Ant	Indeno(1,2,3-cd)
Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Detection Limit	0.255	0.234	0.255	0.315	0.982	0.389	0.369
Sample Date	*When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)*						
12/21/2024	0.25	0.23	0.25	0.309	0.963	0.382	0.362
12/20/2024	0.25	0.23	0.25	0.309	0.963	0.382	0.362
12/18/2024	0.314	0.676	0.578	0.422	1.16	0.412	0.412
1/2/2025	0.25	0.23	0.25	0.309	0.963	0.382	0.362
1/9/2025	0.25	0.23	0.25	0.309	0.963	0.382	0.362
1/16/2025	0.248	0.228	0.248	0.306	0.954	0.378	0.358
1/23/2025	0.252	0.232	0.252	0.312	0.973	0.385	0.365
1/30/2025	0.25	0.23	0.25	0.309	0.963	0.382	0.362
2/7/2025	0.252	0.232	0.252	0.312	0.973	0.385	0.365
2/13/2025	0.252	0.232	0.252	0.312	0.973	0.385	0.365
2/20/2025	0.255	0.234	0.255	0.315	0.982	0.389	0.369
2/27/2025	0.252	0.232	0.252	0.312	0.973	0.385	0.365
3/6/2025	0.25	0.23	0.25	0.309	0.963	0.382	0.362

		Reviewer/Permit Engineer:	B.Boylan
Facility:	Robesonia Wernersville		
NPDES #:	PA0031062		
Outfall No:	001		
n (Samples/Month):	4		
Parameter	**Distribution Applied**	**Coefficient of Variation (daily)**	**Avg. Monthly**
Benzo(a)anthra- (ug/l)	Lognormal	0.0626382	0.2749665
Benzo(a)Pyrene (ug/l)	Lognormal	0.3048365	0.3686203
3,4Benzofloro (ug/l)	Lognormal	0.2346796	0.3582591
Benzo(k)fluoran (ug/l)	Lognormal	0.0857997	0.3519554
ButylPenzylPh (ug/l)	Lognormal	0.0510199	1.0417225
Dibenzo(a,h)Ant (ug/l)	Lognormal	0.0212002	0.3950664
Indeno(1,2,3-cd) (ug/l)	Lognormal	0.0356803	0.3824983

	Facility:		Robesonia Wernersville				
	NPDES #:		PA0031062				
	Outfall No:		001				
	n (Samples/Month):		4				
Parameter Name	Benzo(a)anthra-	Benzo(a)Pyrene	3,4Benzofloro	Benzo(k)fluoran	ButylPenzylPh	Dibenzo(a,h)Ant	Indeno(1,2,3-cd)
Number of Samples	13	13	13	13	13	13	13
Samples Nondetected	0	0	0	0	0	0	0
LOGNORMAL							
Log MEAN	-1.3654040	-1.3834257	-1.3184670	-1.1467381	-0.0194255	-0.9535250	-1.0030008
Log VAR.	0.0039159	0.0888578	0.0536114	0.0073346	0.0025997	0.0004493	0.0012723
(LTA) [E(x)]	0.2557778	0.2621085	0.2748139	0.3188384	0.9820376	0.3854668	0.3670105
Variance [V(x)]	0.0002567	0.0063840	0.0041594	0.0007484	0.0025104	0.0000668	0.0001715
CV (raw)	0.0626382	0.3048365	0.2346796	0.0857997	0.0510199	0.0212002	0.0356803
CV (n)	0.0313191	0.1524182	0.1173398	0.0428998	0.0255100	0.0106001	0.0178401
Monthly Avg. (99%, n-day)	0.2749665	0.3686203	0.3582591	0.3519554	1.0417225	0.3950664	0.3824983

A	B	C	D	E	F	G

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

4.49	= Q stream (cfs)	0.5	= CV Daily
1.4	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	0.9	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.614	1.3.2.iii	WLA cfc = 0.656
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.229	5.1d	LTA_cfc = 0.381

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.282	AFC
		INST MAX LIMIT (mg/l) = 0.921	

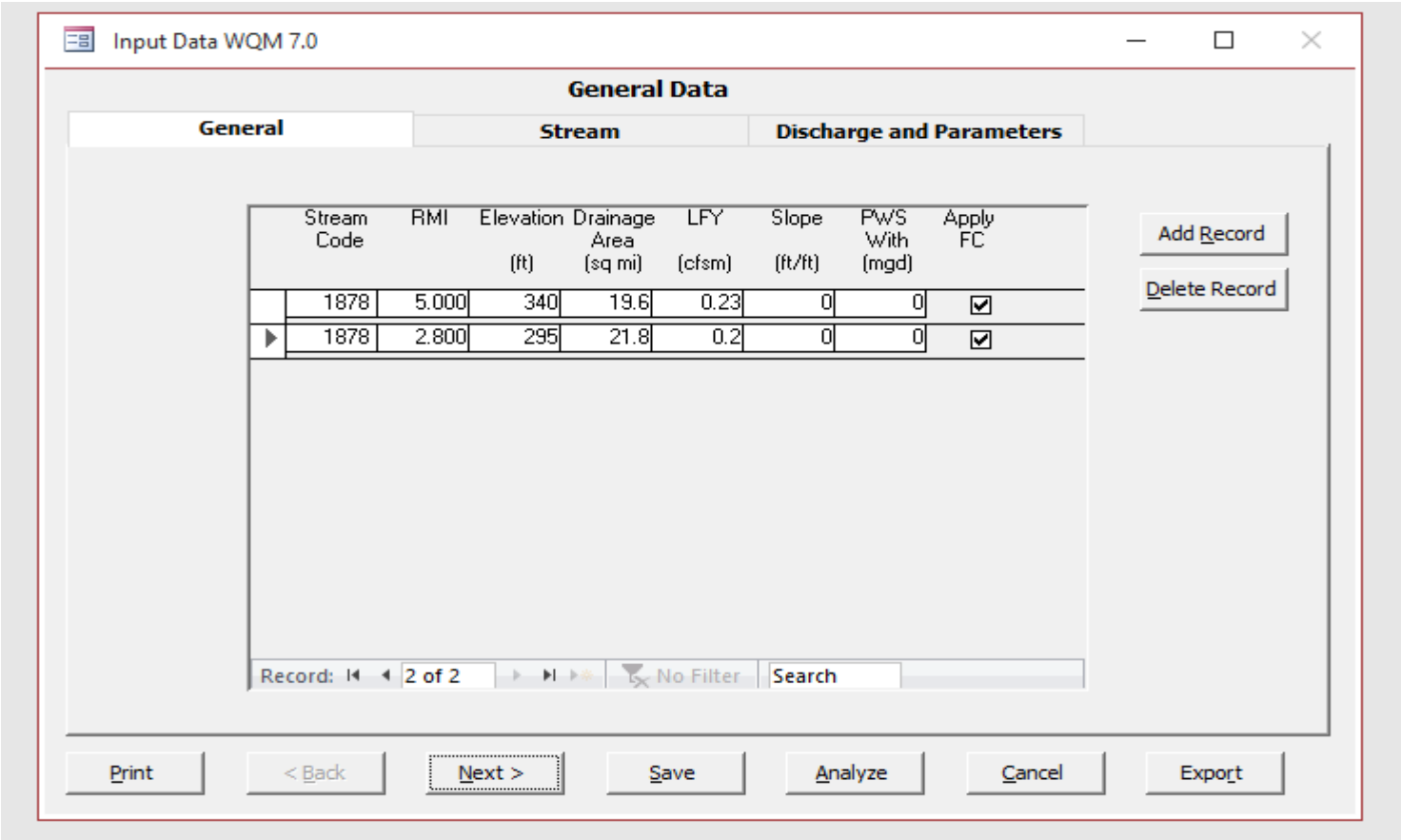
WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...**
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...**
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

NOTE: The acute Partial Mix Factor above (PMFa) was taken from the Toxics Management Spreadsheet which estimates mixing in the receiving water.

DMR data for TRC:

PERMIT	MONITORIN	MONITORING	DMR_VERS	OUTFAL	PARAMETE	LOAD_UNI	LOAD_1_V	CONC_UN	CONC_2_V	CONC_2_L	CONC_2_S	CONC_3_V	CONC_3_L	CONC_3_S	SAMPLE_F	SAMPLE_T
PA0031062	1/1/2022	1/31/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.17	0.31	Average M	0.24	1	Instantane	1/day	Grab
PA0031062	2/1/2022	2/28/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.15	0.31	Average M	0.26	1	Instantane	1/day	Grab
PA0031062	3/1/2022	3/31/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.21	0.31	Average M	0.33	1	Instantane	1/day	Grab
PA0031062	4/1/2022	4/30/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.15	0.31	Average M	0.32	1	Instantane	1/day	Grab
PA0031062	5/1/2022	5/31/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.18	0.31	Average M	0.31	1	Instantane	1/day	Grab
PA0031062	6/1/2022	6/30/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.23	0.31	Average M	0.33	1	Instantane	1/day	Grab
PA0031062	7/1/2022	7/31/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.22	0.31	Average M	0.29	1	Instantane	1/day	Grab
PA0031062	8/1/2022	8/31/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.2	0.31	Average M	0.29	1	Instantane	1/day	Grab
PA0031062	9/1/2022	9/30/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.23	0.31	Average M	0.32	1	Instantane	1/day	Grab
PA0031062	10/1/2022	10/31/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.3	0.31	Average M	0.39	1	Instantane	1/day	Grab
PA0031062	11/1/2022	11/30/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.33	0.31	Average M	0.46	1	Instantane	1/day	Grab
PA0031062	12/1/2022	12/31/2022	1	001	Total Residual Chlorine (TRC)			mg/L	0.21	0.31	Average M	0.42	1	Instantane	1/day	Grab
PA0031062	1/1/2023	1/31/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.21	0.31	Average M	0.31	1	Instantane	1/day	Grab
PA0031062	2/1/2023	2/28/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.24	0.31	Average M	0.31	1	Instantane	1/day	Grab
PA0031062	3/1/2023	3/31/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.23	0.31	Average M	0.36	1	Instantane	1/day	Grab
PA0031062	4/1/2023	4/30/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.26	0.31	Average M	0.35	1	Instantane	1/day	Grab
PA0031062	5/1/2023	5/31/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.24	0.31	Average M	0.35	1	Instantane	1/day	Grab
PA0031062	6/1/2023	6/30/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.18	0.31	Average M	0.29	1	Instantane	1/day	Grab
PA0031062	7/1/2023	7/31/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.15	0.31	Average M	0.31	1	Instantane	1/day	Grab
PA0031062	8/1/2023	8/31/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.19	0.31	Average M	0.27	1	Instantane	1/day	Grab
PA0031062	9/1/2023	9/30/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.24	0.31	Average M	0.34	1	Instantane	1/day	Grab
PA0031062	10/1/2023	10/31/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.21	0.31	Average M	0.37	1	Instantane	1/day	Grab
PA0031062	11/1/2023	11/30/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.21	0.31	Average M	0.31	1	Instantane	1/day	Grab
PA0031062	12/1/2023	12/31/2023	1	001	Total Residual Chlorine (TRC)			mg/L	0.2	0.31	Average M	0.35	1	Instantane	1/day	Grab
PA0031062	1/1/2024	1/31/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.22	0.31	Average M	0.33	1	Instantane	1/day	Grab
PA0031062	2/1/2024	2/29/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.23	0.31	Average M	0.33	1	Instantane	1/day	Grab
PA0031062	3/1/2024	3/31/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.23	0.31	Average M	0.34	1	Instantane	1/day	Grab
PA0031062	4/1/2024	4/30/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.23	0.31	Average M	0.38	1	Instantane	1/day	Grab
PA0031062	5/1/2024	5/31/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.26	0.31	Average M	0.34	1	Instantane	1/day	Grab
PA0031062	6/1/2024	6/30/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.25	0.31	Average M	0.33	1	Instantane	1/day	Grab
PA0031062	7/1/2024	7/31/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.22	0.31	Average M	0.33	1	Instantane	1/day	Grab
PA0031062	8/1/2024	8/31/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.24	0.31	Average M	0.33	1	Instantane	1/day	Grab
PA0031062	9/1/2024	9/30/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.27	0.31	Average M	0.34	1	Instantane	1/day	Grab
PA0031062	10/1/2024	10/31/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.24	0.31	Average M	0.32	1	Instantane	1/day	Grab
PA0031062	11/1/2024	11/30/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.23	0.31	Average M	0.33	1	Instantane	1/day	Grab
PA0031062	12/1/2024	12/31/2024	1	001	Total Residual Chlorine (TRC)			mg/L	0.25	0.31	Average M	0.35	1	Instantane	1/day	Grab
PA0031062	1/1/2025	1/31/2025	1	001	Total Residual Chlorine (TRC)			mg/L	0.25	0.31	Average M	0.31	1	Instantane	1/day	Grab
PA0031062	2/1/2025	2/28/2025	1	001	Total Residual Chlorine (TRC)			mg/L	0.25	0.31	Average M	0.31	1	Instantane	1/day	Grab
									0.22	Avg		0.46	Max			
									0.33	MMA						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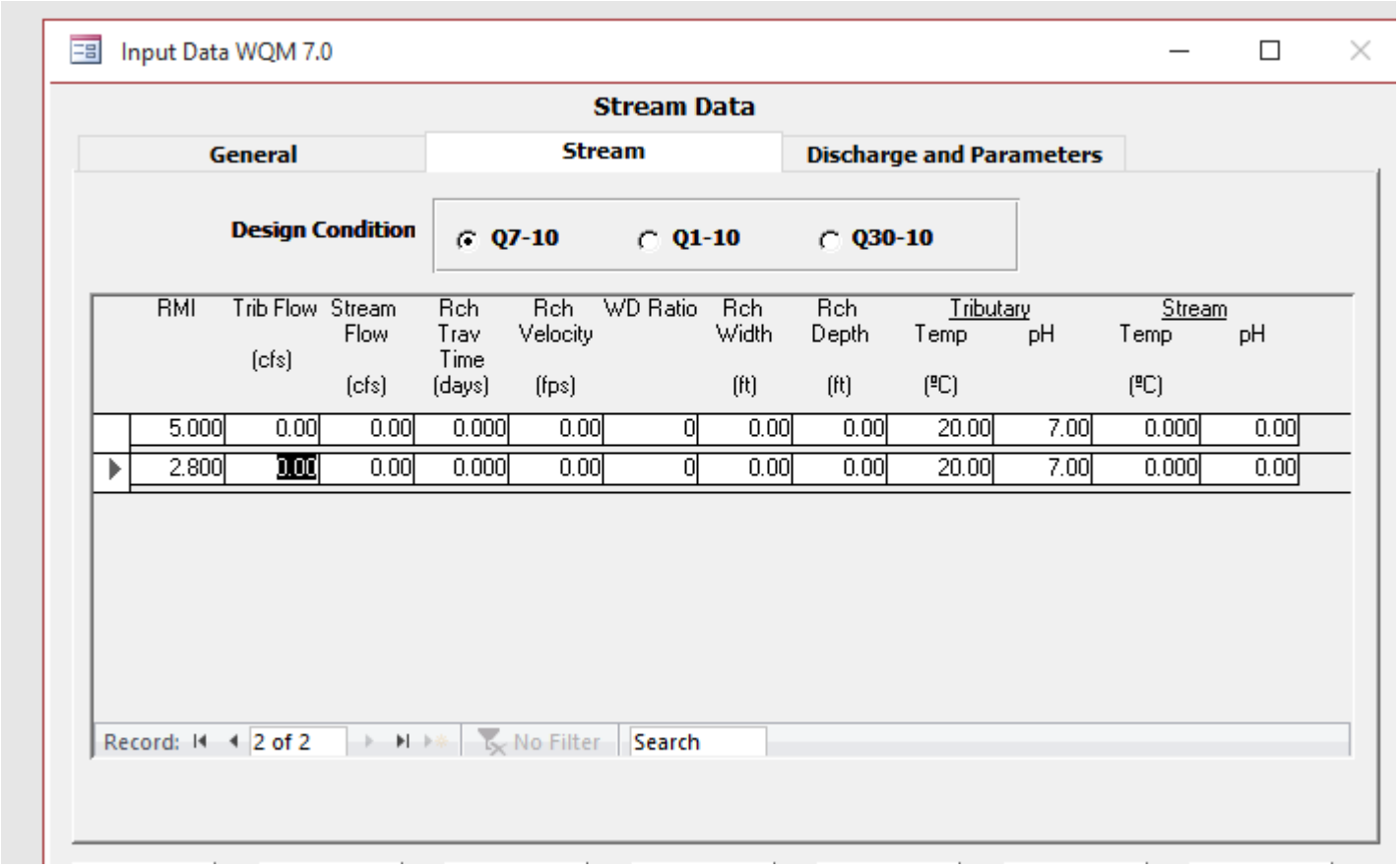
General Data
General
Stream
Discharge and Parameters
Stream Code
RMI
Elevation (ft)
Drainage Area (sq mi)
LFY (cfsm)
Slope (ft/ft)
PWS With (mgd)
Apply FC
1878 5.000 340 19.6 0.23 0 0
1878 2.800 295 21.8 0.2 0 0
Add Record
Delete Record
Record: 2 of 2
No Filter
Search
Print
< Back
Next >
Save
Analyze
Cancel
Export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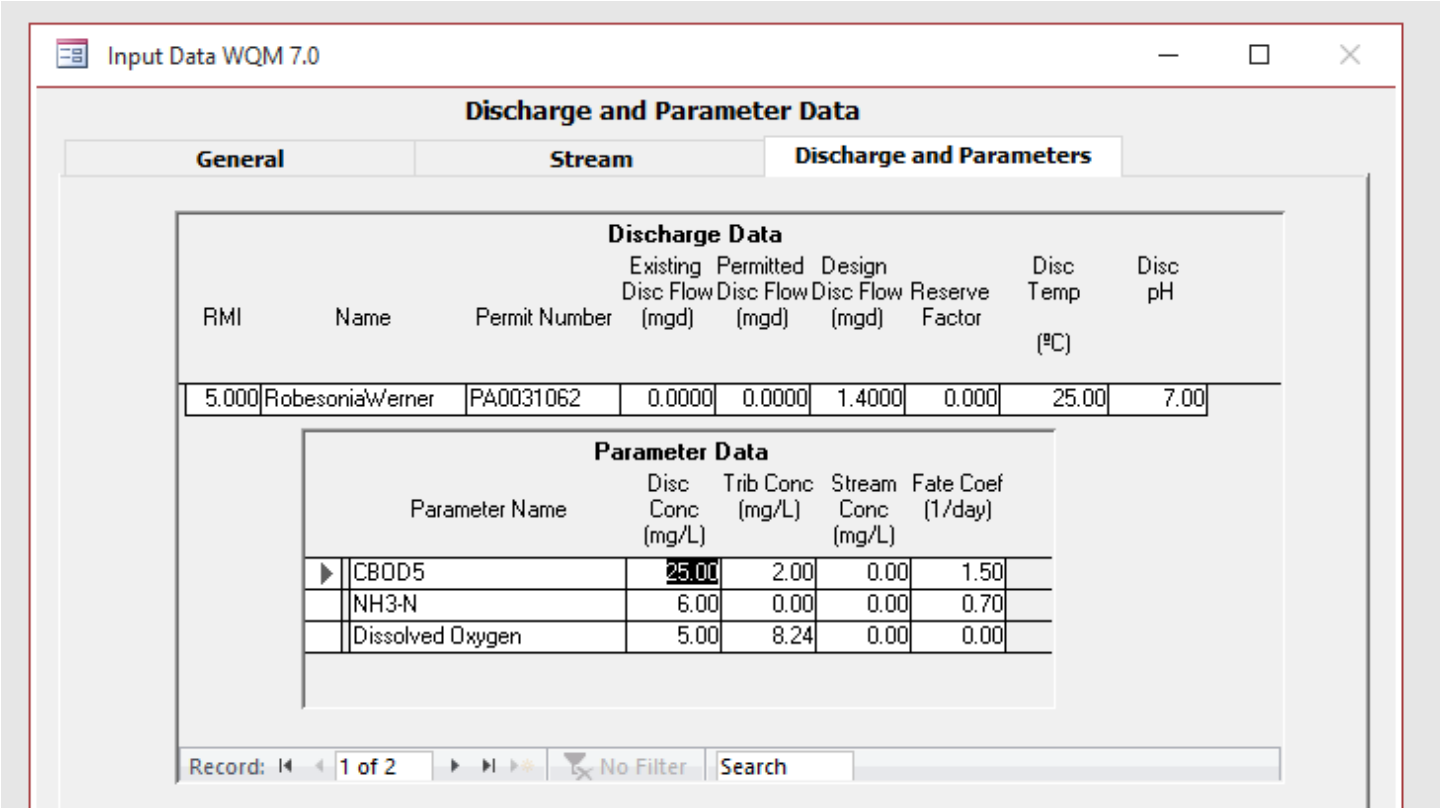
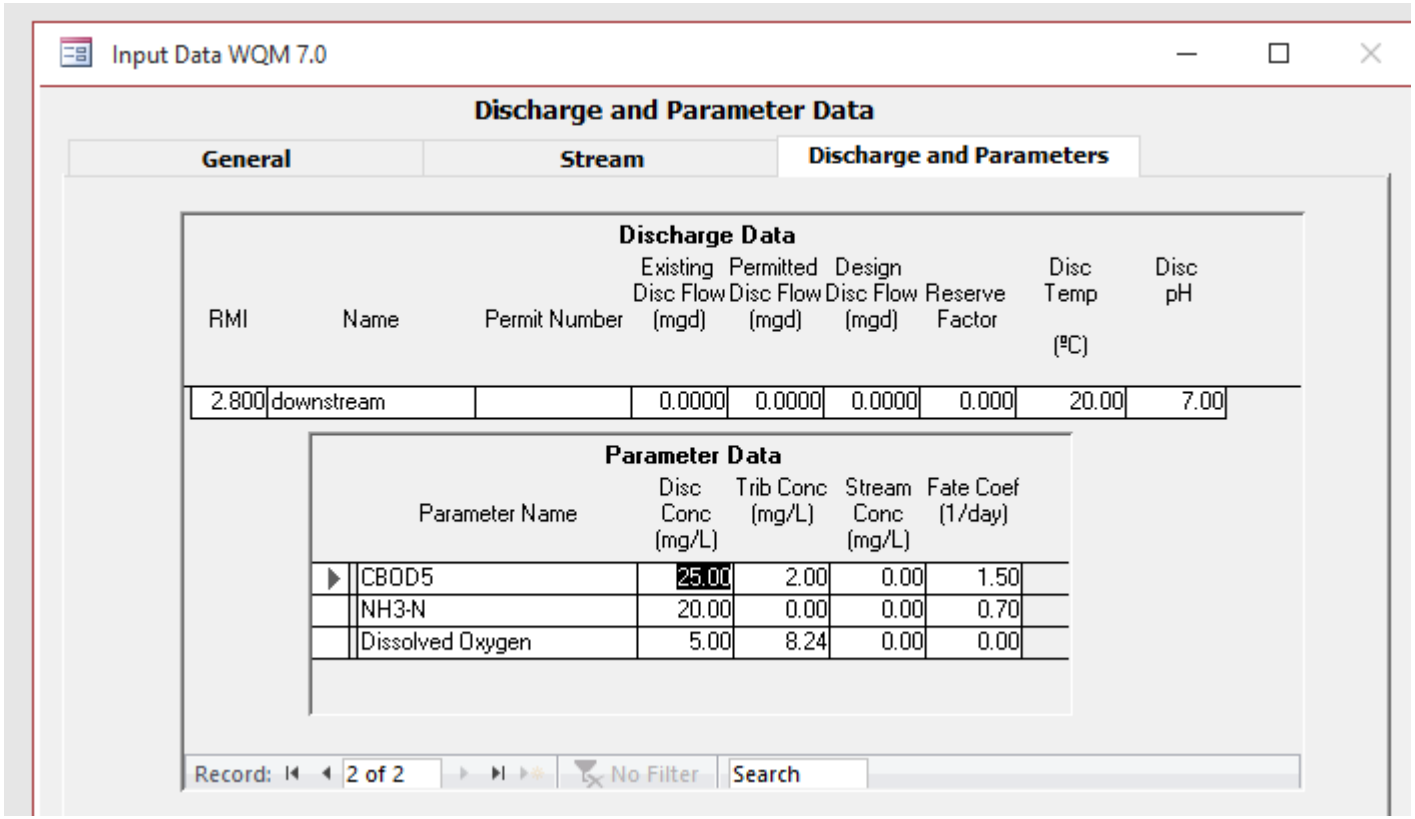
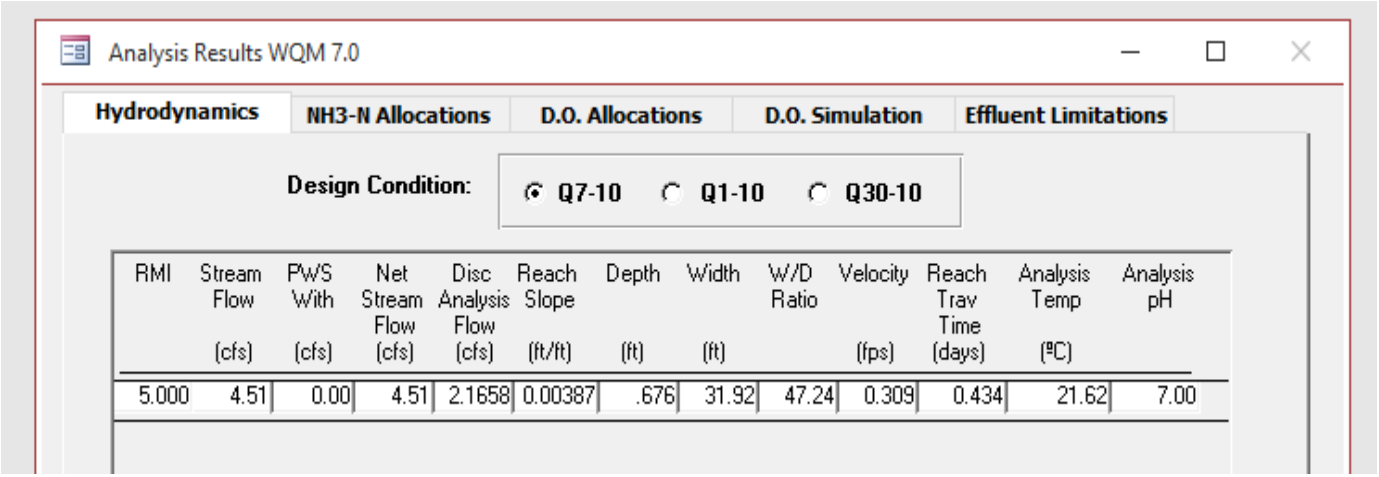
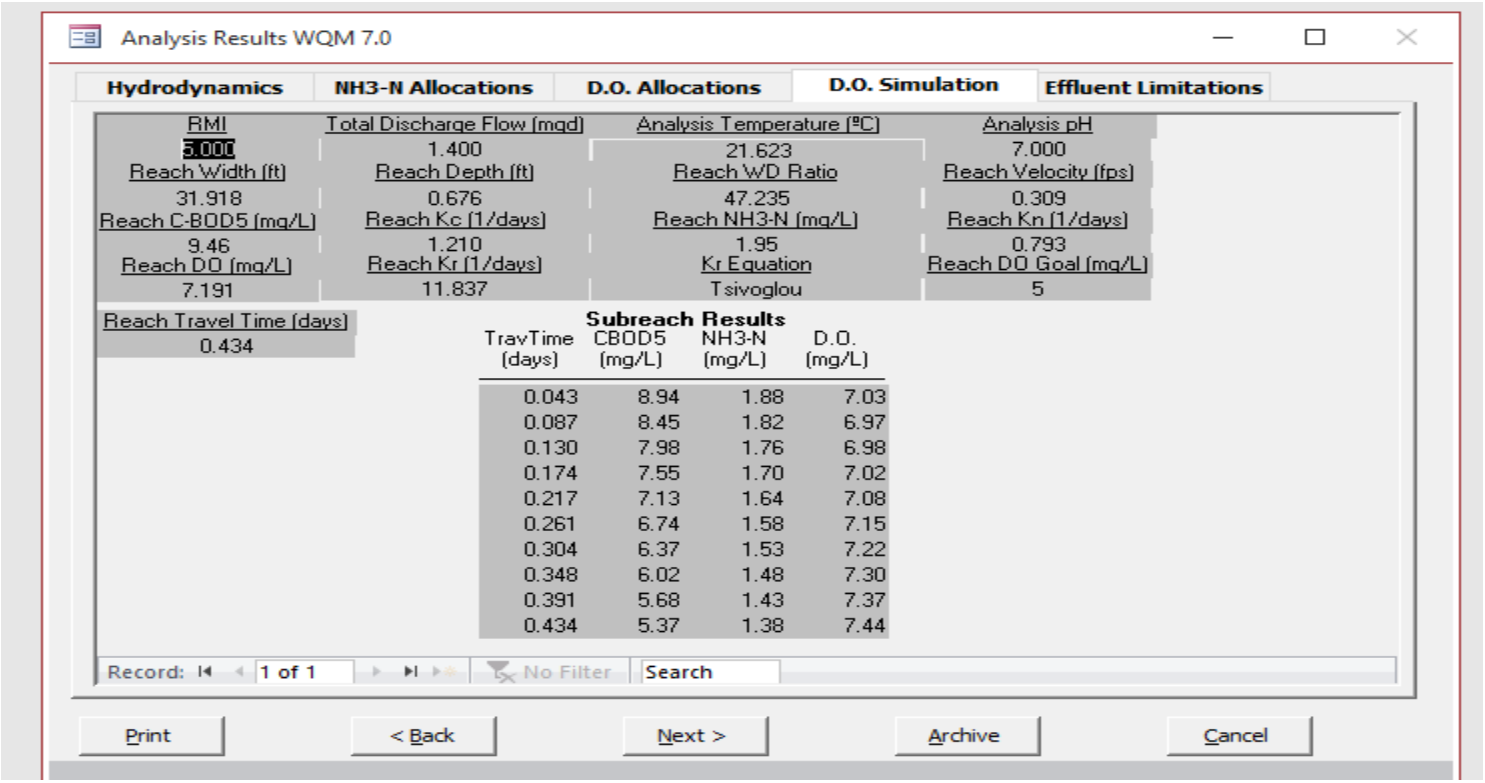
Stream Data
General
Stream
Discharge and Parameters
Design Condition
Q7-10
Q1-10
Q30-10
RMI
Trib Flow (cfs)
Stream Flow (cfs)
Rch Trav Time (days)
Rch Velocity (fps)
WD Ratio
Rch Width (ft)
Rch Depth (ft)
Tributary Temp (ºC)
Tributary pH
Stream Temp (ºC)
Stream pH
5.000 0.00 0.00 0.000 0.00 0 0.00 0.00 20.00 7.00 0.000 0.00
2.800 0.00 0.00 0.000 0.00 0 0.00 0.00 20.00 7.00 0.000 0.00
Record: 2 of 2
No Filter
Search


Input Data WQM 7.0
Discharge and Parameter Data
General
Stream
Discharge and Parameters
Discharge Data
RMI
Name
Permit Number
Existing Disc Flow (mgd)
Permitted Disc Flow (mgd)
Design Disc Flow (mgd)
Reserve Factor
Disc Temp (ºC)
Disc pH
5.000
RobesoniaWerner
PA0031062
0.0000
0.0000
1.4000
0.000
25.00
7.00
Parameter Data
Parameter Name
Disc Conc (mg/L)
Trib Conc (mg/L)
Stream Conc (mg/L)
Fate Coef (1/day)
CBOD5
25.00
2.00
0.00
1.50
NH3-N
6.00
0.00
0.00
0.70
Dissolved Oxygen
5.00
8.24
0.00
0.00
Record:
1 of 2
No Filter
Search


Input Data WQM 7.0
Discharge and Parameter Data
General
Stream
Discharge and Parameters
Discharge Data
RMI
Name
Permit Number
Existing Disc Flow (mgd)
Permitted Disc Flow (mgd)
Design Disc Flow (mgd)
Reserve Factor
Disc Temp (ºC)
Disc pH
2.800
downstream
0.0000
0.0000
0.0000
0.000
20.00
7.00
Parameter Data
Parameter Name
Disc Conc (mg/L)
Trib Conc (mg/L)
Stream Conc (mg/L)
Fate Coef (1/day)
CBOD5
25.00
2.00
0.00
1.50
NH3-N
20.00
0.00
0.00
0.70
Dissolved Oxygen
5.00
8.24
0.00
0.00
Record:
2 of 2
No Filter
Search

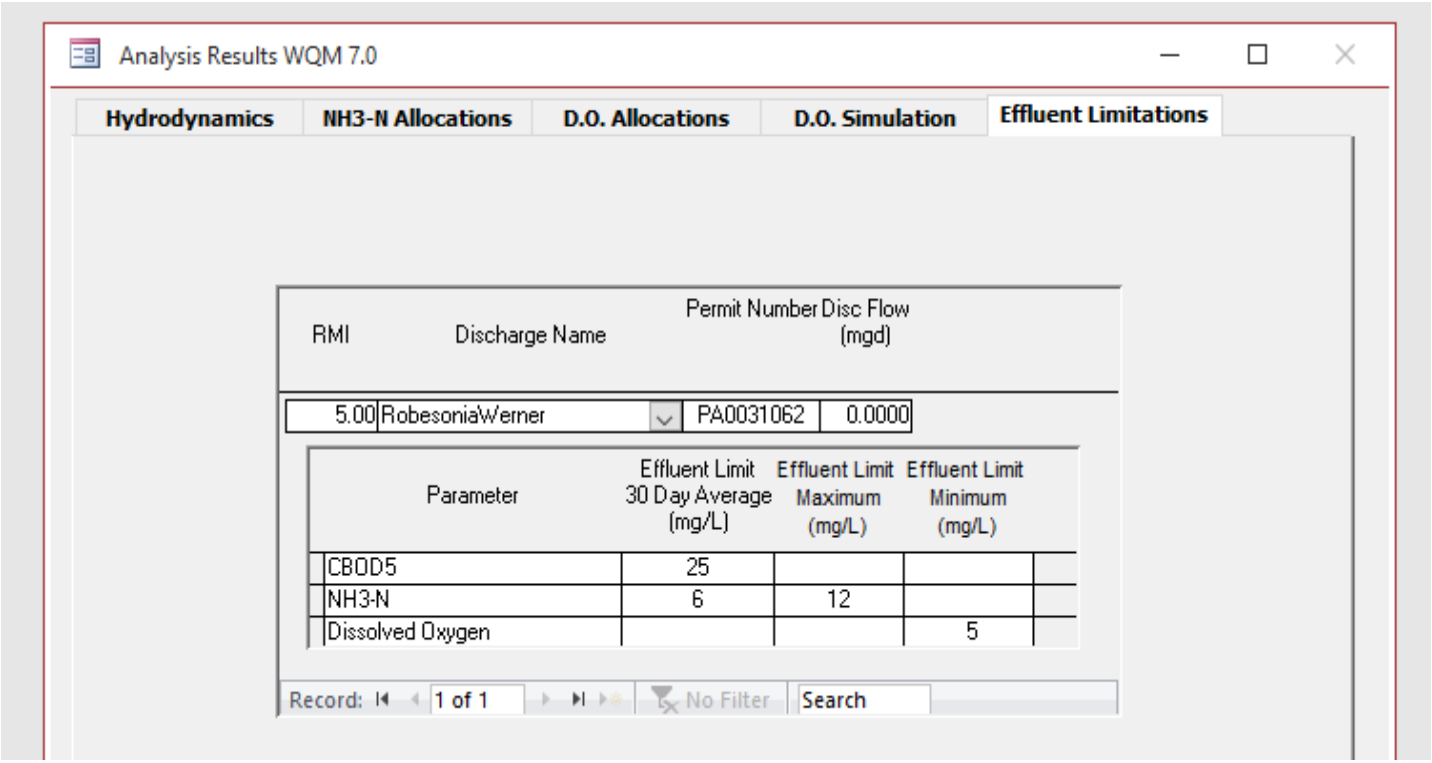


RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
5.000	4.51	0.00	4.51	2.1658	0.00387	.676	31.92	47.24	0.309	0.434	21.62	7.00



TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.043	8.94	1.88	7.03
0.087	8.45	1.82	6.97
0.130	7.98	1.76	6.98
0.174	7.55	1.70	7.02
0.217	7.13	1.64	7.08
0.261	6.74	1.58	7.15
0.304	6.37	1.53	7.22
0.348	6.02	1.48	7.30
0.391	5.68	1.43	7.37
0.434	5.37	1.38	7.44

DO recovery



The model defaulted to the TBEL for CBOD5.

The model indicated that a more stringent WQBEL for Ammonia is not needed but that the existing permit limits can be continued in accordance with anti-backsliding provisions.

WET results……

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 7/14/2020 Control	TIWC
1	10	10
2	9	9
3	9	10
4	10	9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	9.500	9.500
Std Dev.	0.577	0.577
# Replicates	4	4
T-Test Result	5.6564	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: City of Reading

Permit No.: PA0026549

Replicate No.	Test Completion Date: 7/14/2020 Control	TIWC
1	0.511	0.442
2	0.473	0.493
3	0.529	0.5
4	0.459	0.451
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.493	0.472
Std Dev.	0.033	0.029
# Replicates	4	4
T-Test Result	5.3433	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 7/13/2020 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 7/13/2020 Control	TIWC
1	40	44
2	39	32
3	40	36
4	40	42
5	32	36
6	37	35
7	32	25
8	38	30
9	34	40
10	36	28
11		
12		
13		
14		
15		
Mean	36.800	34.800
Std Dev.	3.190	6.143
# Replicates	10	10
T-Test Result	3.4538	
Deg. of Freedom	13	
Critical T Value	0.8702	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 7/6/2021 Control	TIWC
1	9	10
2	9	9
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	9.500	9.750
Std Dev.	0.577	0.500
# Replicates	4	4

T-Test Result	6.9275
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: City of Reading

Permit No.: PA0026549

Replicate No.	Test Completion Date: 7/6/2021 Control	TIWC
1	0.272	0.302
2	0.248	0.274
3	0.333	0.315
4	0.294	0.295
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.287	0.297
Std Dev.	0.036	0.017
# Replicates	4	4

T-Test Result	5.0826
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 7/5/2021 Control	TIWC	Test Completion Date: Control	TIWC
1	1	1		
2	1	1		
3	1	1		
4	1	1		
5	1	1		
6	1	1		
7	1	1		
8	1	1		
9	1	1		
10	1	1		
11				
12				
13				
14				
15				
Mean	1.000	1.000	0.000	0.000
Std Dev.	0.000	0.000		
# Replicates	10	10		

T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 7/5/2021 Control	TIWC	Test Completion Date: Control	TIWC
1	34	34		
2	35	29		
3	34	31		
4	31	29		
5	30	36		
6	37	42		
7	33	34		
8	20	34		
9	24	31		
10	20	30		
11				
12				
13				
14				
15				
Mean	29.800	33.000	0.000	0.000
Std Dev.	6.250	3.972		
# Replicates	10	10		

T-Test Result	5.4812	
Deg. of Freedom	17	
Critical T Value	0.8633	
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 6/28/2022 Control	TIWC
1	10	10
2	10	10
3	10	10
4	10	5
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	8.750
Std Dev.	0.000	2.500
# Replicates	4	4

T-Test Result	1.2534
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: City of Reading

Permit No.: PA0026549

Replicate No.	Test Completion Date: 6/28/2022 Control	TIWC
1	0.336	0.274
2	0.314	0.284
3	0.297	0.347
4	0.293	0.16
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.310	0.266
Std Dev.	0.020	0.078
# Replicates	4	4

T-Test Result	0.8520
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 6/27/2022 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: PASS

Replicate No.	Test Completion Date Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 6/27/2022 Control	TIWC
1	33	45
2	36	43
3	36	39
4	34	35
5	35	45
6	38	49
7	34	44
8	29	46
9	37	45
10	35	44
11		
12		
13		
14		
15		
Mean	34.700	43.500
Std Dev.	2.497	3.894
# Replicates	10	10

T-Test Result: 12.7882
Deg. of Freedom: 14
Critical T Value: 0.8681
Pass or Fail: PASS

Replicate No.	Test Completion Date Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 5/17/2023 Control	TIWC
1	10	10
2	9	10
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	9.750	10.000
Std Dev.	0.500	0.000
# Replicates	4	4

T-Test Result	12.5523
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: City of Reading

Permit No.: PA0026549

Replicate No.	Test Completion Date: 5/17/2023 Control	TIWC
1	0.408	0.495
2	0.412	0.427
3	0.461	0.411
4	0.452	0.456
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.433	0.447
Std Dev.	0.027	0.037
# Replicates	4	4

T-Test Result	5.8067
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 5/17/2023 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 5/17/2023 Control	TIWC
1	43	38
2	36	27
3	35	36
4	32	32
5	35	32
6	39	40
7	31	36
8	40	37
9	34	27
10	29	42
11		
12		
13		
14		
15		
Mean	35.400	34.700
Std Dev.	4.300	5.100
# Replicates	10	10
T-Test Result	4.2711	
Deg. of Freedom	15	
Critical T Value	0.8662	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 6/18/2024 Control	TIWC	Test Completion Date: Control	TIWC
1	10	10		
2	10	9		
3	10	10		
4	9	10		
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	9.750	9.750	0.000	0.000
Std Dev.	0.500	0.500		
# Replicates	4	4		

T-Test Result	6.7314	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.33
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: City of Reading

Permit No.: PA0026549

Replicate No.	Test Completion Date: 6/18/2024 Control	TIWC	Test Completion Date: Control	TIWC
1	0.539	0.482		
2	0.52	0.396		
3	0.51	0.509		
4	0.455	0.416		
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	0.506	0.451	0.000	0.000
Std Dev.	0.036	0.053		
# Replicates	4	4		

T-Test Result	2.3783	
Deg. of Freedom	4	
Critical T Value	0.7407	
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 6/17/2024 Control	TIWC	Test Completion Date: Control	TIWC
1	1	1		
2	1	1		
3	1	1		
4	1	1		
5	1	1		
6	1	1		
7	1	1		
8	1	1		
9	1	1		
10	1	1		
11				
12				
13				
14				
15				
Mean	1.000	1.000	0.000	0.000
Std Dev.	0.000	0.000		
# Replicates	10	10		
T-Test Result				
Deg. of Freedom				
Critical T Value				
Pass or Fail	PASS			

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.33
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Robe-Wernersville

Permit No.: PA0031062

Replicate No.	Test Completion Date: 6/17/2024 Control	TIWC	Test Completion Date: Control	TIWC
1	36	41		
2	37	40		
3	36	40		
4	32	42		
5	37	20		
6	37	40		
7	38	37		
8	36	43		
9	34	40		
10	30	38		
11				
12				
13				
14				
15				
Mean	35.300	38.100	0.000	0.000
Std Dev.	2.541	6.590		
# Replicates	10	10		
T-Test Result	5.3585			
Deg. of Freedom	12			
Critical T Value	0.8726			
Pass or Fail	PASS			