Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	**NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER**	Application No.	**PA0285366**
Facility Type	**Industrial**		APS ID	**1120983**
Major / Minor	**Minor**		Authorization ID	**1498419**

Applicant and Facility Information

Applicant Name	**US Army Corps Of Engineering Pittsburgh District**	Facility Name	**Montgomery Locks & Dam**
Applicant Address	100 Montgomery Dam Road Monaca, PA 15061-2221	Facility Address	100 Montgomery Dam Road Monaca, PA 15061-2221
Applicant Contact	Ryan Ferguson	Facility Contact	Jenna Cunningham
Applicant Phone	(412) 395-7100	Facility Phone	(412) 880-1124
Client ID	339880	Site ID	850041
SIC Code	**3273**	Municipality	Potter Township
SIC Description	**Manufacturing – Ready Mix Concrete**	County	Beaver
Date Application Received	September 4, 2024	EPA Waived?	Yes
Date Application Accepted	September 11, 2024	If No, Reason	

Purpose of Application: New Minor Industrial Wastewater NPDES Permit without ELG.

Summary of Review

On September 4, 2024, US Army Corps of Engineers submitted a New NPDES Permit application to discharge Industrial Wastewater from the Montgomery Locks & Dam location. The application is to authorize industrial wastewater discharges from the lock improvement project. The facility is an active Lock & Dam on the Ohio River.

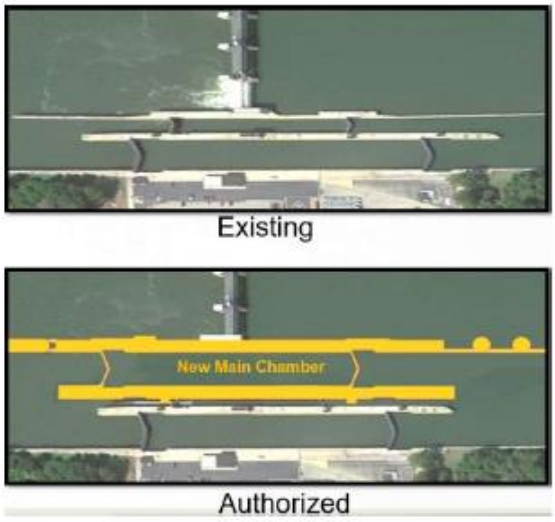
The existing Montgomery Lock & Dam, constructed in 1936, includes two (2) lock chambers; a main lock chamber and an auxiliary lock chamber. The existing main chamber located along the land-side of the lock and dam facility, is becoming antiquated and unable to efficiently and reliably maintain river navigation traffic. The main chamber is also smaller than industry standards, requiring barges to be broken down into smaller groups of barges and locked through the main chamber in numerous, smaller locking operations. When the auxiliary chamber is required to be used, due to malfunction/maintenance on the main chamber, the barges are broken down into even smaller groups compounding the inefficiency of the locking operations. As a result, Congress authorized and funded the Upper Ohio Navigation Project.

The Montgomery New River Chamber Construction Project is a part of the larger Upper Ohio Navigation Project. The purpose of the project is to increase the efficiency and reliability of the locking operations by replacing the existing 56 ft x 360 ft auxiliary chamber with a larger industry standard 110 ft x 600 ft chamber. The new chamber will become the main lock chamber and the old main chamber will become the auxiliary chamber, refer to below Figure 1.

Figure 1: Existing and Authorized Montgomery Project Configurations

Approve	Deny	Signatures	Date
X		Curtis Holes, P.E. / Environmental Engineer	October 24, 2024
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	October 24, 2024

Summary of Review



Construction of the new main lock chamber will require a large amount of concrete with an estimated 1,200 yd^3 per day for approximately 10 years. Given this concrete demand, the project requires its own batch plant to be constructed and used for the duration of the project. As such, a concrete batch plant is planned to be constructed adjacent to the Montgomery Locks and Dam. The temporary concrete batch plant and associated treatment facility will be removed after the new river chamber construction is completed.

Water required for concrete production will be withdrawn from the Ohio River. Due to the concrete durability and workability requirements for the new lock chamber, wastewater from the proposed batch plant cannot be recycled. The wastewater will be directed to a wastewater treatment system prior to discharge to the Ohio River.

To complete the proposed construction project, the use of cofferdams will be required along with dewatering the area to be able to construct the lock chamber. The initial dewatering of the cofferdams is considered clean water, not exposed to industrial activities. This procedure is displacing uncontaminated river water and does not require authorization by the NPDES Permit. However, after the initial dewatering of the cofferdams water is complete and lock construction activities commence within the cofferdams, it is expected that additional water at the bottom of the cofferdams will need to be regularly pumped from the cofferdams to the Ohio River. This water will consist of both stormwater that accumulated within the footprint of the cofferdams and water that my leak through the cofferdam cell wall from the Ohio River. Subsurface investigations have shown that there is a possibility of acid producing rock to be encountered at the floor of the cofferdams/future lock chamber.

The Concrete Batch Plant will have automatic batching capabilities and will be located approximately 160-ft south of the Montgomery Esplanade. The required capacity of the plant will be specified as a minimum of 150 yds^3/hour. The raw material required for the concrete mix design includes portland cement, fly ash, ground granulated blast-furnace slag (GGBFS), silica fume, limestone powder, coarse aggregate, fine aggregate and water. Industrial wastewater will be generated when the coarse aggregate is washed prior to being placed in the weigh hoppers, plant drum clean-up wash water, and stormwater associated with Industrial Activates. The washing of the coarse aggregate provides a clean surface to ensure a good aggregate/paste bond. All industrial wastewater will be collected and directed to the treatment system (Outfall 004) for settling and pH adjustment.

Summary of Review

The project layout is currently in the conceptual design stage, since the layout of the concrete batch plant and wastewater treatment system(s) will be finalized by the Contractor, once the project is awarded. At such time, the Contractor will be required to submit WQM Part II Permit Applications for construction of the wastewater treatment systems to be used at the Montgomery Locks & Dam New River Chamber project.

The complete the project additional permits are required and summarized below.

- NPDES General Permit for Discharges of Stormwater Associated with Construction Activities (PAG-02) – Authorized by Beaver County Conservation District on March 31, 2024 – PAC040128 A-1.
- Water Quality Certification for Impacts to Wetlands and Watercourses associated with site development activities for the Concrete Batch Plant – Authorized by PADEP on May 4, 2023 – EA0405223-001.
- Clean Water Act Section 401 Individual Water Quality Certification for New River Lock Chamber Construction – Authorized by PADEP on June 28, 2024 – EA0405223-003.
- Upon selection of Contractor, Water Quality Management Part II Permit Application is required to be submitted to permit the wastewater treatment system for the Concrete Batch Plant wastewaters. The Draft Permit contains a Part C condition requiring a Water Quality Management Part II Permit Application.

The conceptual design of the Montgomery Locks & Dam consists of six (6) Outfalls.

Outfall 001 (40º 38’ 48.5”, -80º 23’ 14.4”): Outfall 001 discharges to Squirrel Run (WWF). A stormwater diversion channel will be installed to direct offsite stormwater around the proposed Concrete Batch Plant. Outfall 001 is the western discharge location of the stormwater diversion channel. The stormwater is not exposed to industrial activity.

Outfall 002 (40º 38’ 51.9”, -80º 22’ 59”): Outfall 002 discharges to the Ohio River (WWF). A stormwater diversion channel will be installed to direct offsite stormwater around the proposed Concrete Batch Plant. Outfall 002 is the eastern discharge location of the stormwater diversion channel. The stormwater is not exposed to industrial activity.

Outfall 003: Outfall 003 discharges to the Ohio River (WWF). The NPDES Site Development Permit Outfall is 003, which will be removed, once development of the concrete batch plant is complete, and repurposed for the Concrete Batch Plant treatment system.

Outfall 004 (40º 38’ 51”, -80º 23’ 14.5”): Outfall 004 discharges treated storm water runoff from the concrete batch plant area, aggregate wash water, wash water from plant mixing drum and concrete delivery conveyor cleanup, and truck tire and housekeeping wash water to the Ohio River (WWF).

Outfall 005 (to be determined): Outfall 005 discharges to the Ohio River (WWF). Outfall 005 will discharge stormwater and river leakage from the upstream cofferdam.

Outfall 006 (to be determined): Outfall 006 discharges to the Ohio River (WWF). Outfall 006 discharges to the Ohio River (WWF). Outfall 006 will discharge stormwater and river leakage from the downstream cofferdam.

The permittee has no open violations with the Clean Water Program.

It is recommended that a Draft NPDES Permit be published for public comment in response to this application.

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)	0.0 (Varies)
Latitude	40º 38' 48.5"	Longitude	-80º 23' 14.4"
Quad Name	Beaver	Quad Code	04
Wastewater Description:	Uncontaminated Stormwater		
Receiving Waters	Squirrel Run (WWF)	Stream Code	33554
NHD Com ID	99681204	RMI	0.0400

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	002	Design Flow (MGD)	0.0 (Varies)
Latitude	40º 38' 51.9"	Longitude	-80º 22' 59"
Quad Name	Beaver	Quad Code	04
Wastewater Description:	Uncontaminated Stormwater		
Receiving Waters	Ohio River (WWF)	Stream Code	32317
NHD Com ID	99680618	RMI	8.6

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	0.43
Latitude	40º 38' 51"	Longitude	-80º 23' 14.6"
Quad Name	Beaver	Quad Code	04
Wastewater Description:	Treated storm water runoff from the concrete batch plant area, aggregate wash water, wash water from plant mixing drum and concrete delivery conveyor cleanup, and truck tire and housekeeping wash water		

Receiving Waters	Ohio River (WWF)	Stream Code	32317
NHD Com ID	99680734	RMI	9.5
Drainage Area	23,000 mi	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	5,880	Q_{7-10} Basis	US Army Corp of Engineers
Elevation (ft)	670	Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use	**Potable Water Supply**	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	DIOXIN, PATHOGENS, POLYCHLORINATED BIPHENYLS (PCBS),		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Ohio River

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority (7.2 MGD)		
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	5.5	Distance from Outfall (mi)	4.0

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	005	Design Flow (MGD)	0
Latitude	TBD	Longitude	TBD
Quad Name	Beaver	Quad Code	04
Wastewater Description:	Stormwater and river leakage from the upstream cofferdam.		
Receiving Waters	Ohio River (WWF)	Stream Code	32317
NHD Com ID	99680618	RMI	0.0800

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	006	Design Flow (MGD)	0
Latitude	TBD	Longitude	TBD
Quad Name	Beaver	Quad Code	04
Wastewater Description:	Stormwater and river leakage from the downstream cofferdam.		
Receiving Waters	Ohio River (WWF)	Stream Code	32317
NHD Com ID	99680734	RMI	0.1600

Development of Effluent Limitations

Outfall No.	001 & 002	**Design Flow (MGD)**	0.0 (varies)
Latitude	40º 38' 48.5", 40º 38' 51.9"	**Longitude**	-80º 23' 14.4", -80º 22' 59"

Wastewater Description: Uncontaminated Stormwater

A stormwater diversion channel will be installed upgradient of proposed concrete batch plant. The diversion channel will collect uncontaminated stormwater from offsite and discharge via Outfalls 001 & 002. The discharges of Outfalls 001 & 002 are not exposed to industrial activities and are not subject to NPDES requirements.

Development of Effluent Limitations

Outfall No.	004	**Design Flow (MGD)**	0.03
Latitude	40º 38' 51"	**Longitude**	-80º 23' 14.6"
Wastewater Description:	Treated storm water runoff from the plant area, aggregate wash water, wash water from plant mixing drum and concrete delivery conveyor cleanup, and truck tire and housekeeping wash water		

Technology-Based Limitations

Federal Effluent Limitation Guidelines (ELGs

Effluent monitored at Outfall 004 is not subject to any promulgated Federal Effluent Limitations Guidelines (ELGs). Although EPA has not promulgated any ELGs for discharges associated with the concrete production industry, a guidance development document was published by EPA in 1978 titled "Guidance Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Concrete Products Point Source Category" ("Concrete Products Guidance"). The Concrete Products Guidance identifies total suspended solids (TSS), oil and grease, and pH as the primary contaminants in concrete production wastewaters; however, the guidance document does not recommend any effluent limitations for those pollutants and no ELGs were promulgated subsequent to the guidance document's publication. Therefore, numerical effluent limitations for the pollutants of concern identified in the Concrete Products Guidance are developed at Outfall 004 based on state regulatory requirements and Best Professional Judgment (BPJ).

Best Professional Judgement (BPJ) Limits

Technology-based effluent limitations for TSS are imposed at IMP 101 based on the TSS limitations of 40 CFR 411.35 Cement Manufacturing Point Source Category, Subpart C – Materials Storage Pile Runoff Subcategory (New Source Performance Standards). Cement manufacturing is a separate industrial category from concrete production, but the runoff characteristics and treatment technologies employed (sedimentation) for wastewaters covered under 40 CFR 411.35 are similar to those at the Montgomery Locks & Dam Batch Plant. Therefore, a daily maximum TSS limit of 50 mg/L will be imposed at Outfall 004 based on the TSS limitations of 40 CFR 411.35.

This project is the fourth time work on the Locks & Dams on the Rivers is requiring a dedicated concrete batch plant to supply the concrete for the project. All the prior projects have used river water as the source water for the concrete batch plant. Due to the concrete design requirements, all the projects have been developed without water recycling. A wastewater treatment system has been used at the prior projects and will be required for this project as well. All three (3) prior projects had BAT effluent limitations established for metals (Total Aluminum, Total Manganese, and Total Iron) consistent with limits of water treatment plant filter backwash discharges, which uses settling ponds as treatment systems. Below is a summary of the metals BAT effluent limitations.

Table 1: Established BAT Effluent Limitations for Metals of Concern

Parameter	Monthly Average	Daily Maximum	Units
Total Aluminum	4.0	8.0	mg/L
Total Iron	2.0	4.0	mg/L
Total Manganese	1.0	2.0	mg/L

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1).

Oil and grease is identified by EPA as a pollutant of concern for the concrete production industry per the 1978 Concrete Products Guidance; therefore, oil and grease limits will be imposed at Outfall 004 in accordance with the oil and grease effluent standards of 25 Pa. Code § 95.2(2)(ii) that are applicable to oil-bearing wastewaters.

Effluent standards for pH are imposed in accordance with 25 Pa. Code §§ 95.2(1) which is displayed in Table 2 below.

Table 2: Regulatory Effluent Standards and Monitoring Requirements for IMP 101

Parameter	Monthly Average	Daily Maximum	Units
Flow	Monitor and Report		MGD
TSS	Report	50.0	mg/L
Oil & Grease	15.0	30.0	mg/L
pH	Not less than 6.0 nor greater than 9.0		S.U.

Total Dissolved Solids Considerations

Total Dissolved Solids (TDS)

Integral to the implementation of 25 Pa. Code § 95.10 is the principle that existing, authorized mass loadings of TDS are exempt from any treatment requirements under these provisions. Existing mass loadings of TDS up to and including the maximum daily discharge loading for any existing discharge, provided that the loading was authorized prior to August 21, 2010 are exempt. Discharge loadings of TDS authorized by the Department are typically exempt from the treatment requirements of Chapter 95.10 until the net TDS loading is increased, an existing discharge proposes a hydraulic expansion or a change in the waste stream. New and expanding discharge loadings of TDS equal to or less than 5,000 lbs./day, measured as an average daily discharge over the course of a calendar year, otherwise known as the annual average daily load.

The discharge flowrate of Outfall 004 is 0.43 MGD with a TDS concentration of 1,020 mg/L results in a TDS mass loading of under 3,650 lbs/day. The facility's estimated conditions are below the 5,000 lbs./day mass loading threshold. To evaluate the actual conditions at the Montgomery Locks & Dam, TDS reporting for Average Monthly and Daily Maximum will be imposed.

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL)

The Ohio River TMDL published April 9, 2001 covers the watershed of the discharges. The TMDL is for Chlordane, Polychlorinated Biphenyls (PCBs), and Organics. The Montgomery Locks & Dam discharges are not identified in the TMDL and are not expected to contribute to the impairment.

Toxics Management Analysis

The Department's Toxics Management Spreadsheet (TMS) was utilized to facilitate calculations necessary for completing a reasonable potential analysis and determine Water Quality-Based Effluent Limitations (WQBELs) for discharges containing toxic pollutant concentrations. TMS combines the functionality of two (2) of the Department's analysis tools, Toxics Screening Analysis Spreadsheet and PENTOXSD water quality model.

DEP's procedures for evaluating reasonable potential are as follows:

1. For IW discharges, the design flow to use in modeling is the average flow during production or operation and may be taken form the permit application.

2. Perform a Toxics Screening Analysis to identify toxic pollutants of concern. All toxic pollutants, as reported in the permit application or on DMRs, are modeled by the TMS to determine the parameters of concern. [This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion].

    - Establish limits in the draft permit where the maximum reported concentration equals or exceeds 50% of the WQBEL. Use the average monthly and maximum daily limits for the permit as recommended by TMS. Establish an IMAX limit at 2.5 times the average monthly limit.

    - For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.

- For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

Discharges from Outfall 004 are evaluated based on concentrations reported on the application and contained in the DMRs; data from those sources are used as inputs into the TMS. A summary of TMS Inputs is contained in Table 3 below.

Table 3: Outfall 004 TMS Inputs

Parameter	Value
Discharge Inputs	
Facility	Montgomery Locks & Dam
Evaluation Type	Industrial
NPDES Permit No.	PA0285366
Wastewater Description	Industrial Wastewater and Stormwater
Outfall ID	004
Design Flow (MGD)	0.43
Hardness ($^{mg}/_{L}$)	172
pH (S.U.)	8.5
Partial Mix Factors	Unknown – Calculated by TMS
Complete Mix Times	
Q_{7-10} (min)	
Q_h (min)	
Stream Inputs	
Receiving Surface Water	Ohio River
Number of Reaches to Model	1
Stream Code	32317
RMI	9.5
Elevation (ft)	670
Drainage Area (mi^2)	23,000
Slope (ft/ft)	
PWS Withdrawal (MGD)	
Apply Fish Criteria	Yes
Low Flow Yield (cfs/mi^2)	
Flows	
Stream (cfs)	5,880/5,880*
Tributary (cfs)	N/A
Width (ft)	
Stream Hardness ($^{mg}/_{L}$)	100
Stream pH (S.U.)	7

***** Denotes discharge location/downstream location values.

Based on the recommendations of the TMS, no WQBEL are recommended at Outfall 004. Analysis Report from the TMS run is included in Attachment B.

Effluent Limitations and Monitoring Requirements for Outfall 004

Effluent limits applicable at Outfall 004 are the more stringent of TBELs, regulatory effluent standards, WQBELs and the monitoring requirements are summarized in Table 4.

Table 4: Final Effluent limits and monitoring requirements for Outfall 004

Parameter	Mass (pounds)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	Report	Report	—	—	—	25 Pa. Code § 92a.61(d)(1)
TSS	—	—	Report	50.0	—	40 CFR §411.35
TDS	—	—	Report	Report	—	25 Pa. Code §95.10
Oil and Grease	—	—	15.0	30.0	—	25 Pa. Code §95.2(2)(ii)
Total Aluminum	—	—	4.0	8.0	—	40 CFR §122.44(a)
Total Iron	—	—	2.0	4.0	—	40 CFR §122.44(a)
Total Manganese	—	—	1.0	2.0	—	40 CFR §122.44(a)
pH (S.U.)	Within the range of 6.0 to 9.0					25 Pa. Code §95.2

Monitoring requirements for the effluent limits are based on the current operations of the facility. The monitoring requirements are displayed in Table 5 below.

Table 5: Monitoring Requirements for Outfall 004

Parameter	Sample Type	Minimum Sample Frequency
Flow	Measured	2/month
TSS	Grab	2/month
TDS	Grab	2/month
Oil and Grease	Grab	2/month
Total Aluminum	Grab	2/month
Total Iron	Grab	2/month
Total Manganese	Grab	2/month
pH	Grab	2/month

Development of Effluent Limitations

Outfall No.	005 & 006	**Design Flow (MGD)**	0.0 (varies)
Latitude	TBD	**Longitude**	TBD

Wastewater Description: Stormwater and River Leakage from the cofferdam.

Technology-Based Limitations

Stormwater Technology Limits

After the initial dewatering of the cofferdams water is completed and lock construction activities commence within the cofferdams, it's expected that additional water at the bottom of the cofferdam will need regularly pumped from the cofferdams and into the Ohio River. This water will consist of both stormwater that accumulates within the footprint of the cofferdams and water that may leak through the cofferdam cell walls from the Ohio River.

Outfalls 005 & 006 discharge consist of this additional dewatering activity of the cofferdam. The potential of elevated Total Suspended Solids (TSS) and pH are the primary pollutants of concern.

In the absence of any Effluent Limitation Guidelines ("ELG's") regarding this type of wastewater, technology limitations are developed based on Best Professional Judgment ("BPJ"). Authority to establish BPJ limits on a case-by-case basis is derived from Section 402(a)(1) of the Clean Water Act and 40 CFR § 125.3(a)(2)(B). The maximum daily effluent limit of 100 $^{mg}/_{L}$ TSS. The Department's General Permit's has a benchmark of 100 mg/L for evaluating Best Management Practices (BMPs) for stormwater, since the discharge is pumping stormwater from the cofferdam area the pumping activity can elevate the TSS concentration. For this added industrial activity of pumping the stormwater, an effluent limitation of 100 mg/L for TSS will be imposed at Outfalls 005 & 006.

Effluent standards for pH are imposed in accordance with 25 Pa. Code §§ 95.2(1) not less than 6.0 S.U. and not greater than 9.0 S.U

Water Quality-Based Limitations

Stormwater WQBELs

Water quality analyses are typically performed under low-flow (Q_{7-10}) conditions. Stormwater discharges occur at variable rates and frequencies but not during Q_{7-10} conditions. Since the discharges from Outfalls 005 & 006 are composed entirely of stormwater and river leakage from the cofferdam, a formal water quality analysis cannot be accurately conducted. Accordingly, water quality-based effluent limitations based on water quality analyses are not proposed.

Effluent Limitations and Monitoring Requirements for Outfalls 005 & 006

Effluent limits applicable at Outfalls 005 & 006 are the more stringent of TBELs, regulatory effluent standards, WQBELs and the monitoring requirements are summarized in Table 6.

Table 6: Final Effluent limits and monitoring requirements for Outfalls 005 & 006

Parameter	Mass (pounds)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
TSS	—	—	Report	100.0	—	40 CFR §411.35
pH (S.U.)	Within the range of 6.0 to 9.0					40 CFR §122.44(a)

Monitoring requirements for the effluent limits are based on the current operations of the facility. The monitoring requirements are displayed in Table 7 below.

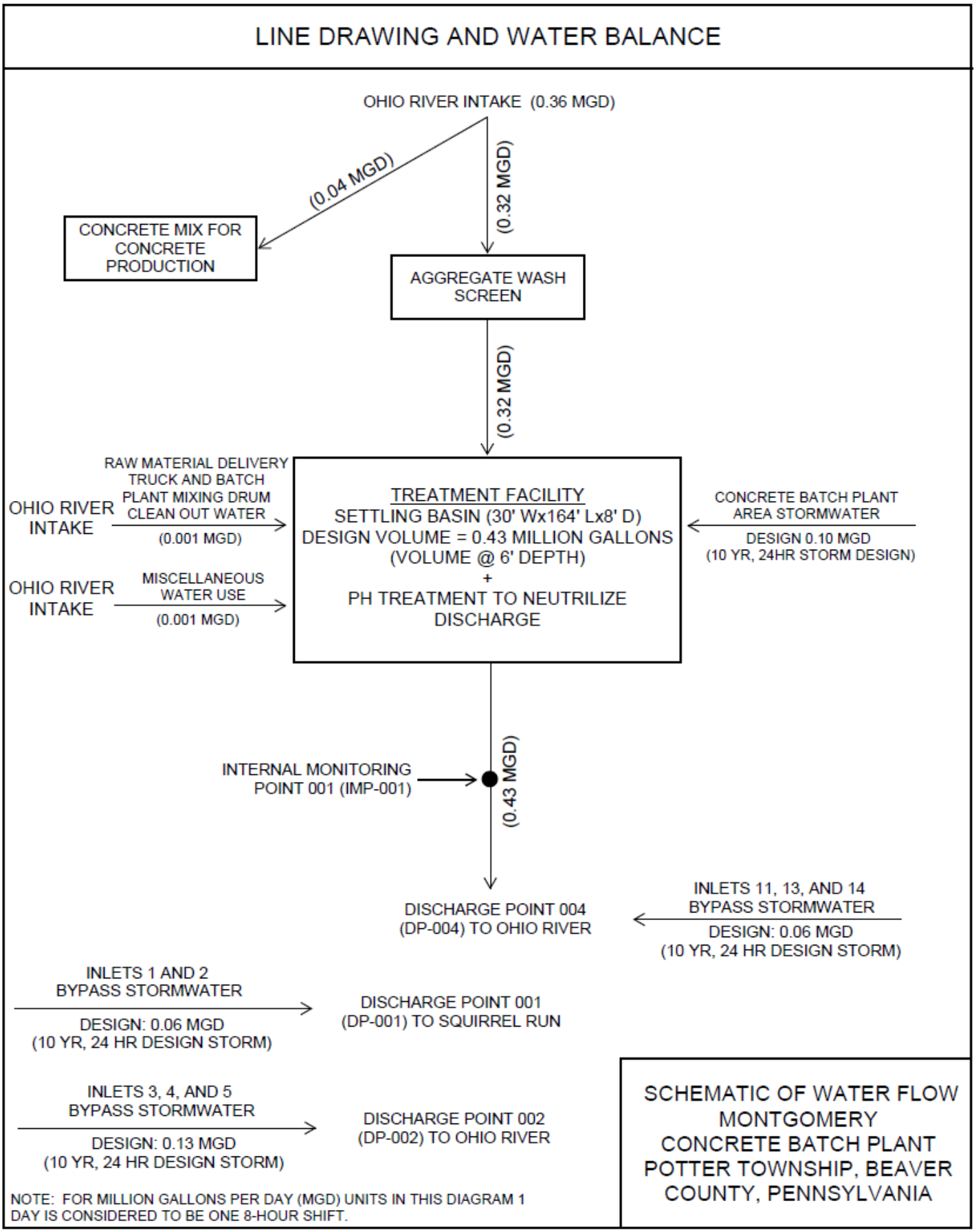
Table 7: Monitoring Requirements for Outfalls 005 & 006

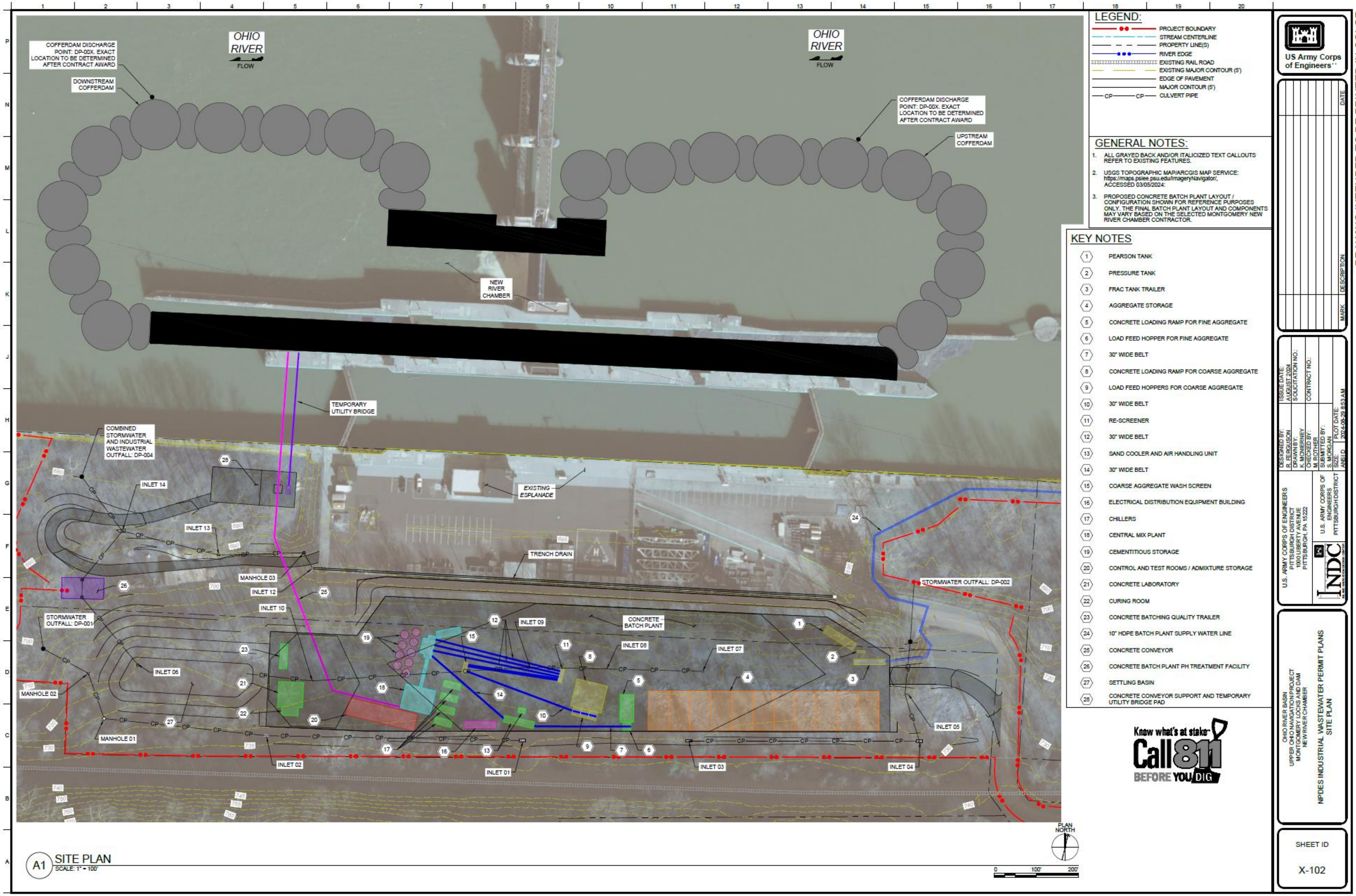
Parameter	Sample Type	Minimum Sample Frequency
TSS	Grab	2/month
pH	Grab	2/month

Attachment A – Site Plans

Attachment B – TMS Model Summary for Outfall 004

Attachment A – Site Plans


LINE DRAWING AND WATER BALANCE
OHIO RIVER INTAKE (0.36 MGD)
(0.04 MGD)
(0.32 MGD)
CONCRETE MIX FOR CONCRETE PRODUCTION
AGGREGATE WASH SCREEN
(0.32 MGD)
RAW MATERIAL DELIVERY TRUCK AND BATCH PLANT MIXING DRUM CLEAN OUT WATER
OHIO RIVER INTAKE
(0.001 MGD)
OHIO RIVER INTAKE
MISCELLANEOUS WATER USE
(0.001 MGD)
TREATMENT FACILITY
SETTLING BASIN (30' Wx164' Lx8' D)
DESIGN VOLUME = 0.43 MILLION GALLONS
(VOLUME @ 6' DEPTH)
+
PH TREATMENT TO NEUTRILIZE DISCHARGE
CONCRETE BATCH PLANT AREA STORMWATER
DESIGN 0.10 MGD
(10 YR, 24HR STORM DESIGN)
INTERNAL MONITORING POINT 001 (IMP-001)
(0.43 MGD)
DISCHARGE POINT 004
(DP-004) TO OHIO RIVER
INLETS 11, 13, AND 14 BYPASS STORMWATER
DESIGN: 0.06 MGD
(10 YR, 24 HR DESIGN STORM)
INLETS 1 AND 2 BYPASS STORMWATER
DESIGN: 0.06 MGD
(10 YR, 24 HR DESIGN STORM)
DISCHARGE POINT 001
(DP-001) TO SQUIRREL RUN
INLETS 3, 4, AND 5 BYPASS STORMWATER
DESIGN: 0.13 MGD
(10 YR, 24 HR DESIGN STORM)
DISCHARGE POINT 002
(DP-002) TO OHIO RIVER
NOTE: FOR MILLION GALLONS PER DAY (MGD) UNITS IN THIS DIAGRAM 1 DAY IS CONSIDERED TO BE ONE 8-HOUR SHIFT.
SCHEMATIC OF WATER FLOW
MONTGOMERY
CONCRETE BATCH PLANT
POTTER TOWNSHIP, BEAVER
COUNTY, PENNSYLVANIA


OHIO RIVER
FLOW
COFFERDAM DISCHARGE POINT: DP-00X. EXACT LOCATION TO BE DETERMINED AFTER CONTRACT AWARD
DOWNSTREAM COFFERDAM
UPSTREAM COFFERDAM
NEW RIVER CHAMBER
TEMPORARY UTILITY BRIDGE
COMBINED STORMWATER AND INDUSTRIAL WASTEWATER OUTFALL: DP-004
EXISTING ESPLANADE
TRENCH DRAIN
STORMWATER OUTFALL: DP-002
STORMWATER OUTFALL: DP-001
CONCRETE BATCH PLANT
INLET 14
INLET 13
INLET 12
INLET 10
INLET 09
INLET 08
INLET 07
INLET 06
INLET 05
INLET 04
INLET 03
INLET 02
INLET 01
MANHOLE 03
MANHOLE 02
MANHOLE 01
LEGEND:
PROJECT BOUNDARY
STREAM CENTERLINE
PROPERTY LINE(S)
RIVER EDGE
EXISTING RAIL ROAD
EXISTING MAJOR CONTOUR (5')
EDGE OF PAVEMENT
MAJOR CONTOUR (5')
CULVERT PIPE
GENERAL NOTES:
1. ALL GRAYED BACK AND/OR ITALICIZED TEXT CALLOUTS REFER TO EXISTING FEATURES.
2. USGS TOPOGRAPHIC MAP/ARCGIS MAP SERVICE: https://maps.psiee.psu.edu/ImageryNavigator/, ACCESSED 03/05/2024.
3. PROPOSED CONCRETE BATCH PLANT LAYOUT / CONFIGURATION SHOWN FOR REFERENCE PURPOSES ONLY. THE FINAL BATCH PLANT LAYOUT AND COMPONENTS MAY VARY BASED ON THE SELECTED MONTGOMERY NEW RIVER CHAMBER CONTRACTOR.
KEY NOTES
1 PEARSON TANK
2 PRESSURE TANK
3 FRAC TANK TRAILER
4 AGGREGATE STORAGE
5 CONCRETE LOADING RAMP FOR FINE AGGREGATE
6 LOAD FEED HOPPER FOR FINE AGGREGATE
7 30" WIDE BELT
8 CONCRETE LOADING RAMP FOR COARSE AGGREGATE
9 LOAD FEED HOPPERS FOR COARSE AGGREGATE
10 30" WIDE BELT
11 RE-SCREENER
12 30" WIDE BELT
13 SAND COOLER AND AIR HANDLING UNIT
14 30" WIDE BELT
15 COARSE AGGREGATE WASH SCREEN
16 ELECTRICAL DISTRIBUTION EQUIPMENT BUILDING
17 CHILLERS
18 CENTRAL MIX PLANT
19 CEMENTITIOUS STORAGE
20 CONTROL AND TEST ROOMS / ADMIXTURE STORAGE
21 CONCRETE LABORATORY
22 CURING ROOM
23 CONCRETE BATCHING QUALITY TRAILER
24 10" HDPE BATCH PLANT SUPPLY WATER LINE
25 CONCRETE CONVEYOR
26 CONCRETE BATCH PLANT PH TREATMENT FACILITY
27 SETTLING BASIN
28 CONCRETE CONVEYOR SUPPORT AND TEMPORARY UTILITY BRIDGE PAD
Know what's at stake Call 811 BEFORE YOU DIG
A1 SITE PLAN
SCALE: 1" = 100'
PLAN NORTH
0 100' 200'
US Army Corps of Engineers
MARK DESCRIPTION DATE
ISSUE DATE: AUGUST 2024
SOLICITATION NO.:
CONTRACT NO.:
U.S. ARMY CORPS OF ENGINEERS PITTSBURGH DISTRICT 1000 LIBERTY AVENUE PITTSBURGH, PA 15222
OHIO RIVER BASIN UPPER OHIO NAVIGATION PROJECT MONTGOMERY LOCKS AND DAM NEW RIVER CHAMBER
NPDES INDUSTRIAL WASTEWATER PERMIT PLANS SITE PLAN
SHEET ID
X-102
DRAWING INTENDED TO BE PRINTED IN COLOR

Attachment B – TMS Model Summary for Outfall 004

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Montgomery Locks & Dam** NPDES Permit No.: **PA0285366** Outfall No.: **004**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Process Wastewater and Stormwater**

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
0.43	172	8.5						

					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		1020									
	Chloride (PWS)	mg/L											
	Bromide	mg/L		0.24									
	Sulfate (PWS)	mg/L		496									
	Fluoride (PWS)	mg/L		2.4									
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L	<	10									
	Total Arsenic	µg/L	<	10									
	Total Barium	µg/L	<										
	Total Beryllium	µg/L	<	4									
	Total Boron	µg/L	<										
	Total Cadmium	µg/L	<	5									
	Total Chromium (III)	µg/L	<										
	Hexavalent Chromium	µg/L	<	19									
	Total Cobalt	µg/L	<										
	Total Copper	mg/L	<	0.025									
	Free Cyanide	µg/L	<										
	Total Cyanide	µg/L	<	0.0017									
	Dissolved Iron	µg/L	<										
	Total Iron	µg/L	<										
	Total Lead	µg/L	<	3									
	Total Manganese	µg/L	<										
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L	<	4.9									
	Total Phenols (Phenolics) (PWS)	µg/L	<	0.0072									
	Total Selenium	µg/L	<	5									
	Total Silver	µg/L	<	5									
	Total Thallium	µg/L	<	10									
	Total Zinc	mg/L	<	0.02									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L											

Group 3	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L	<										
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										
	Chloroform	µg/L											
	Dichlorobromomethane	µg/L	<										
	1,1-Dichloroethane	µg/L	<										
	1,2-Dichloroethane	µg/L	<										
	1,1-Dichloroethylene	µg/L	<										
	1,2-Dichloropropane	µg/L	<										
	1,3-Dichloropropylene	µg/L	<										
	1,4-Dioxane	µg/L	<										
	Ethylbenzene	µg/L	<										
	Methyl Bromide	µg/L	<										
	Methyl Chloride	µg/L	<										
	Methylene Chloride	µg/L	<										
	1,1,2,2-Tetrachloroethane	µg/L	<										
	Tetrachloroethylene	µg/L	<										
	Toluene	µg/L	<										
	1,2-trans-Dichloroethylene	µg/L	<										
	1,1,1-Trichloroethane	µg/L	<										
	1,1,2-Trichloroethane	µg/L	<										
	Trichloroethylene	µg/L	<										
	Vinyl Chloride	µg/L											
Group 4	2-Chlorophenol	µg/L	<										
	2,4-Dichlorophenol	µg/L	<										
	2,4-Dimethylphenol	µg/L	<										
	4,6-Dinitro-o-Cresol	µg/L	<										
	2,4-Dinitrophenol	µg/L	<										
	2-Nitrophenol	µg/L	<										
	4-Nitrophenol	µg/L	<										
	p-Chloro-m-Cresol	µg/L	<										
	Pentachlorophenol	µg/L	<										
	Phenol	µg/L	<										
	2,4,6-Trichlorophenol	µg/L	<										
Group 5	Acenaphthene	µg/L	<										
	Acenaphthylene	µg/L	<										
	Anthracene	µg/L	<										
	Benzidine	µg/L	<										
	Benzo(a)Anthracene	µg/L	<										
	Benzo(a)Pyrene	µg/L	<										
	3,4-Benzofluoranthene	µg/L	<										
	Benzo(ghi)Perylene	µg/L											
	Benzo(k)Fluoranthene	µg/L	<										
	Bis(2-Chloroethoxy)Methane	µg/L	<										
	Bis(2-Chloroethyl)Ether	µg/L	<										
	Bis(2-Chloroisopropyl)Ether	µg/L	<										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<										
	4-Bromophenyl Phenyl Ether	µg/L	<										
	Butyl Benzyl Phthalate	µg/L	<										
	2-Chloronaphthalene	µg/L	<										
	4-Chlorophenyl Phenyl Ether	µg/L	<										
	Chrysene	µg/L											
	Dibenzo(a,h)Anthrancene	µg/L	<										
	1,2-Dichlorobenzene	µg/L	<										
	1,3-Dichlorobenzene	µg/L	<										
	1,4-Dichlorobenzene	µg/L	<										
	3,3-Dichlorobenzidine	µg/L	<										
	Diethyl Phthalate	µg/L	<										
	Dimethyl Phthalate	µg/L	<										
	Di-n-Butyl Phthalate	µg/L	<										
	2,4-Dinitrotoluene	µg/L	<										

	2,6-Dinitrotoluene	µg/L	<											
	Di-n-Octyl Phthalate	µg/L	<											
	1,2-Diphenylhydrazine	µg/L	<											
	Fluoranthene	µg/L	<											
	Fluorene	µg/L												
	Hexachlorobenzene	µg/L	<											
	Hexachlorobutadiene	µg/L	<											
	Hexachlorocyclopentadiene	µg/L	<											
	Hexachloroethane	µg/L	<											
	Indeno(1,2,3-cd)Pyrene	µg/L	<											
	Isophorone	µg/L	<											
	Naphthalene	µg/L	<											
	Nitrobenzene	µg/L	<											
	n-Nitrosodimethylamine	µg/L	<											
	n-Nitrosodi-n-Propylamine	µg/L	<											
	n-Nitrosodiphenylamine	µg/L	<											
	Phenanthrene	µg/L	<											
	Pyrene	µg/L	<											
	1,2,4-Trichlorobenzene	µg/L	<											
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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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Montgomery Locks & Dam, NPDES Permit No. PA0285366, Outfall 004

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Ohio River**

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	032317	9.5	670	23000			Yes
End of Reach 1	032317	8.5	669	23050			Yes

Q_{7-10}

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	9.5	0.1	5880			1550	25					100	7		
End of Reach 1	8.5	0.1	5880			1550	25								

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	9.5														
End of Reach 1	8.5														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Montgomery Locks & Dam, NPDES Permit No. PA0285366, Outfall 004

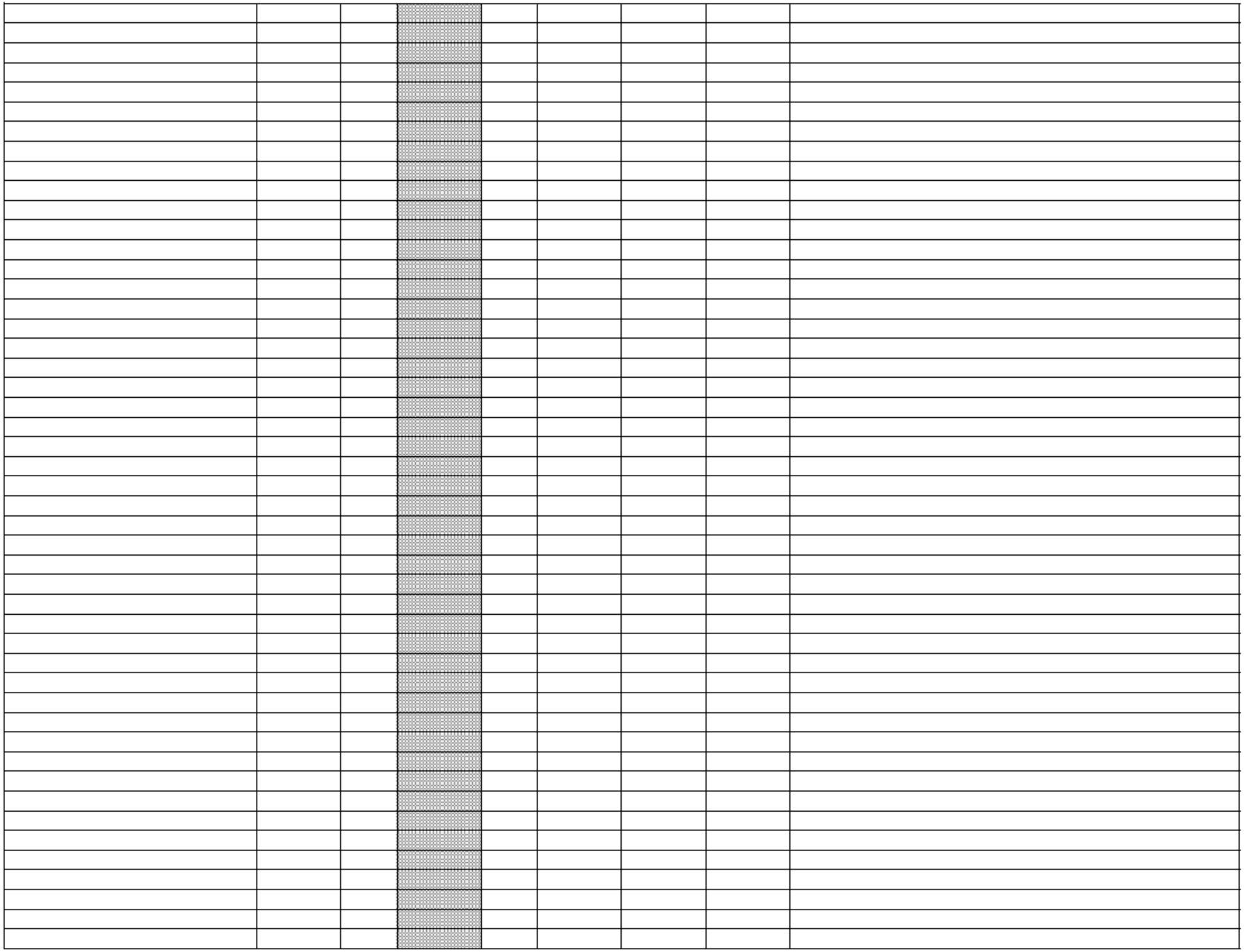
Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 15 PMF: 0.089 Analysis Hardness (mg/l): 100.09 Analysis pH: 7.00

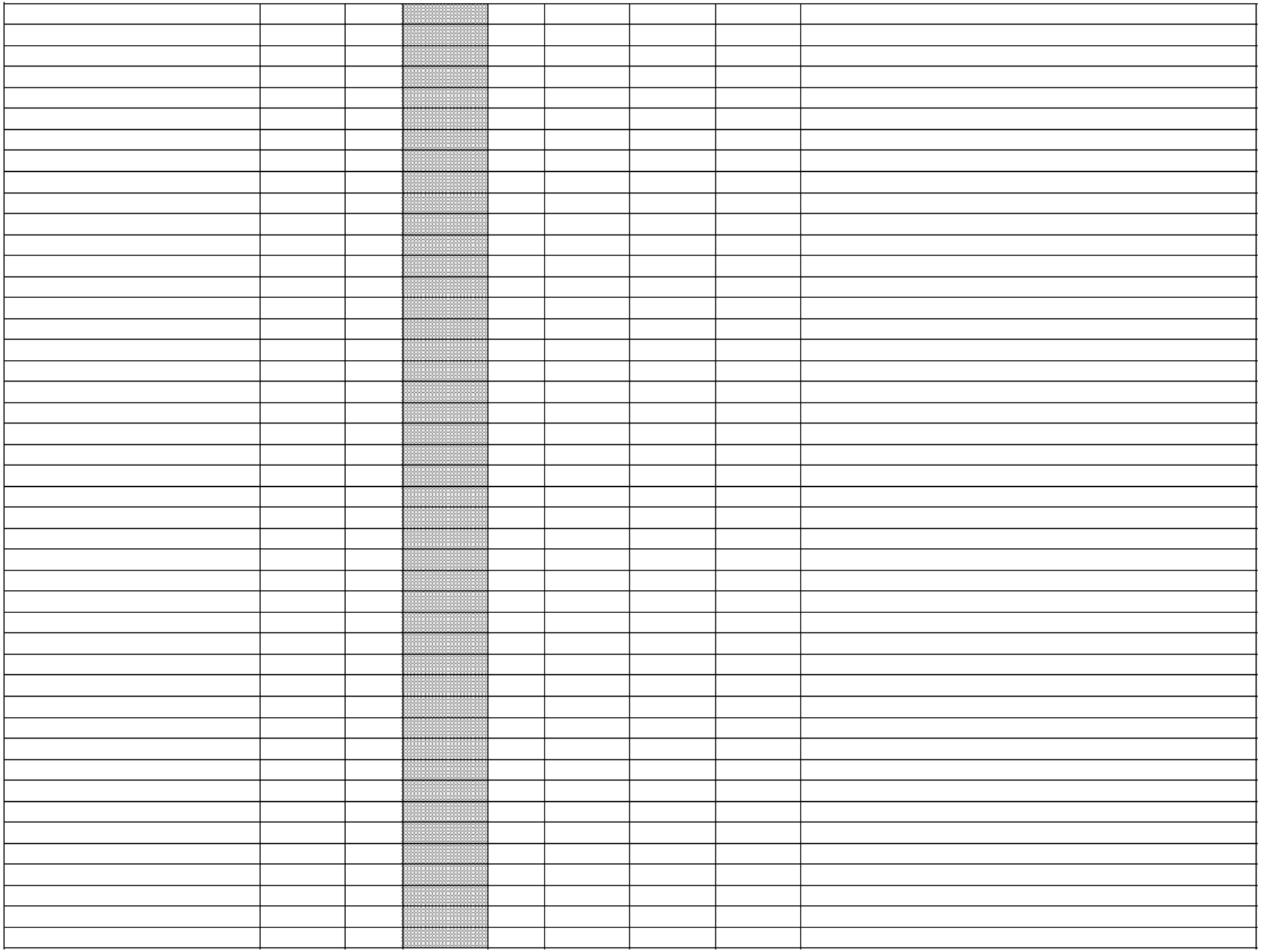
Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	1,100	1,100	861,909	
Total Arsenic	0	0		0	340	340	266,408	Chem Translator of 1 applied
Total Cadmium	0	0		0	2.016	2.14	1,673	Chem Translator of 0.944 applied
Hexavalent Chromium	0	0		0	16	16.3	12,767	Chem Translator of 0.982 applied
Total Copper	0	0		0	13.451	14.0	10,979	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.646	81.7	64,048	Chem Translator of 0.791 applied
Total Mercury	0	0		0	1.400	1.65	1,291	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.600	470	367,909	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	3.222	3.79	2,970	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	50,931	
Total Zinc	0	0		0	117.272	120	93,956	Chem Translator of 0.978 applied



☑ ***CFC*** CCT (min): 720 PMF: 0.613 Analysis Hardness (mg/l): 100.01 Analysis pH: 7.00

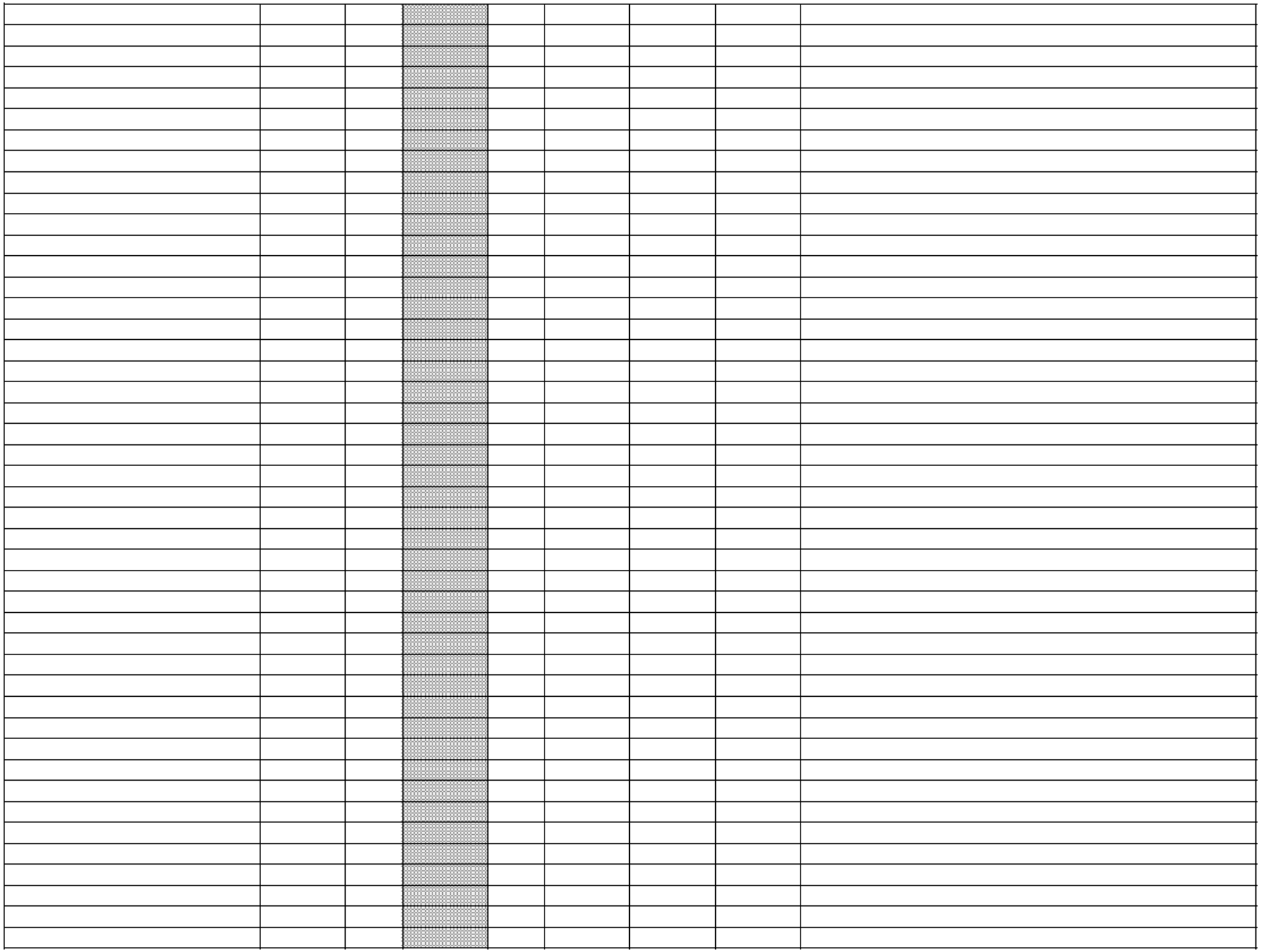
Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	1,192,993	
Total Arsenic	0	0		0	150	150	813,404	Chem Translator of 1 applied
Total Cadmium	0	0		0	0.246	0.27	1,468	Chem Translator of 0.909 applied
Hexavalent Chromium	0	0		0	10	10.4	56,369	Chem Translator of 0.962 applied
Total Copper	0	0		0	8.957	9.33	50,594	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	17,256	Chem Translator of 0.791 applied
Total Mercury	0	0		0	0.770	0.91	4,912	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.012	52.2	282,896	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	27,055	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	70,495	
Total Zinc	0	0		0	118.152	120	649,801	Chem Translator of 0.986 applied



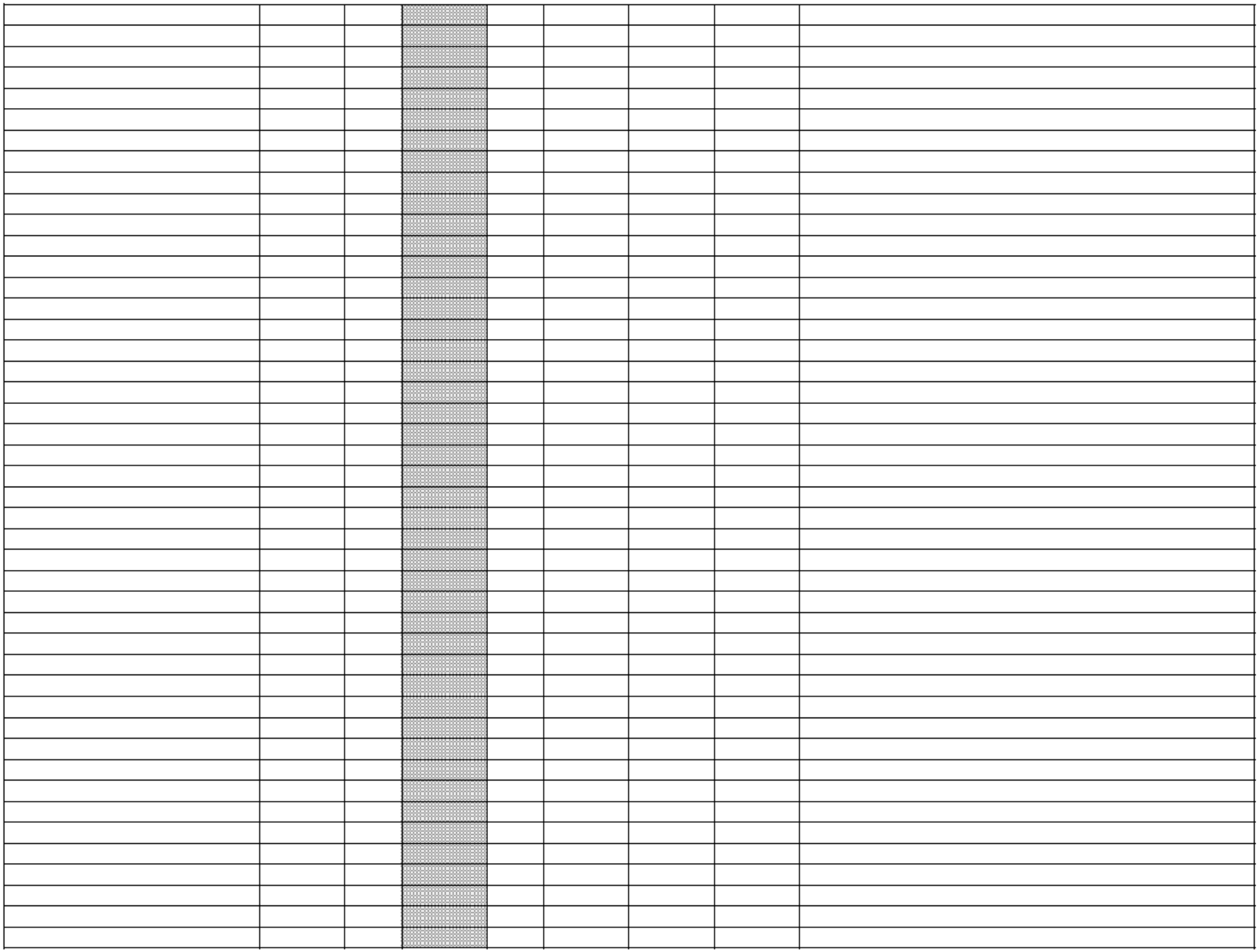
☑ ***THH*** CCT (min): 720 PMF: 0.613 Analysis Hardness (mg/l): N/A Analysis pH: N/A

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	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	1,000	1,000	5,422,694	
Total Antimony	0	0		0	5.6	5.6	30,367	
Total Arsenic	0	0		0	10	10.0	54,227	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	1,300	1,300	7,049,502	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.012	0.012	65.1	
Total Nickel	0	0		0	610	610	3,307,843	
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	1,301	
Total Zinc	0	0		0	7,400	7,400	40,127,932	



☑ ***CRL*** CCT (min): 720 PMF: 0.829 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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	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 Cadmium	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	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	50	50.0	911,659	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	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

☑ ***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
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	5,423	mg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	30,367	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	54,227	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Cadmium	1,072	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	8,183	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	7.04	mg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Lead	17,256	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.012	µg/L	Discharge Conc < TQL
Total Nickel	235,815	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	27,055	µg/L	Discharge Conc < TQL
Total Silver	1,904	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	1,301	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	60.2	mg/L	Discharge Conc ≤ 10% WQBEL