

Southwest Regional Office CLEAN WATER PROGRAM

 Application Type
 Renewal

 Facility Type
 Industrial

 Major / Minor
 Minor

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

 Application No.
 PA0217905

 APS ID
 941449

 Authorization ID
 1182888

Applicant and Facility Information

Applicant Name	Oakmont Borough Municipal Authority Allegheny County	Facility Name	Oakmont Municipal Authority Hulton Purification Plant
Applicant Address	P.O. Box 73 721 Allegheny Avenue	Facility Address	1201 Allegheny Avenue
	Oakmont, PA 15139-0073		Oakmont, PA 15139
Applicant Contact	Edward Adams	Facility Contact	Edward Adams
Applicant Phone	(412) 828-3388	Facility Phone	(412) 828-3388
Client ID	28835	Site ID	263782
SIC Code	4941,4952	Municipality	Oakmont Borough
SIC Description	Trans. & Utilities - Sewerage Systems, Trans. & Utilities - Water Supply	County	Allegheny
Date Application Rece	ived May 2, 2017	EPA Waived?	Yes
Date Application Acce	pted August 13, 2018	If No, Reason	
Purpose of Application	Renewal of NPDES permit for the d	ischarge of process w	astewater from the water treatment plant

Summary of Review

The Department received an NPDES permit application from the Oakmont Municipal Authority (Authority) on May 2, 2017 to continue coverage of the discharge from its Hulton Purification Plant in Oakmont Borough of Allegheny County. The facility is a municipal water treatment plant with an SIC code of 4941 (Water Supply). The current NPDES permit was renewed on October 1, 2012 and expired on September 30, 2017. A WQM Permit application (0270207) was approved in 1970.

The Authority's Hulton Water Treatment Plant obtains raw water from the Allegheny River, at mile point 13.3, and treats the water to provide to about 40,299 customers. Water service is provided to eight communities in Allegheny and Butler counties. The rated capacity of the water treatment plant is 11 MGD with a water allocation limit of 10 MGD. Treatment currently consists of polyaluminum chloride addition for coagulation, flocculation, sedimentation, filtration, and disinfection. The discharge covered under the permit consists of supernatant from waste clarifiers, supernatant from sedimentation basin drainage, stormwater runoff and roof drain discharge.

The Hulton Purification Plant's treatment system consists of chemical fed mixing and flocculation, sedimentation, filtration, pH adjustment and U.V. disinfection. Five clarifiers provide flocculation and clarification and are followed by three single and dual media sand filters and then by two clearwells. Filter backwash water and clarifier blowdown flow back through four waste clarifiers. Sludge collected in the bottom of the waste clarifiers flows to a sludge press before being trucked offsite for processing and disposal. The supernatant from the waste clarifiers and sludge press is recycled back to the head of the plant.

The facility has a total of nine outfalls (001 – 009). Outfall 001 discharges at a rate of 0.07 MGD to Falling Spring Run, designated in 25 PA Code Chapter 93 as a Warm Water Fishery (WWF). Outfall 001 is the emergency discharge of waste clarifier supernatant. The Authority has rarely discharged from Outfall 001, since the effluent limits at Outfall 001 are very

Approve	Deny	Signatures	Date
Х		/s/ Lauren Nolfi, E.I.T. / Environmental Engineering Specialist	July 24, 2019
Х		/s/ Michael E. Fifth, P.E. / Environmental Engineer Manager	July 26, 2019

Summary of Review

restrictive. Supernatant from waste clarifiers is recycled back to the head of the treatment plant. Outfall 001 is intended only for use in the event of a plant malfunction that would prevent the discharge from being recycled. In Outfall 001's sample analyses, the maximum reported values for Total Antimony, Total Arsenic, Total Cadmium, Total Copper, Total Lead, Total Mercury, Total Phenols and Total Silver were each reported as "non-detect" using a QL that exceeds the Department's Target QL. The Authority elected not to collect additional samples for these parameters using the Target QLs, since Outfall 001 rarely discharges.

Outfalls 002 – 009 discharge to the Allegheny River, designated in 25 PA Code Chapter 93 as a Warm Water Fishery (WWF). Outfall 002 discharges effluent wastewater at a rate of 0.07 MGD from sedimentation basins 1 & 2 and clearwells 1 & 2. Outfall 003 discharges effluent wastewater at a rate of 0.3 MGD from sedimentation basins 3, 4 and 5. The wastewater discharge at both Outfalls 002 and 003 is periodic, approximately 6 times per year, during sedimentation basin maintenance. There have been no changes to the effluent limitations for Outfalls 002 and 003 since the permit was last issued, with the exception of monitoring frequency.

Discharges from Outfalls 004 – 009 are composed entirely of stormwater. Outfall 004 discharges stormwater from 0.82 acres of the eastern side of the plant. Outfalls 005, 006, 008, and 009 discharge runoff from building roof drains. Outfall 007 discharges stormwater runoff from the 0.5 acres of the western side of the plant. Monitoring requirements for Outfalls 004 – 009 were not included in the last permit. Stormwater samples were submitted with the application for stormwater Outfalls 004 – 009. At Outfall 004, all parameters, except for pH, were reported to be above benchmark values indicative of No Exposure conditions. For Outfalls 005 – 009, all parameters were reported to be below benchmark values indicative of No Exposure conditions, with the exception of pH at Outfalls 008 and 009.

Monitoring for the parameters of Oil and Grease, Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS) will be imposed at Outfall 004, based on stormwater sampling results. Reported pH measurements are inconsistent amongst all of the stormwater outfall sampling results, indicating evidence of pollutant sources. pH monitoring is proposed at all stormwater outfalls. Monitoring for the corresponding appendix in the PAG-03 General Stormwater NPDES Permit will be imposed at stormwater Outfalls 005 – 009.

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, Receivi	Discharge, Receiving Waters and Water Supply Information					
Outfall No. 001		Design F	low (MGD) 0.07			
Latitude 40°	31' 49.00"	Longitude	e -79º 50' 10.00"			
Quad Name	lew Kensington West	Quad Co	nde 1407			
Wastewater Desc	ription: Filter backwas	h water and clarifier blowdown	supernatant from waste clarifiers			
Receiving Waters	Falling Springs Run	Stream Cod	le 42367			
NHD Com ID	123972654	RMI	0.3317			
Drainage Area	0.14 mi2	Yield (cfs/mi	i²) 0.00454			
Q7-10 Flow (cfs)	0.000635	Q ₇₋₁₀ Basis	USGS StreamStats			
Elevation (ft)	860	Slope (ft/ft)	0.0594			
Watershed No.	18-A	Chapter 93	Class. WWF			
Existing Use		Existing Use	e Qualifier			
Exceptions to Use	e	Exceptions t	to Criteria			
Assessment State	us Attaining Use(s)				
Cause(s) of Impa	irment					
Source(s) of Impa	airment					
TMDL Status	Final 04/09/20	11 Name	Allegheny River			
Nearest Downstre	eam Public Water Supply	Intake <u>Wilkinsburg-Penn</u>	Joint Water Authority			
PWS Waters	Allegheny River	Flow at Intake	(cfs) <u>102.12</u>			
PWS RMI	8.91	Distance from	Outfall (mi)4.35 miles			

Other Comments:

The applicant indicated that the discharge from Outfall 001 decreased from 0.15 MGD to 0.07 MGD. The Authority has rarely discharged from Outfall 001, since the effluent limits at Outfall 001 are very restrictive. The water quality based effluent limits at Outfall 001 were imposed on November 6, 1998. Supernatant from waste clarifiers is recycled back to the head of the treatment plant. Outfall 001 is intended only for use in the event of a plant malfunction that would prevent the discharge from being recycled.

The USGS Stream Stats Data for the drainage area is displayed in Attachment A.

Discharge, Receiving	Discharge, Receiving Waters and Water Supply Information					
Outfall No. 002		Design Flow (MGD)	0.07			
Latitude 40° 3	1' 50.00"	Longitude	-79º 50' 14.00"			
Quad Name Ne	w Kensington West	Quad Code	1407			
Wastewater Descri	ption: Periodic tank drainage from	Sedimentation Basins 1&2 and	d Clearwells 1&2			
Receiving Waters	Allegheny River	Stream Code	42122			
NHD Com ID	123972839	RMI	13.4045			
Drainage Area	11,500 mi2	Yield (cfs/mi ²)	0.2078			
			U.S. Army Corp of			
Q ₇₋₁₀ Flow (cfs)	2390	Q7-10 Basis	Engineers			
Elevation (ft)	734.5	Slope (ft/ft)	0.0002			
Watershed No.	<u>18-A</u>	Chapter 93 Class.	WWF			
Existing Use		Existing Use Qualifier				
Exceptions to Use		Exceptions to Criteria				
Assessment Status	Attaining Use(s)					
Cause(s) of Impairr	nent					
Source(s) of Impair	ment					
TMDL Status		Name				
Nearest Downstrea	m Public Water Supply Intake	Wilkinsburg-Penn Joint Water	Authority			
PWS Waters	Allegheny River	Flow at Intake (cfs)	102.12			
PWS RMI 8	3.91	Distance from Outfall (mi)	4.35 miles			
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Other Comments:

Outfall 002 consists of effluent wastewater from sedimentation basins 1 & 2 and clearwells 1 & 2. Influent to waste clarifiers is sand filter backwash and clarifier blowdown. The wastewater discharge is periodic, approximately 6 times per year, during sedimentation basin maintenance. The outfall discharges to the Allegheny River at the same location where Falling Springs Run discharges to the Allegheny River. The applicant indicated that the discharge from Outfall 002 decreased from 0.2 MGD to 0.07 MGD.

The USGS Stream Stats Data for the drainage area is displayed in Attachment E.

Discharge, Receiving Waters and Water Supply Information					
Outfall No. 003		Design Flow (MGD)	0.3		
Latitude 40° 3	1' 51.00"	Longitude	-79° 50' 14.00"		
Quad Name Ne	w Kensington West	Quad Code	1407		
Wastewater Descri	ption: Periodic tank drainage fro	om sedimentation basins 3, 4, ar	nd 5.		
Receiving Waters	Allegheny River	Stream Code	42122		
NHD Com ID	123972839	RMI	13.4345		
Drainage Area	11,500 mi2	Yield (cfs/mi ²)	0.2078		
Q ₇₋₁₀ Flow (cfs)	2390	Q ₇₋₁₀ Basis	U.S. Army Corp of Engineers		
Elevation (ft)	734.5	Slope (ft/ft)	0.0002		
Watershed No.	18-A	Chapter 93 Class.	WWF		
Existing Use		Existing Use Qualifier			
Exceptions to Use		Exceptions to Criteria			
Assessment Status	Attaining Use(s)				
Cause(s) of Impairr	ment				
Source(s) of Impair	ment				
TMDL Status	Final 04/09/2001	Name Allegheny R	iver		
Nearest Downstrea	m Public Water Supply Intake	_Wilkinsburg-Penn Joint Wa	ater Authority		
PWS Waters	Allegheny River	Flow at Intake (cfs)	102.12		
PWS RMI 8	3.91	Distance from Outfall (m	i) 4.35 miles		
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Other Comments:

Outfall 003 consists of effluent wastewater from sedimentation basins 3, 4 and 5. Influent to waste clarifiers is sand filter backwash and clarifier blowdown. The wastewater discharge is periodic, approximately 6 times per year, during sedimentation basin maintenance. The applicant indicated that the discharge from Outfall 003 remains 0.3 MGD.

The USGS Stream Stats Data for the drainage area is displayed in Attachment I.

Discharge, Receiving	g Waters and Water Supply Inform	nation	
Outfall No. 004		Design Flow (MGD)	0
Latitude 40° 3	1′ 52.00″	Longitude	-79° 50′ 11.00″
Quad Name Nev	w Kensington West	Quad Code	1407
Wastewater Descrip	otion: Stormwater Runoff from Pl	ant Area	
Receiving Waters	Allegheny River	Stream Code	42122
NHD Com ID	123972831	RMI	13.50
Drainage Area	11,500	Yield (cfs/mi²)	0.2078
	2222		U.S. Army Corp of
Q ₇₋₁₀ Flow (cfs)	2390	Q7-10 Basis	Engineers
Elevation (ft)	734.5	Slope (ft/ft)	0.0000
Watershed No.	18-A	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairm	nent		
Source(s) of Impairr	ment		
TMDL Status	Final 04/09/2001	Name Allegheny R	iver
Nearest Downstrear	m Public Water Supply Intake	Wilkinsburg-Penn Joint Water	Authority
PWS Waters A	Allegheny River	Flow at Intake (cfs)	102.12
PWS RMI 8	3.91	Distance from Outfall (mi)	4.35 miles

Changes Since Last Permit Issuance: Monitoring requirements for Outfall 004 were not included in the last permit.

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

Discharge, Receiving Waters and Water Supply Information					
Outfall No. 005 – 009	Design Flow (MGD)	0			
Latitude See Table 21	Longitude	See Table 21			
Quad Name New Kensington West	Quad Code	1407			
Wastewater Description: Stormwater Runoff from p	lant area and roof drains				
Receiving Waters Allegheny River	Stream Code	42122			
NHD Com ID 123972831	RMI	See Table 21			
Drainage Area 11,500	Yield (cfs/mi ²)	0.2078			
		U.S. Army Corp of			
Q ₇₋₁₀ Flow (cfs)2390	Q7-10 Basis	Engineers			
Elevation (ft) 734.5	Slope (ft/ft)	0.0000			
Watershed No. 18-A	Chapter 93 Class.	WWF			
Existing Use	Existing Use Qualifier				
Exceptions to Use	Exceptions to Criteria				
Assessment Status Attaining Use(s)					
Cause(s) of Impairment					
Source(s) of Impairment					
TMDL Status	Name				
Nearest Downstream Public Water Supply Intake	Wilkinsburg-Penn Joint Water	Authority			
PWS Waters Allegheny River	_ Flow at Intake (cfs)	102.12			
PWS RMI <u>8.91</u>	_ Distance from Outfall (mi)	4.35 miles			

Changes Since Last Permit Issuance: Monitoring requirements for Outfalls 005-009 were not included in the last permit.

Outfall locations for the above-mentioned outfalls are displayed below in Table 21.

Table 21: Stormwater Outfall Locations						
Outfall	Lat.	Long.	RMI	Stream		
005	40º 31' 51.00"	-79º 50' 12.00"	13.44	Allegheny River		
006	40° 31' 51.00"	-79º 50' 13.00"	13.46	Allegheny River		
007	40° 31' 51.00"	-79º 50' 13.00"	13.42	Allegheny River		
008	40° 31' 50.00"	-79º 50' 14.00"	13.39	Allegheny River		
009	40° 31' 50.00"	-79° 50' 14.00"	13.39	Allegheny River		

Compliance History				
Summary of DMRs:	All monitoring data shows that discharges have been below effluent limits.			
Summary of Inspections:	The last inspection conducted by the Department was on June 5, 2015 by Barb Grosch as a compliance evaluation. No violations were noted.			

Other Comments: The client has one open violation, generated by the Southwest Regional Office's Safe Drinking Water Program on December 5, 2017. The violation was issued for a failure to maintain required reports, records, or maps.

Compliance History

DMR Data for Outfall 002 (from July 1, 2017 to June 30, 2018)

Parameter	JUN-18	MAY-18	APR-18	MAR-18	FEB-18	JAN-18	DEC-17	NOV-17	OCT-17	SEP-17	AUG-17	JUL-17
Flow (MGD)												
Average Monthly	0.04	0.04	0.095	0.100	0.100	0.080						0.080
Flow (MGD)												
Daily Maximum	0.04	0.04	0.095	0.100	0.100	0.080						0.080
pH (S.U.)												
Minimum	7.2	7.0	7.0	6.9	7.0	7.1						7.0
pH (S.U.)												
Maximum	7.2	7.0	7.0	6.9	7.0	7.1						7.0
TRC (mg/L)												
Average Monthly	0.26	0.28	0.23	0.04	0.4	0.23						0.22
TRC (mg/L)												
Instantaneous												
Maximum	0.26	0.28	0.23	0.04	0.4	0.23						0.22
TSS (mg/L)												
Average Monthly	7	4	4	00	5	11						12.5
TSS (mg/L)												
Instantaneous	_				_							
Maximum	7	4	4	00	5	11						12.5
Total Aluminum												
(mg/L)												
Average Monthly	0.795	0.413	0.505	0.547	0.642	1.6						2.4
I otal Aluminum												
(mg/L)												
Instantaneous	0.705	0.440	0.505	0 5 4 7	0.640	1.0						2.4
	0.795	0.413	0.505	0.547	0.642	1.0						2.4
Total Iron (mg/L)	0.070	0.070	0.000	0.104	0.100	0.000						. 0 070
	0.070	0.070	0.089	0.124	0.100	0.269						< 0.070
Total Iron (mg/L)												
Movimum	0.070	0.070	0.090	0.124	0.100	0.260						10.070
Total Manganasa	0.070	0.070	0.069	0.124	0.100	0.209						< 0.070
Average Monthly	0.11	0.0651	0.054	1 000	0.052	0 170						0.038
Total Manganese	0.11	0.0001	0.034	1.000	0.032	0.173						0.030
(mg/L)												
Instantaneous												
Maximum	0.11	0.0651	0.054	1.000	0.052	0.179						0.038

Development of Effluent Limitations

Outfall No.	001		Design Flow (MGD)	0.07
Latitude	40º 31' 49.00		Longitude	-79º 50' 10.00"
Wastewater De	escription:	Filter backwash water and clarif	ier blowdown supernatant	from waste clarifiers

Technology-Based Limitations

The Oakmont Municipal Authority Hulton Purification Plant is not subject to Federal Effluent Limitation Guidelines (ELGs) as the SIC code is not listed under 40 CFR parts 405 through 471.

Regulatory Effluent Standards and Monitoring Requirements

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

Effluent standards for pH pursuant to 25 Pa. Code §§ 95.2(1), as indicated in Table 1, are also imposed on all industrial wastes.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation as indicated in Table 1.

Table 1. Regulatory Effluent Standards

Parameter	Monthly Average	ΙΜΑΧ		
Flow (MGD)	Monitor	Monitor Monitor		
pH (S.U.)	Not less than 6.0 nor greater than 9.0 at all times			
TRC	0.5 mg/L		1.6 mg/L	

Best Practicable Control Technology Currently Achievable (BPT)

BPT for wastewater from treatment of water treatment plant (WTP) sludges and filter backwash is found in DEPs Technology-Based Control Requirements for Water Treatment Plant Wastes Document which falls under Best Professional Judgement under 40 CFR § 125.3, as indicated in Table 2.

Table 2. BPT Limits for WTP sludge and filter backwash wastewater

Parameter	Monthly Average (mg/L)	Daily Maximum (mg/L)	
Suspended solids	30.0	60.0	
Total Iron	2.0	4.0	
Total Aluminum	4.0	8.0	
Total Manganese	1.0	2.0	
Flow	Monitor a	nd Report	
рН	Not less than 6.0 nor greater than 9.0 at all times		
Total Residual Chlorine	0.5	1.0	

Water Quality-Based Effluent Limitations (WQBELs)

Toxics Screening Analysis – Procedures for Evaluating Reasonable Potential and Developing WQBELs

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 from the permit application.
- Perform a Toxics Screening Analysis to identify toxic pollutants of concern. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water quality criterion are pollutants 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]. List all toxic pollutants of concern in a Toxics Screening Analysis section of the fact sheet (see Attachment B).

- 3. For any outfall with an applicable design flow, perform PENTOXSD modeling for all pollutants of concern. Use the maximum reported value from the application form or from DMRs as the input concentration for the PENTOXSD model run.
- 4. Compare the actual WQBEL from PENTOXSD with the maximum concentration reported on DMRs or the permit application. Use WQN data or another source to establish the existing or background concentration for naturally occurring pollutants, but generally assume zero background concentration for non-naturally occurring pollutants.
 - 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 PENTOXSD. 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.

The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are collected on a spreadsheet titled "Toxics Screening Analysis." (Attachment B).

Total Maximum Daily Load (TMDL)

Wastewater discharges from Oakmont Hulton are located in the Allegheny River Watershed, for which the Department has developed a TMDL. A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding the water quality criteria for that pollutant. TMDLs provide the scientific basis for a state to establish water quality-based controls to reduce pollution from both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a). The TMDL was finalized on April 9, 2001 and addresses contamination of fish tissue, in the Allegheny River from Lock and Dam 3 (River Mile 14.5) to the mouth (River Mile 0.0), by PCB and chlordane. Water quality criteria for the TMDL watershed do not apply to the wastewater discharges from Oakmont Hulton.

PENTOXSD Water Quality Modeling Program

PENTOXSD Version 2.0 for Windows is a single discharge, mass-balance water quality modeling program that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number and discharge flow rate are entered into PENTOXSD to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Pollutants are then selected for analysis based on those present or likely to be present in a discharge at levels that may cause, have the reasonable potential to cause, or contribute to excursions above state water quality standards (i.e., a reasonable potential analysis). Discharge concentrations for the selected pollutants are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). PENTOXSD then evaluates each pollutant by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, PENTOXSD recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Discharges from Outfall 001 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are used for toxics screening as described above. The PENTOXSD model is run with the discharge and receiving stream characteristics shown in Table 3. The pollutants selected for analysis include those identified as candidates for modeling by the Toxics Screening Analysis spreadsheet (in accordance with Step 2 of the Toxics Screening Analysis procedure discussed above). Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis.

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

Based on the recommendations of the Toxics Screening Analysis, shown in Attachment B, Total Aluminum, Total Antimony, Total Arsenic, Total Cadmium, Total Copper, Total Lead, Total Mercury, Total Phenols and Total Silver were candidates for PENTOXSD modeling. The maximum reported values for Total Antimony, Total Arsenic, Total Cadmium, Total Copper, Total Lead, Total Mercury, Total Mercury, Total Cadmium, Total Copper, Total Lead, Total Antimony, Total Arsenic, Total Cadmium, Total Copper, Total Lead, Total Mercury, Total Phenols and Total Silver were each reported as "non-detect" using a quantitation limit (QL) that exceeds the Department's Target QL.

Table 3: Outfall 001 PENTOXSD Inputs

Parameter	Value				
River Mile Index	0.3317				
Discharge Flow (MGD)	0.07				
Basin/Stream Characteristics					
Parameter	Value				
Area in Square Miles	0.14				
Q ₇₋₁₀ (cfs)	0.000635				
Low-flow yield (cfs/mi ²)	0.00454				
Elevation (ft)	860				
Slope	0.0000				

The WQBELs calculated using PENTOXSD are compared to the maximum reported effluent concentrations as described in the Toxics Screening Analysis section above to evaluate the need to impose WQBELs or monitoring requirements in the permit. Output from the PENTOXSD model runs are included in Attachment C.

Based on PENTOXSD modeling and the Toxics Screening Analysis, WQBELs will be imposed for the parameters of Total Aluminum, Total Antimony, Total Arsenic, Total Cadmium, Total Copper, Total Lead, Total Mercury and Total Silver. The Average Monthly Limits (AMLs) from PENTOXSD were less than the most stringent criterion for the parameters of Total Aluminum, Total Cadmium, Total Copper, Total Lead and Total Silver. The AMLs for those parameters are therefore equal to the most stringent criterion. Where the most stringent criterion is used for the AML, the Maximum Daily Limit (MDL) is set based on a multiplier of 2 times the AML. The recommended most stringent effluent limits are shown below in Table 4.

Oakmont Hulton elected not to collect additional samples for the parameters of Total Antimony, Total Arsenic, Total Cadmium, Total Copper, Total Lead, Total Mercury and Total Silver using the Target QLs, since Outfall 001 rarely discharges.

Parameter	Monthly Average (µg/L)	Daily Maximum (µg/L)
Total Aluminum	750.0	1500.0
Total Antimony	5.6	8.8
Total Arsenic	Report	Report
Total Cadmium	0.27	0.54
Total Copper	9.3	18.6
Total Lead	3.2	6.4
Total Mercury	0.05	0.078
Total Silver	3.8	7.6

Table 4: Outfall 001 Water Quality Based Effluent Limits

Total Residual Chlorine (TRC)

To determine if WQBELs are required for discharges containing total residual chlorine, a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/L from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in Attachment D, indicate that WQBELs will be imposed for TRC. The recommended effluent limits for TRC are shown below in Table 5.

Table 5: TRC WQBELs

Parameter	Monthly Average (mg/L)	IMAX (mg/L)
Total Residual Chlorine	0.013	0.030

Total Dissolved Solids (TDS)

The total dissolved solids (TDS) concentration in Outfall 001 is 113 mg/L. Per *Policy and Procedure for NPDES Permitting of Discharges of Total Dissolved Solids (TDS) – 25 Pa. Code §95.10 (DEP-ID: 385-2100-002)*, a monitoring requirement for TDS for any discharge that exceeds 1,000 mg/L TDS should be applied at minimum. Since the TDS discharge concentration is below 1,000 mg/L, no monitoring/limit requirements will be applied for TDS or its constituent parameters.

Anti-Backsliding

The limits below in Table 6 are from the current permit. The parameters listed are water quality based effluent limits imposed on November 6, 1998.

Table 6: Current Permit Effluent Limits for Outfall 001

	Mass	ss (lb/day) Concentration (mg/L)				
Parameters	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX
Total Suspended Solids	XXX	XXX	XXX	30.0	60.0	75.0
Total Residual Chlorine	XXX	XXX	XXX	0.012	XXX	0.03
Total Aluminum	XXX	XXX	XXX	0.5	1.0	1.25
Total Iron	XXX	XXX	XXX	1.5	3.0	3.75
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0

Final Effluent Limitations for Outfall 001

Effluent limits applicable at Outfall 001 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements. The current permit effluent limit for Total Aluminum is less than the most stringent criterion. The final effluent limits for Total Aluminum are therefore equal to the most stringent criterion.

The final effluent limitations and monitoring requirements for Outfall 001 are displayed below in Table 7. Note that some values were incorrectly labeled as IMAX values in the previous permit when they should have been label as Daily Max, this has been changed to reflect what the guidance document states. The monitoring frequency will be once per discharge.

Table 7: Final Effluent Limits for Outfall 001

	Mass (lb/day)		Concentration (mg/L)			
Parameters	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX
Total Suspended Solids	XXX	XXX	XXX	30.0	60.0	XXX
Total Residual Chlorine	XXX	XXX	XXX	0.012	XXX	0.030
Total Aluminum (µg/L)	XXX	XXX	XXX	750	1000	XXX
Total Antimony (µg/L)	XXX	XXX	XXX	5.6	8.8	XXX
Total Arsenic (µg/L)	XXX	XXX	XXX	Report	Report	XXX
Total Cadmium (µg/L)	XXX	XXX	XXX	0.27	0.54	XXX
Total Copper (µg/L)	XXX	XXX	XXX	9.3	18.6	XXX
Total Iron	XXX	XXX	XXX	1.5	3.0	XXX
Total Lead (µg/L)	XXX	XXX	XXX	3.2	6.4	XXX
Total Manganese	XXX	XXX	XXX	1.0	2.0	XXX
Total Mercury (µg/L)	XXX	XXX	XXX	0.05	0.078	XXX
Total Silver (µg/L)	XXX	XXX	XXX	3.8	7.6	XXX
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX

Development of Effluent Limitations

Outfall No.	002		Design Flow (MGD)	0.07
Latitude	40º 31' 50.38	11	Longitude	-79º 50' 13.80"
Wastewater De	escription:	Periodic tank drainage from	m Sedimentation Basins 1&2 and	d Clearwells 1&2

Technology-Based Limitations

The Oakmont Municipal Authority Hulton Purification Plant is not subject to Federal Effluent Limitation Guidelines (ELGs) as the SIC code is not listed under 40 CFR parts 405 through 471.

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1) as indicated in Table 8.

Effluent standards for pH pursuant to 25 Pa. Code §§ 95.2(1), as indicated in Table 8, are also imposed on all industrial wastes.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation as indicated in Table 8.

Table 8: Regulatory Effluent Standards

Parameter	Monthly Average	Daily Maximum	ΙΜΑΧ
Flow (MGD)	Monitor	Monitor	
pH (S.U.)	Not less than 6.0 nor greater than 9.0 at all times		
TRC	0.5 mg/L		1.6 mg/L

Best Practicable Control Technology Currently Achievable (BPT)

BPT for wastewater from treatment of water treatment plant (WTP) sludges and filter backwash is found in DEPs Technology-Based Control Requirements for Water Treatment Plant Wastes Document which falls under Best Professional Judgement under 40 CFR § 125.3, as indicated in Table 9.

Table 9: BPT Limits for WTP sludge and filter backwash wastewater

Parameter	Monthly Average (mg/L)	Daily Maximum (mg/L)	
Suspended solids	30.0	60.0	
Total Iron	2.0	4.0	
Total Aluminum	4.0	8.0	
Total Manganese	1.0	2.0	
Flow	Monitor a	nd Report	
рН	Not less than 6.0 nor greater than 9.0 at all times		
Total Residual Chlorine	0.5	1.0	

Water Quality-Based Effluent Limitations (WQBELs)

Toxics Screening Analysis – Procedures for Evaluating Reasonable Potential and Developing WQBELs

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 from the permit application.
- 2. Perform a Toxics Screening Analysis to identify toxic pollutants of concern. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water

quality criterion are pollutants 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]. List all toxic pollutants of concern in a Toxics Screening Analysis section of the fact sheet (see Attachment F).

- For any outfall with an applicable design flow, perform PENTOXSD modeling for all pollutants of concern. Use the maximum reported value from the application form or from DMRs as the input concentration for the PENTOXSD model run.
- 4. Compare the actual WQBEL from PENTOXSD with the maximum concentration reported on DMRs or the permit application. Use WQN data or another source to establish the existing or background concentration for naturally occurring pollutants, but generally assume zero background concentration for non-naturally occurring pollutants.
 - 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 PENTOXSD. 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.

The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are collected on a spreadsheet titled "Toxics Screening Analysis." (Attachment F).

Total Maximum Daily Load (TMDL)

Wastewater discharges from Oakmont Hulton are located in the Allegheny River Watershed, for which the Department has developed a TMDL. A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding the water quality criteria for that pollutant. TMDLs provide the scientific basis for a state to establish water quality-based controls to reduce pollution from both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a). The TMDL was finalized on April 9, 2001 and addresses contamination of fish tissue, in the Allegheny River from Lock and Dam 3 (River Mile 14.5) to the mouth (River Mile 0.0), by PCB and chlordane. Water quality criteria for the TMDL watershed do not apply to the wastewater discharges from Oakmont Hulton.

PENTOXSD Water Quality Modeling Program

PENTOXSD Version 2.0 for Windows is a single discharge, mass-balance water quality modeling program that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number and discharge flow rate are entered into PENTOXSD to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Pollutants are then selected for analysis based on those present or likely to be present in a discharge at levels that may cause, have the reasonable potential to cause, or contribute to excursions above state water quality standards (i.e., a reasonable potential analysis). Discharge concentrations for the selected pollutants are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). PENTOXSD then evaluates each pollutant by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, PENTOXSD recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Outfall 002

Discharges from Outfall 002 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are used for toxics screening as described above. The PENTOXSD model is run with the discharge and receiving stream characteristics shown in Table 10. The pollutants selected for analysis include those identified as candidates for modeling by the Toxics Screening Analysis spreadsheet (in accordance with Step 2 of the Toxics Screening Analysis procedure discussed above). Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis.

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

Based on the recommendations of the Toxics Screening Analysis, shown in Attachment F, Total Aluminum, Total Cadmium, Total Copper, Total Lead, Total Phenols and Total Silver were candidates for PENTOXSD modeling. The WQBELs calculated using PENTOXSD are compared to the maximum reported effluent concentrations as described in the Toxics Screening Analysis section above to evaluate the need to impose WQBELs or monitoring requirements in the permit. Output from the PENTOXSD model runs are included in Attachment G. Based on PENTOXSD modeling and the Toxics Screening Analysis, no WQBELs will be imposed.

Table 10: Outfall 002 PENTOXSD Inputs

Parameter	Value
River Mile Index	13.40
Discharge Flow (MGD)	0.07
Basin/Stream Characte	ristics
Parameter	Value
Area in Square Miles	11,500
Area in Square Miles Q ₇₋₁₀ (cfs)	11,500 2390
Area in Square Miles Q ₇₋₁₀ (cfs) Low-flow yield (cfs/mi ²)	11,500 2390 0.2078
Area in Square Miles Q ₇₋₁₀ (cfs) Low-flow yield (cfs/mi ²) Elevation (ft)	11,500 2390 0.2078 734.5

Total Residual Chlorine (TRC)

To determine if WQBELs are required for discharges containing total residual chlorine, a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and firstorder chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/L from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in Attachment H, indicate that no WQBELs will be imposed for

TRC.

Total Dissolved Solids (TDS)

The total dissolved solids (TDS) concentration in Outfall 002 is 130 mg/L. Per *Policy and Procedure for NPDES Permitting of Discharges of Total Dissolved Solids (TDS) – 25 Pa. Code §95.10 (DEP-ID: 385-2100-002)*, a monitoring requirement for TDS for any discharge that exceeds 1,000 mg/L TDS should be applied at minimum. Since the TDS discharge concentration is below 1,000 mg/L, no monitoring/limit requirements will be applied for TDS or its constituent parameters.

Anti-Backsliding

The limits below in Table 11 are from the current permit. The parameters listed are from the Department's Technical Support Document (TSD) "Development of Technology-Based Control Requirements for Water Treatment Plant Wastes in Pennsylvania" and parameters believed to be present in the discharge.

Mass (lb/day)			Concentration (mg/L)			
Parameters	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60.0
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.0
Total Aluminum	XXX	XXX	XXX	4.0	XXX	8.0
Total Iron	XXX	XXX	XXX	2.0	XXX	4.0
Total Manganese	XXX	XXX	XXX	1.0	XXX	2.0
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0

Table 11: Current Permit Effluent Limits for Outfall 002

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

Final Effluent Limitations for Outfall 002

Effluent limits applicable at Outfall 002 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements. The final effluent limitations and monitoring requirements for Outfall 002 are displayed below in Table 12. Note that some values were incorrectly labeled as IMAX values in the previous permit when they should have been label as Daily Max, this has been changed to reflect what the guidance document states. The monitoring frequency will be once per discharge.

Table 12: Final Effluent Limitation for Outfall 002

	Mass (lb/day) Concentration (mg/L)				ation (mg/L)	
Parameters	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX
Total Suspended Solids	XXX	XXX	XXX	30.0	60.0	XXX
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.0
Total Aluminum	XXX	XXX	XXX	4.0	8.0	XXX
Total Iron	XXX	XXX	XXX	2.0	4.0	XXX
Total Manganese	XXX	XXX	XXX	1.0	2.0	XXX
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX

Development of Effluent Limitations

Outfall No.	003	Design Flow (MGD)	0.3
Latitude	40º 31' 50.38	Longitude	-79º 50' 13.80"
Wastewater De	escription:	Periodic tank drainage from sedimentation basins 3, 4, and 5.	

Technology-Based Limitations

The Oakmont Municipal Authority Hulton Purification Plant is not subject to Federal Effluent Limitation Guidelines (ELGs) as the SIC code is not listed under 40 CFR parts 405 through 471.

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1) as indicated in Table 13.

Effluent standards for pH pursuant to 25 Pa. Code §§ 95.2(1), as indicated in Table 13, are also imposed on all industrial wastes.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation as indicated in Table 13.

Table 13: Regulatory Effluent Standards

Parameter	Monthly Average	Daily Maximum	ΙΜΑΧ
Flow (MGD)	Monitor	Monitor	
pH (S.U.)	Not less than 6.0 nor gre	ater than 9.0 at all times	
TRC	0.5 mg/L		1.6 mg/L

Best Practicable Control Technology Currently Achievable (BPT)

BPT for wastewater from treatment of water treatment plant (WTP) sludges and filter backwash is found in DEPs Technology-Based Control Requirements for Water Treatment Plant Wastes Document which falls under Best Professional Judgement under 40 CFR § 125.3, as indicated in Table 14.

Table 14: BPT Limits for WTP sludge and filter backwash wastewater

Parameter	Monthly Average (mg/L)	Daily Maximum (mg/L)	
Suspended solids	30.0	60.0	
Total Iron	2.0	4.0	
Total Aluminum	4.0	8.0	
Total Manganese	1.0	2.0	
Flow	Monitor a	nd Report	
рН	Not less than 6.0 nor gre	eater than 9.0 at all times	
Total Residual Chlorine	0.5	1.0	

Water Quality-Based Effluent Limitations (WQBELs)

Toxics Screening Analysis - Procedures for Evaluating Reasonable Potential and Developing WQBELs

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 from the permit application.
- Perform a Toxics Screening Analysis to identify toxic pollutants of concern. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water quality criterion are pollutants 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]. List all toxic pollutants of concern in a Toxics Screening Analysis section of the fact sheet (see Attachment J).

- 3. For any outfall with an applicable design flow, perform PENTOXSD modeling for all pollutants of concern. Use the maximum reported value from the application form or from DMRs as the input concentration for the PENTOXSD model run.
- 4. Compare the actual WQBEL from PENTOXSD with the maximum concentration reported on DMRs or the permit application. Use WQN data or another source to establish the existing or background concentration for naturally occurring pollutants, but generally assume zero background concentration for non-naturally occurring pollutants.
 - 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 PENTOXSD. 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.

The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are collected on a spreadsheet titled "Toxics Screening Analysis." (Attachment J).

Total Maximum Daily Load (TMDL)

Wastewater discharges from Oakmont Hulton are located in the Allegheny River Watershed, for which the Department has developed a TMDL. A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding the water quality criteria for that pollutant. TMDLs provide the scientific basis for a state to establish water quality-based controls to reduce pollution from both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a). The TMDL was finalized on April 9, 2001 and addresses contamination of fish tissue, in the Allegheny River from Lock and Dam 3 (River Mile 14.5) to the mouth (River Mile 0.0), by PCB and chlordane. Water quality criteria for the TMDL watershed do not apply to the wastewater discharges from Oakmont Hulton.

PENTOXSD Water Quality Modeling Program

PENTOXSD Version 2.0 for Windows is a single discharge, mass-balance water quality modeling program that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number and discharge flow rate are entered into PENTOXSD to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Pollutants are then selected for analysis based on those present or likely to be present in a discharge at levels that may cause, have the reasonable potential to cause, or contribute to excursions above state water quality standards (i.e., a reasonable potential analysis). Discharge concentrations for the selected pollutants are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). PENTOXSD then evaluates each pollutant by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, PENTOXSD recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Outfall 003

Discharges from Outfall 003 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are used for toxics screening as described above. The PENTOXSD model is run with the discharge and receiving stream characteristics shown in Table 15. The pollutants selected for analysis include those identified as candidates for modeling by the Toxics Screening Analysis spreadsheet (in accordance with Step 2 of the Toxics Screening Analysis procedure discussed above). Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis.

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

Based on the recommendations of the Toxics Screening Analysis, shown in Attachment J, Total Cadmium, Total Copper, Total Lead, Total Mercury, Total Phenols and Total Silver were candidates for PENTOXSD modeling. The WQBELs calculated using PENTOXSD are compared to the maximum reported effluent concentrations as described in the Toxics Screening Analysis section above to evaluate the need to impose WQBELs or monitoring requirements in the permit. Output from the PENTOXSD model runs are included in Attachment K. Based on PENTOXSD modeling and the Toxics Screening Analysis, no WQBELs will be imposed.

Table 15: Outfall 003 PENTOXSD Inputs

Parameter	Value			
River Mile Index	13.43			
Discharge Flow (MGD)	0.30			
Basin/Stream Characteristics				
Parameter	Value			
Area in Square Miles	11,500			
Area in Square Miles Q ₇₋₁₀ (cfs)	11,500 2390			
Area in Square Miles Q ₇₋₁₀ (cfs) Low-flow yield (cfs/mi ²)	11,500 2390 0.2078			
Area in Square Miles Q ₇₋₁₀ (cfs) Low-flow yield (cfs/mi ²) Elevation (ft)	11,500 2390 0.2078 734.5			

Total Residual Chlorine (TRC)

To determine if WQBELs are required for discharges containing total residual chlorine, a discharge evaluation is performed using a DEP program called TRC CALC created with Microsoft Excel for Windows. TRC CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and firstorder chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/L from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in Attachment L, indicate that no WQBELs will be imposed for

TRC.

Total Dissolved Solids (TDS)

The total dissolved solids (TDS) concentration in Outfall 003 is 140 mg/L. Per *Policy and Procedure for NPDES Permitting* of *Discharges of Total Dissolved Solids (TDS) – 25 Pa. Code §95.10 (DEP-ID: 385-2100-002)*, a monitoring requirement for TDS for any discharge that exceeds 1,000 mg/L TDS should be applied at minimum. Since the TDS discharge concentration is below 1,000 mg/L, no monitoring/limit requirements will be applied for TDS or its constituent parameters.

Anti-Backsliding

The limits below in Table 16 are from the current permit. The parameters listed are from the Department's Technical Support Document (TSD) "Development of Technology-Based Control Requirements for Water Treatment Plant Wastes in Pennsylvania" and parameters believed to be present in the discharge.

	Mass (lb/day)		Concentration (mg/L)			
Parameters	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60.0
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.0
Total Aluminum	XXX	XXX	XXX	4.0	XXX	8.0
Total Iron	XXX	XXX	XXX	2.0	XXX	4.0
Total Manganese	XXX	XXX	XXX	1.0	XXX	2.0
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0

Table 16: Current Permit Effluent Limits for Outfall 003

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

Final Effluent Limitations for Outfall 003

Effluent limits applicable at Outfall 003 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements. The final effluent limitations and monitoring requirements for Outfall 003 are displayed below in Table 17. Note that some values were incorrectly labeled as IMAX values in the previous permit when they should have been label as Daily Max, this has been changed to reflect what the guidance document states. The monitoring frequency will be once per discharge.

Table 17: Final Effluent Limitation for Outfall 003

	Mass (lb/day)		Concentration (mg/L)			
Parameters	Average	Daily		Average	Daily	Instant.
	Monthly	Maximum	Minimum	Monthly	Maximum	Maximum
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX
Total Suspended Solids	XXX	XXX	XXX	30.0	60.0	XXX
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.0
Total Aluminum	XXX	XXX	XXX	4.0	8.0	XXX
Total Iron	XXX	XXX	XXX	2.0	4.0	XXX
Total Manganese	XXX	XXX	XXX	1.0	2.0	XXX
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX

Development of Effluent Limitations					
Outfall No.	004		Design Flow (MGD)	0	
Latitude	40° 31′ 52.0	00″	Longitude	-79° 50′ 11.00″	
Wastewater I	Description:	Stormwater Runoff from Plant Area			

Stormwater Drainage Overview

Outfall 004 discharges stormwater from 0.82 acres of the eastern side of the plant. The facility stated that no materials or activities in the drainage area are exposed to precipitation. Table 18 summarizes the current water quality of stormwater through Outfall 004. All parameters, except for pH, were reported to be above benchmark values indicative of No Exposure conditions.

Table 10: Analytical Results for Outrain 004 Otorinwater			
Parameter	Concentration		
рН	8.14		
Oil and Grease (mg/L)	9.3		
Biochemical Oxygen Demand (5-day) (mg/L)	11.2		
Chemical Oxygen Demand (mg/L)	184		
Total Suspended Solids (mg/L)	570		
Total Nitrogen (mg/L)	5.51		
Phosphorus, total (mg/L)	2.55		

Table 18: Analytical Results for Outfall 004 Stormwater

Technology-Based Limitations

The Stormwater Outfalls will be subjected to the monitoring requirements in Appendix J of the PAG-03 General Stormwater Permit as a minimum requirement because the outfall receives stormwater. The SIC code for the site is 4941 and the corresponding appendix that would apply to the facility is Appendix J of the PAG-03. Appendix J reporting requirements are in Table 19 below.

Table 19: PAG-03 Appendix J Monitoring Requirements

	Mass (lb/day)		Concentration (mg/L)			
Parameters	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum
Total Suspended Solids (TSS)	XXX	XXX	XXX	XXX	Report	XXX
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX

Water Quality-Based Limitations

Water quality analyses are typically performed under low-flow (Q7-10) conditions. Stormwater discharges occur at variable rates and frequencies but not however during Q7-10 conditions. Since the discharges from Outfall 004 are composed entirely of stormwater, a formal water quality analysis cannot be accurately conducted. Accordingly, water quality-based effluent limitations are not proposed.

Anti-Backsliding

Effluent monitoring requirements for Outfall 004 are not included in the current permit.

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

Proposed Effluent Monitoring Requirements

The proposed effluent requirements for Outfall 004 are displayed in Table 20 below. The monitoring frequency will correspond to what is in the PAG-03 General Permit, semi-annual monitoring. A Part C condition is included in the Draft permit requiring submission of a Corrective Action Plan when there are two consecutive exceedances of the benchmark values. The benchmark values are displayed below in Table 20 and included in the Part C condition. These values are from EPA'S Multisector General Permit document and are not effluent limitations. Exceedance of the benchmark values is not a violation. If there are two consecutive exceedances of the benchmark values is conducted to evaluate site stormwater controls and BMPs. Benchmark monitoring is a feedback tool, along with routine inspections and visual assessments, for assessing the effectiveness of stormwater controls and BMPs. An exceedance of the benchmark provides permittees with an indication that the facility's controls may not be sufficiently controlling pollutants in stormwater.

Baramatara	Maximum Daily Benchmark Values		Monitoring Requirements		
Farameters	Concentration	(mg/L)	Frequency	Sample Type	
рН	Monitor a	nd Report	1/6 Months	Grab	
Oil and Grease	Monitor and Report	15.0	1/6 Months	Grab	
Chemical Oxygen Demand (COD)	Monitor and Report	120.0	1/6 Months	Grab	
Total Suspended Solids (TSS)	Monitor and Report	100.0	1/6 Months	Grab	

Table 20: Proposed Effluent Limitations for Stormwater Outfall 004

Development of Effluent Limitations					
Outfall No.	005 – 009		Design Flow (MGD)	0	
Latitude	See Table 2	21	Longitude	See Table 21	
Vastewater Description: Stormwater Runoff from plant area and roof drains					

Stormwater Drainage Overview

Outfalls 005, 006, 008, and 009 discharge runoff from building roof drains. Outfall 007 discharges stormwater runoff from the 0.5 acres of the western side of the plant. The facility stated that no materials or activities in the drainage area are exposed to precipitation.

Analytical Results

Tables 22-26 summarize the current water quality of stormwater through Outfalls 005 – 009. All parameters were reported to be below benchmark values indicative of No Exposure conditions, with the exception of pH at Outfalls 008 and 009. Reported pH measurements are inconsistent amongst all of the stormwater outfall sampling results, indicating evidence of pollutant sources. pH monitoring is proposed at all stormwater outfalls.

, Description	•
Parameter	Concentration
рН	7.64
Oil and Grease (mg/L)	<5
Biochemical Oxygen Demand (5-day) (mg/L)	<3
Chemical Oxygen Demand (mg/L)	<10
Total Suspended Solids (mg/L)	6
Total Nitrogen (mg/L)	0.54
Phosphorus, total (mg/L)	<0.10

Table 22: Analytical Results for Outfall 005 Stormwater

Parameter	Concentration
рН	7.92
Oil and Grease (mg/L)	<5
Biochemical Oxygen Demand (5-day) (mg/L)	3.6
Chemical Oxygen Demand (mg/L)	28.4
Total Suspended Solids (mg/L)	57
Total Nitrogen (mg/L)	0.76
Phosphorus, total (mg/L)	0.22

Table 23: Analytical Results for Outfall 006 Stormwater

Table 24: Analyti	ical Results for	Outfall 007	Stormwater
-------------------	------------------	-------------	------------

Parameter	Concentration
рН	8.16
Oil and Grease (mg/L)	<5
Biochemical Oxygen Demand (5-day) (mg/L)	4.4
Chemical Oxygen Demand (mg/L)	34
Total Suspended Solids (mg/L)	54
Total Nitrogen (mg/L)	0.97
Phosphorus, total (mg/L)	0.23

Parameter	Concentration
рН	4.92
Oil and Grease (mg/L)	<5
Biochemical Oxygen Demand (5-day) (mg/L)	<3
Chemical Oxygen Demand (mg/L)	<10
Total Suspended Solids (mg/L)	<3
Total Nitrogen (mg/L)	ND
Phosphorus, total (mg/L)	<0.10

 Table 25: Analytical Results for Outfall 008 Stormwater

 Table 26: Analytical Results for Outfall 009 Stormwater

Parameter	Concentration
рН	4.94
Oil and Grease (mg/L)	<5
Biochemical Oxygen Demand (5-day) (mg/L)	<3
Chemical Oxygen Demand (mg/L)	<10
Total Suspended Solids (mg/L)	3
Total Nitrogen (mg/L)	ND
Phosphorus, total (mg/L)	<0.10

Technology-Based Limitations

The Stormwater Outfalls will be subjected to the monitoring requirements in Appendix J of the PAG-03 General Stormwater Permit as a minimum requirement because the outfalls receive stormwater. The SIC code for the site is 4941 and the corresponding appendix that would apply to the facility is Appendix J of the PAG-03. Appendix J reporting requirements are shown in Table 27 below.

Table 27: PAG-03 Appendix J Monitoring Requirements

	Mass (lb/day)	Concentration (mg/L)			
Parameters	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum
Total Suspended Solids (TSS)	XXX	XXX	XXX	XXX	Report	XXX
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX

Water Quality-Based Limitations

Water quality analyses are typically performed under low-flow (Q7-10) conditions. Stormwater discharges occur at variable rates and frequencies but not however during Q7-10 conditions. Since the discharges from Outfalls 005-009 are composed entirely of stormwater, a formal water quality analysis cannot be accurately conducted. Accordingly, water quality-based effluent limitations are not proposed.

Anti-Backsliding

Outfalls 005-009 are not included in the current permit, so there are no current effluent monitoring requirements for the stormwater outfalls.

Proposed Effluent Limitations

The final effluent limitations and monitoring requirements for 005 -009 are displayed in Table 28 below. The monitoring frequency will correspond to that in the PAG-03 General Permit, semi-annual monitoring.

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

Parameters	Maximum Daily Concentration	Benchmark Values (mg/L)	Monitoring Requirements	Sample Type		
рН	Monitor and	d Report	1/6 Months	Grab		
Total Suspended Solids (TSS)	Monitor and Report	100.0	1/6 Months	Grab		
Oil and Grease	Monitor and Report	15.0	1/6 Months	Grab		

Table 28: Proposed Effluent Limitations for Stormwater Outfalls 005-009

	Tools and References Used to Develop Permit
	WQM for Windows Model (see Attachment)
	PENTOXSD for Windows Model (see Attachment)
	IRC Model Spreadsheet (see Attachment)
	Temperature Model Spreadsheet (see Attachment)
	Toxics Screening Analysis Spreadsheet (see Attachment)
	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
\square	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
	Pennsylvania CSO Policy, 385-2000-011, 9/08.
	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391- 2000-002, 4/97.
	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
\boxtimes	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
	Design Stream Flows, 391-2000-023, 9/98.
	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
	SOP:
	Other:

Attachments

Attachment A: StreamStats Report for Outfall 001

Attachment B: Toxics Screening Analysis Results for Outfall 001

Attachment C: PENTOXSD Modeling Results for Outfall 001

Attachment D: TRC Modeling Results for Outfall 001

Attachment E: StreamStats Report for Outfall 002

Attachment F: Toxics Screening Analysis Results for Outfall 002

Attachment G: PENTOXSD Modeling Results for Outfall 002

Attachment H: TRC Modeling Results for Outfall 002

Attachment I: StreamStats Report for Outfall 003

Attachment J: Toxics Screening Analysis Results for Outfall 003

Attachment K: PENTOXSD Modeling Results for Outfall 003

Attachment L: TRC Modeling Results for Outfall 003

ATTACHMENT A: StreamStats Report for Outfall 001

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

StreamStats Report



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.14	square miles
ELEV	Mean Basin Elevation	944.8	feet
PRECIP	Mean Annual Precipitation	41	Inches

Low-Flow Statistics Parameters (Low Rev Region 4)

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.14	square miles	2.26	1400
ELEV	Mean Basin Elevation	944.8	feet	1050	2580

Low-Flow Statistics Disclaimers J. ov Rev Region 4

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report (Low Region 4)

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00245	ft*3/s
30 Day 2 Year Low Flow	0.0051	ft*3/s
7 Day 10 Year Low Flow	0.000635	ft*3/s
30 Day 10 Year Low Flow	0.00154	ft*3/s
90 Day 10 Year Low Flow	0.00329	ft*3/s

Low-Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

ATTACHMENT B:

Toxics Screening Analysis Results for Outfall 001

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.6

CLEAR FORM

Facility: Oakmont Hulton		NPDES Permit No.:	PA0217905	Outfall: 00)1
Analysis Hardness (mg/L):	62.9	Discharge Flow (MGD):	0.07	Analysis pH (SU): 7.	2
Stream Flow, Q7-10 (cfs):	0.0006			200002.0000.0000.0000.0000.0000.0000	

	Parameter	Maxin Applie	num Concentration in cation or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
	Total Dissolved Solids		113000	500000	No		
1	Chloride	20 - 20	27500	250000	No		
Ino	Bromide	<	1000	N/A	No		
5	Sulfate		41900	250000	No		
	Fluoride		710	2000	No		
	Total Aluminum		938	750	Yes	750	Establish Limits
	Total Antimony	<	5	5.6	Yes	5.633	Establish Limits
	Total Arsenic	<	5	10	Yes	10.059	Monitor
	Total Barium	<	100	2400	No		
	Total Beryllium	<	2	N/A	No		
	Total Boron	<	100	1600	No (Value < QL)		
	Total Cadmium	<	2	0.271	Yes	0.271	Establish Limits
	Total Chromium	<	20	N/A	No		
	Hexavalent Chromium	<	5	10.4	No		
	Total Cobalt	<	5	19	No		
2	Total Copper	<	20	9.3	Yes	9.33	Establish Limits
dn	Total Cyanide	<	10	N/A	No		ř.
210	Total Iron		70	1500	No		
-	Dissolved Iron		50	300	No		
	Total Lead	<	20	3.2	Yes	3.2	Establish Limits
	Total Manganese		95	1000	No		
	Total Mercury	<	0.5	0.05	Yes	0.05	Establish Limits
	Total Molybdenum	<	5	N/A	No		-
	Total Nickel	<	20	52.2	No		
	Total Phenols (Phenolics)	<	50	5	Yes	10460.98	No Limits/Monitoring
	Total Selenium	<	5	5.0	No (Value < QL)		
	Total Silver	<	5	3.8	Yes	3.8	Establish Limits
	Total Thallium	<	2	0.24	No (Value < QL)		
	Total Zinc	<	20	119.8	No		

ATTACHMENT C: PENTOXSD Modeling Results for Outfall 001

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

							Mod	eling in	put Data						
Stream Code	n RMI	Elevat (ft)	ion	Drainag Area (so mi	pe)	Slope	PWS V (mg	Vith d)		A	pply FC				
4236	7 0.33	86	0.00	0	.14	0.00000	8	0.00		Į		-			
								Stream Da	ata		52		52		
	LFY	Trib Flow	Str Fl	eam V low R	VD atio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	<u>Tributar</u> Hard	У pH	<u>Strean</u> Hard	n pH	<u>Analys</u> Hard	is pH
	(cfsm)	(cfs)	(0	cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
07-10	0.00454	0	0.0	0064	0	0	0	0	0	100	7	0	0	o	(
Oh		0		0	0	0	0	0	0	100	7	0	0	0	0
-							D	ischarge [lata						
	Name	Perr Num	nit iber	Existing Disc	P	ermitted Disc	Design Disc	Reserve Factor	AFC	CFC PMF	thh PMF	CRL PMF	Disc Hard	Disc pH	
				Piow		FIOW	FIGW						(mark))		
Oakr	mont O001	PA021	7005	(mga)	58	(mga)	(mga)	0	0	0	0	0	(mg/L) 62.9	7.2	127
Cakr		PRUZI	7903	0.07		U	С.	, v	Ŭ	°	č	Č.	02.0	1.4	
	200.00000002	100000		0.00		1000	Pa	rameter D	ata		w. 2.			201120	
	Parameter M	lame		Di	so	Trib Conc	Disc Daily CV	Hour Hour	y Cond	n Stream	Coe	FOS f	Mod	Max Disc Conc	
				(µg	(J)	(µg/L)			(µg/L	-)	6			(µg/L)	
ALUMIN	UM			8	38	0	0.	0.5	0	0	0	0	1	0	
ARSENI	C			8	50	0	0.	5 0.5		0	0	0	1	0	
CADMIL	104			8	2	0	0.	5 0.5	0	ő	0	0	1	D	
COPPER	2				20	0	0.5	5 0.5	. 0	0	0	0	1	0	
LEAD	G-0				20	0	0.	5 0.5	0	0	0	0	1	0	
MERCU	RY			c	0.5	0	0.4	5 0.5	0	0	0	0	1	0	
PHENOL	L			50	1000	0	0.5	5 0.5	0	0	0	0	1	o	
SILVER					5	0	0.5	5 0.5	i 0	0	0	0	1	0	
Stream Code	RMI	Elevati (ft)	ion	Drainag Area (sq mi	je)	Slope	PWS ((mg	With (d)		٨	pply FC	20			
42367	7 0.00	75	6.00	0	.15	0.00000		0.00							
		5						Stream D	ata		- 06				
	LFY	Trib Flow	Stre Fl	eann W Iow Ri	/D atio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	<u>Tributa</u> Hard	рН	<u>Strea</u> Hard	m pH	<u>Analy</u> Hard	<u>sis</u> pH
	(cfsm)	(cfs)	(0	:fs)		(帛)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
27-10	0.00457	0	0.0	0069	0	0	0	0	0	100	7	0	0	0	
Qh		0		0	0	0	0	0	0	100	7	0	0	0	
							D	ischarge (Data						
•	Name	Pern Num	nit ber	Existing Disc Flow	P	ermitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	thh PMF	CRL PMF	Disc Hard	Disc pH	
				(mad)	с I	(mgd)	(mgd)						(ma/L)	
S.		6		0		0	0	0	0	0	0	0	100	7	_
							D	urameter l	lata						
1	Parameter N	lame		Di Co	sc mc	Trib Conc	Disc Daily CV	Disc Hour CV	Stear y Con	n Stream c CV	Fab Coe	e FOS sf	Crit Mo	d Disc Cond	2
A1 1 16 416-11	184			(hà	0	(µgµL)			(49/	9				(µg/L)	,
ANTIMON	NY				0	0	0.5	5 0.5		0	0	0		0	
ARSENIC	5				0	0	0.	5 0.0 5 0.0		0	0			0	
CADMILIN	M				0	0	0.	5 04	5 0	0		D		D D	
COPPER	2				0	0	0.	5 0.5	5 0	0	0	0		0	- 10
LEAD					0	0	0.	5 0.5	5 0	0	0	0	1	0	
MERCUR	RY				0	0	0.	5 0.5	5 0	0	0	0	1	0	
PHENOL	2				0	0	0.	5 0.8	5 0	0	0	0		0	

PENTOXSD

Hydrodynamics

S	WP Basi	0	Stream	n Code:			Strea	m Name	1		
	18A		42	367		F/	ALLING S	PRINGS	RUN		
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Síope	Depth (ft)	Width (fl)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
					Q7	-10 Hyd	irodyna	imics			
0.332	0.0006		0.0006	0.10829	0.0594	0.3985	2.3791	5.9696	0.1149	0.1765	0
0.000	0.0007		0 0.0007	NA	0	0	0	0	0	0	NA
	8				Q	h Hydr	odynar	nics			
0.332	0.0119		0.0119	0.10829	0.0594	0.4162	2.3791	5.7160	0.1214	0.167	.001
0.000	0.0128	i Ì	0.0128	NA	0	0	0	0	0	0	NA

Name

Permit Number

RMI

PENTOXSD Analysis Results

Wasteload Allocations

0.000	2007000	200000000000	000000000000000000000000000000000000000						
0.33	Oakmont 0001	PA021	7905						
07	10· CCT (min)		DME	1	AFC Analysis	pH 7.198	Analysis	Hardness	63.116
64) -	io. cortinin	61 B	Stream	Stream	Trib	Fate	wac	WQ	WLA
	Parameter		Conc (µg/L)	CV	(µg/L)	Coef	(µg/L)	(µg/L)	(µg/L)
	ANTIMONY		0	0	0	o	1100	1100	1106.4
	ARSENIC		0	0	0	0	340	340	341,994
			Dissolved	WQC.	Chemical tra	inslator of 1	applied.		
	CADMIUM		0	0	0	0	1.287	1.336	1.344
			Dissolved	WQC.	Chemical tra	anslator of 0	.963 applied	i.	
	COPPER		0	0	0	0 -	8.711	9.074	9.127
			Dissolved	WQC.	Chemical tra	inslator of 0	96 applied.		
	LEAD		0	0	0	0	38.997	45.448	45.714
	10000		Dissolved	woc.	Chemical tra	anslator of 0	858 applied	s.	
	MERCURY		0	0	0	0	1.4	1.647	1.657
	MERCONT		Discoluted	woc	Chemical Ira	inelator of (85 applied.		
	CUNED		Lupsonred A	6	0	0	1.458	1 715	1,725
	SILVER			U CO	01	in the set of f	PE applied	1.1.19	
			Dissolved	WQC.	Chemical tra	ansiator or u	.oo appieo.		
	PHENOL		0	0	0	0	NA	N/A	PIA
	ALUMINUM		o	0	٥	0	750	750	754.39
					CFC				
27-10:	CCT (min)	0	PMP	- 1	Analysis	pH 7.198	Analys	is Hardness	s 63.116
	Decemeter		Stream	Stream	m Trib Conc	Fate	WQC	WQ Obi	WLA
	Parameter		(µg/L)	0.	(ug/L)		(µg/L)	(µg/L)	(µg/L)
	ANTIMONY	(0.0)	0	0	0	0	220	220	221.2
	ABSENIC		0	n	0	0	150	150	150.84
	ANGLING		Discolut	IMOC	Chemical tra	anelator of t	applied		
	O A DANILINA		Dissolved	A INCO	Onennoai uz	A	0 176	0 192	0 194
	CADMIUM			0	Ohenitelbu		0.175	0.102	0.104
	10120300		Dissolved	WQC.	Chemical tra	ansiator or i	0.020 appilo	e 206	6 999
	COPPER		0	0	0	0	6.044	0.290	0.555
			Dissolved	I WQC.	Chemical tra	anslator of 0).96 applied	 vers 	1992.00
	LEAD		0	0	0	0	1,52	1.771	1.781
			Dissolved	WQC.	Chemical tra	anslator of (0.858 applie	d,	
	MERCURY		0	0	0	0	0.77	0.906	0.911
			Dissolved	WQC.	Chemical tra	anslator of	0.85 applied		
	SILVER		o	0	0	0	NA	NA	NA
	PHENOL		0	0	0	0	NA	NA	NA
	ALUMINUM		0	0	0	0	NA	NA	NA

Wasteload Allocations

Name	Permit Number						
Oakmont 0001	PA0217905						
		1	гнн				
CCT (min)	0 PMF	1	Analysi	spH NA	Analysi	s Hardness	NA
Parameter	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
ANTIMONY	0	o	0	0	5.6	5.6	5.633
ARSENIC	0	0	0	0	10	10	10.059
CADMIUM	0	0	o	0	NA	NA	NA
COPPER	0	0	0	0	NA	NA	NA
LEAD	D	0	0	0	NA	NA	NA
MERCURY	0	٥	0	0	0.05	0.05	0.05
SILVER	o	0	0	0	NA	NA	NA
PHENOL	0	O	0	o	10400	10400	10460.98
ALUMINUM	0	0	0	0	NA	NA	NA
	Name Oakmont O001 CCT (min) Parameter ANTIMONY ARSENIC CADMIUM COPPER LEAD MERCURY SILVER PHENOL ALUMINUM	Name Permit Number Oakmont O001 PA0217905 CCT (min) 0 PMF Parameter 0 Stream Conc (us)L ANTIMONY 0 0 ARSENIC 0 0 COPPER 0 0 LEAD 0 0 MERCURY 0 0 PHENOL 0 0	Name Permit Number Oakmont O001 PA0217905 CCT (min) 0 PMF 1 Parameter 0 PMF 1 Parameter 0 PMF 1 ANTIMONY 0 0 ARSENIC 0 0 COPPER 0 0 LEAD 0 0 MERCURY 0 0 PHENOL 0 0 ALUMINUM 0 0	Name Permit Number Oakmont O001 PA021705 CCT (min) 0 PMF 1 Analysis Parameter 0 PMF 1 Analysis ANTIMONY 0 0 0 0 ARSENIC 0 0 0 0 COPPER 0 0 0 0 LEAD 0 0 0 0 MERCURY 0 0 0 0 PHENOL 0 0 0 ALUMINUM 0 0 0	Name Permit Number Oakmont O001 PA0217905 CCT (min) 0 PMF 1 Analysis print NA CCT (min) 0 PMF 1 Analysis print NA Parameter 0 PMF 1 Analysis print NA ANTIMONY 0	Name Permit Number Oakmont O001 PA0217905 CCT (min) 0 PMF 1 Analysis pH NA Analysis Parameter 0 PMF 1 Analysis pH NA Analysis Parameter 0 PMF 1 Analysis Fale WQC ANTIMONY 0 0 0 0 0 0 5.6 ARSENIC 0 0 0 0 0 0 5.6 COPPER 0 0 0 0 0 NA LEAD 0 0 0 0 0 NA MERCURY 0 0 0 0 0 NA PHENOL 0 0 0 0 0 NA	Name Permit Number Oakmont 0001 PA0217905 CCT (min) 0 PMF 1 Analysis pH NA Analysis Hardness Parameter 0 PMF 1 Analysis pH NA Analysis Hardness Parameter 0 PMF 1 Analysis pH NA Analysis Hardness ANTIMONY 0 0 0 0 5.6 5.6 ARSENIC 0 0 0 0 0 10 10 COPPER 0 0 0 0 0 0 NA NA MERCURY 0 0 0 0 0 0 NA NA PHENOL 0 0 0 0 0 0 NA NA MERCURY 0 0 0 0 0 0 NA NA MERCURY 0 0 0 0 NA NA MERCURINIMA

Qh:	CCT (min)	0.001 F	PMF 1					
	Parameter	Strea Cor (up	ann Stream nc CV AL)	m Trib Conc (uc/L)	Fate Coef	WQC	WQ Obj (ug/L)	WLA
- 15	ANTIMONY	0	0	0	0	NA	NA	NA
	ARSENIC	0	0	0	٥	NA	NA	NA
	CADMIUM	0	0	0	0	NA	NA	NA
	COPPER	0	0	0	0	NA	NA	NA
	LEAD	0	0	٥	0	NA	NA	NA
	MERCURY	o	0	0	0	NA	NA	NA
	SILVER	o	0	0	0	NA	NA	NA
	PHENOL	0	0	o	O	NA	NA	NA
	ALUMINUM	0	0	o	0	NA	NA	NA

CRL

Recommended Effluent Limitations

SWP Basin 18A	Stream Code; 42367	50	FA	Stream	<u>Name:</u> RINGS RUN	2	12
RMI	Name	Per Nun	mit nber	Disc Flow (mgd)			
0.33	Oakmont 0001	PA02	17905	0.0700	_		
(Effluent Limit			Max. Daily	Most S	tringent
P	arameter	(µg/L)	Gover	rning rion	Limit (µg/L)	WQBEL (µg/L)	WQBEL Criterion
ALUMINUM	28.	483.539	AF	с	754.398	483.539	AFC
ANTIMONY		5.633	TH	н	8.788	5.633	THH
ARSENIC		10.059	TH	н	15.693	10.059	THH
CADMIUM		0.194	CF	C	0.302	0.194	CFC
COPPER		5.85	AF	с	9.127	5.85	AFC
LEAD		1.781	CF	с	2.779	1.781	CFC
MERCURY		0.05	TH	н	0.078	0.05	THH
PHENOL		10460.98	TH	н	16320.82	10460.98	THH
SILVER		1.106	AF	с	1,725	1.106	AFC

ATTACHMENT D: TRC Modeling Results for Outfall 001

TRC EVALUATION

0.00063	35 = Q stream (cf	s)	0.	5 = CV Daily	
0.0	= Q discharge	(MGD)	0.	= CV HOURIY	Aix Eactor
0	3 = Chlorine Den	nand of Stream	-	= CFC Partial	Aix Factor
0	0 = Chlorine Den	nand of Discharge		$= \Delta FC$ Criteria	Compliance Time (min)
0	5 = BAT/BPJ Val	ue		= CFC Criteria	Compliance Time (min)
	0 = % Factor of s	Safety (FOS)	ety (FOS) 0		ient (K)
Source	Reference	AFC Calculations	**	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc	= 0.021	1.3.2.iii	WLA cfc = 0.013
PENTOXSD TRG	5.1a	LTAMULT afc :	= 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc	= 0.008	5.1d	LTA_cfc = 0.007
Source	345 201	Efflue	ent Limit Calc	ulations	
PENTOXSD TRG	5.1f		AML MULT :	= 1.720	
PENTOXSD TRG	5.1g	AVG MON	LIMIT (mg/l):	= 0.013	CFC
		INST MAX	. LIMIT (mg/l) :	= 0.030	
WLA afc	(.019/e(-k*AFC + Xd + (AFC	_tc)) + [(AFC_Yc*Qs*.019/0 Yc*Qs*Xs/Qd)]*(1-FOS/100) d*e(-k*AFC_1	tc))	
LTAMULT afc	EXP((0.5*LN(c)	vh^2+1))-2.326*LN(cvh^2+1)^0.5)		
LTA_afc	wla_afc*LTAMU	JLT_afc	3 80		
WLA_cfc	(.011/e(-k*CFC + Xd + (CFC_	_tc) + [(CFC_Yc*Qs*.011/Q Yc*Qs*Xs/Qd)]*(1-FOS/100	d*e <mark>(-k*CFC_t</mark>	c))	
LTAMULT_cfc	EXP((0.5*LN(c)	vd^2/no_samples+1))-2.32(6*LN(cvd^2/nd	_samples+1)^0.	5)
LTA_cfc	wla_cfc*LTAMU	JLT_cfc			
AML MULT	EXP(2.326*LN	((cvd^2/no_samples+1)^0.5	i)-0.5*LN(cvd/	2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,I	MIN(LTA_afc,LTA_cfc)*AML_	MULT)		
INST MAX LIMIT	1.5*((av_mon_	limit/AML_MULT)/LTAMUL	T_afc)		

ATTACHMENT E: StreamStats Report for Outfall 002

StreamStats Report

Region ID: PA PA20190329195337510000 Workspace ID: Clicked Point (Latitude, Longitude): 40.53132, -79.83875 Time: 2019-03-29 15:53:56 -0400 ford Detroit Chatham ake St Clair Erie Lake Erie Toledo Cleveland Youngstown Akron Å State College • Mansfi eld PENNSYLVAI Pittsburgh Altoona Harrisburg OHIO lumbus ottio

Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	11500	square miles
ELEV	Mean Basin Elevation	1598.2	feet
PRECIP	Mean Annual Precipitation	43.8	inches

Low-Flow Statistics Parameters (97 Percent (11200 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	11500	square miles	2.33	1720
ELEV	Mean Basin Elevation	1598.2	feet	898	2700
PRECIP	Mean Annual Precipitation	43.8	inches	38.7	<mark>47.9</mark>

Low-Flow Statistics Parameters (3 Percent (301 square miles) Low Flow Region 4)

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	11500	square miles	2.26	1400
ELEV	Mean Basin Elevation	1598.2	feet	1050	2580

Low-Flow Statistics Disclaimers (97 Percent (11200 square miles) Low Flow Region 3)

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report (97 Percent (11200 square miles) Low Flow Region 3)

Statistic	Value	Unit
7 Day 2 Year Low Flow	1490	ft^3/s
30 Day 2 Year Low Flow	1890	ft^3/s
7 Day 10 Year Low Flow	987	ft^3/s
30 Day 10 Year Low Flow	1180	ft^3/s
90 Day 10 Year Low Flow	1590	ft^3/s

Low-Flow Statistics Disclaimers (3 Percent (301 square miles) Low Flow Region 4)

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report (3 Percent (301 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1510	ft^3/s
30 Day 2 Year Low Flow	1910	ft^3/s
7 Day 10 Year Low Flow	984	ft^3/s
30 Day 10 Year Low Flow	1070	ft^3/s
90 Day 10 Year Low Flow	1480	ft^3/s
Low-Flow Statistics Flow Report [Area-Averaged]	Value	Unit
7 Day 2 Year Low Flow	1490	ft^3/s
30 Day 2 Year Low Flow	1890	ft*3/s
7 Day 10 Year Low Flow	987	ft^3/s
30 Day 10 Year Low Flow	1180	ft^3/s
00 D 40 V 1 D	10000	1000000

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

ATTACHMENT F: Toxics Screening Analysis Results for Outfall 002

0.07

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.6

CLEAR FORM

Facility: **Oakmont Hulton** Analysis Hardness (mg/L): Stream Flow, Q₇₋₁₀ (cfs):

63.5 2390 NPDES Permit No .: Discharge Flow (MGD):

PA0217905	
0.07	Analysis

Outfall: 002 pH (SU): 7.2

	Parameter	Maxi Appl	imum Concentration in lication or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
2	Total Dissolved Solids		130000	500000	No		
1	Chloride		27200	250000	No		
Ino	Bromide	<	1000	N/A	No		
5	Sulfate		40800	250000	No		
	Fluoride		630	2000	No		
	Total Aluminum		938	750	Yes	7420000	No Limits/Monitoring
	Total Antimony	<	5	5.6	No		
	Total Arsenic	<	5	10	No		
	Total Barium	<	100	2400	No		
	Total Beryllium	<	2	N/A	No		
	Total Boron	<	100	1600	No (Value < QL)		
	Total Cadmium	<	2	0.271	Yes	4181.118	No Limits/Monitoring
	Total Chromium	<	20	N/A	No		
	Hexavalent Chromium	<	5	10.4	No		
	Total Cobalt	<	5	19	No		
2	Total Copper	<	20	9.3	Yes	138629.6	No Limits/Monitoring
dno	Total Cyanide	<	10	N/A	No		
Gre	Total Iron		70	1500	No		
-	Dissolved Iron		30	300	No		
	Total Lead	<	20	3.2	Yes	49154.93	No Limits/Monitoring
	Total Manganese		95	1000	No		i
	Total Mercury	<	0.5	0.05	Yes		
	Total Molybdenum	<	5	N/A	No		8
	Total Nickel	<	20	52.2	No		
	Total Phenols (Phenolics)	<	50	5	Yes	1.20E+07	No Limits/Monitoring
	Total Selenium	<	5	5.0	No (Value < QL)		
	Total Silver	<	5	3.8	Yes	37475.55	No Limits/Monitoring
	Total Thallium	<	2	0.24	No (Value < QL)		
22	Total Zinc	<	20	119.8	No		

ATTACHMENT G: PENTOXSD Modeling Results for Outfall 002

PENTOXSD

Stream Code	RMI	Elevation (ft)	Dra A	linage Area	Slope	PWS V (mg	Vith d)		Ar	ply C				
40400	12.40	7944	(50	q mi)	0 00000		0.00			2	51			
42122	13,40	/ 34.5	v 1'	1300.00	0.00000		0.00		E	-		14		
						10000	Stream D	ata			230		0.00	
	LFY	Trib S Flow	tream Flow	WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	Tributar Hard	ұ pH	Stream Hard	pH	Analysis Hard (l bH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)	824	(mg/L) .		(mg/L)	
Q7-10	0.2078	0	2390	0	0	0	0	0	100	7	0	0	0	0
Qh		0	0	0 0	0	0	0	0	100	7	0	0	0	(
						Di	scharge l	Data						
N	ame	Permit Numbe	Exi D F	sting P lisc low	ermitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
			(11	ngd)	(mgd)	(mgd)						(mg/L)		
Oakm	ont O002	PA02179	05 0	0.07	0	0	0	0.7	0.7	0	0	63.5	7.2	
						Pa	rameter D	Data						
F	Parameter N	Name		Disc Conc	Trib Conc	Disc Daily CV	Disc Hourl CV	s Stean ly Conc	n Stream CV	Fate Coe	FOS	Crit Mod	Max Disc Conc	
<u></u>	0.557		1973	(µg/L)	(µg/L))		(µg/l	.)	(42)			(µg/L)	
ALUMINU	M			938000		0.5	0.5	5 0	0	0	0	1	0	
COPPER	a.			20000	0 0	0.5	0.5	5 0	ō	o	õ	1	õ	
LEAD				20000	0 0	0.5	- 0.5	5 0	0	0	0	1	0	
MERCUR	Y			500	0	0.5	0.6	5 0	0	0	0	1	0	
PHENOL				5E+07	0	0.5	0.5	5 0	0	0	0	1	0	
SILVER				50000	0 0	0.5	i 0.5	5 0	0	0	0	1	0	
SILVER	1923 1923			50000	0	0.5	0.5	5 0	0	0	0	1	0	
SILVER Stream Code	RMI	Elevation (ft)	Drai A	50000 inage trea	0 0 Slope	0.5 PWS W (mgo	i 0.t	5 0	0 Ар F	0 Pely €C	0	1	0	
SILVER Stream Code 42122	RMI 12.90	Elevation (ft) 734.0	Drai A (sc 0 11	50000 inage (rea q mi) 1500.50	0 0 Slope 0.00000	0.5 PWS W (mgo	i 0.5 /ith i) 0.00	5 0	0 Ap	o ply -C	0	1	0	
SILVER Stream Code 42122	RMI 12.90	Elevation (ft) 734.0	Drai A (sc 0 11	50000 inage Area q mi) 1500.50	0 0 Slope 0.00000	0.5 PWS W (mgc	i 0.5 /ith i) 0.00 Stream D:	5 0 ata	0 Ap F	0 Pply C	0	1	0	
SILVER Stream Code 42122	RMI 12.90 LFY	Elevation (ft) 734.0 Trib S Flow	Drai A (so 0 11 tream Flow	50000 inage Vrea q mi) 1500.50 WD Ratio	0 0 Slope 0.00000 Rch Width	0.5 PWS W (mgc S Rch Depth	(ith i) 0.00 Stream D: Rch /elocity	5 0 ata Rch Trav	0 Ap F Jributar Hard	0 Pply C 2 PH	0 <u>Strearr</u> Hard	1 pH	0 <u>Anałysis</u> Hard p	н
SILVER Stream Code 42122	RMI 12.90 LFY (cfsm)	Elevation (ft) 734.0 Trib S Flow (cfs)	Drai A (so 0 11 tream Flow (cfs)	50000 inage trea q mi) 1500.50 WD Ratio) 0 Slope 0.00000 Rch Width (ft)	0.5 PWS W (mgc S Rch Depth \ (ft)	i 0.1 /ith i) 0.00 Stream D: Rch /elocity (fps)	ata Rch Trav Time (days)	0 Ap F <u>Tributar</u> Hard (mg/L)	0 PPly C 2 Y PH	0 <u>Stream</u> Hard (mg/L)	1 2 pH	0 <u>Analysis</u> Hard p (mg/L)	н
SILVER Stream Code 42122	RMI 12.90 LFY (cfsm) 0.2078	Elevation (ft) 734.0 Trib S Flow (cfs)	Dra A (sc 0 11 tream Flow (cfs) 2390.5	50000 inage (rea q mi) 1500.50 WD Ratio) 0 Slope 0.00000 Rch Width (ft) 0	0.5 PWS W (mgc S Rch Depth \ (ft) 0	6 0.5 /ith i) 0.00 Stream D: Rch /elocity (fps) 0	ata Rch Trav Time (days)	0 Ap F Tributar Hard (mg/L) 100	0 Pply C 2 PH 7	0 <u>Stream</u> Hard (mg/L) 0	1 pH 0	0 <u>Anałysis</u> Hard p (mg/L) 0	ьн с
SILVER Stream Code 42122 Q7-10 Dh	RMI 12.90 LFY (cfsm) 0.2078	Elevation (ft) 734.0 Trib S Flow (cfs) 0 2 0	Drai A (so 0 11 tream Flow (cfs) 2390.5 0	50000 inage Vrea q mi) 1500.50 WD Ratio 0 0) 0 Slope 0.000000 Rch Width (ft) 0 0	0.5 PWS W (mgc S Rch Depth \ (ft) 0 0	i 0.5 /ith i) 0.00 itream D: Rch /elocity (fps) 0 0	ata Rch Trav Time (days) 0 0	0 Ap F <u>Tributar</u> Hard (mg/L) 100 100	0 Pply C Z PH 7 7	0 <u>Strearr</u> Hard (mg/L) 0 0	1 pH 0 0	0 <u>Anałysis</u> Hard p (mg/L) 0 0	H
SILVER Stream Code 42122 27-10 2h	RMI 12.90 LFY (cfsm) 0.2078	Elevation (ft) 734.0 Trib S Flow (cfs) 0 : 0	Drai A (sc 0 11 Flow (cfs) 2390.5 0	50000 inage vrea q mi) 1500.50 WD Ratio 0 0) 0 Slope 0.00000 Rch Width (ft) 0 0	0.5 PWS W (mgc S Rch Depth \ (ft) 0 0 Direction	i 0.5 /ith i) 0.00 itream D: Rch /elocity (fps) 0 0 scharge [ata Rch Trav Time (days) 0 0 0	0 App F United Hard (mg/L) 100 100	0 Pply C 2 PH 7 7 7	0 <u>Stream</u> Hard (mg/L) 0 0	1 Ърн 0 0	0 <u>Analysis</u> Hard p (mg/L) 0 0	рН С С
SILVER Stream Code 42122 Q7-10 Qh Na	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 : 0 Permit Number	Drai A (sc 0 11 tream Flow (cfs) 2390.5 0 Exis D Fl	50000 inage (rea q mi) 1500.50 WD Ratio 0 0 0 sting Pe isc low	0 0 Slope 0.000000 Rch Width (ft) 0 0 0 ermitted Disc Flow	0.5 PWS W (mgc S Rch Depth \ (ft) 0 0 0 0 Disc Flow	(ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 Scharge D Reserve Factor	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 App F Tributar Hard (mg/L) 100 100 CFC PMF	0 PPly C 2 PH 7 7 7 THH PMF	Stream Hard (mg/L) 0 0 CRL PMF	1 pH 0 0 Disc Hard	0 <u>Analysis</u> Hard p (mg/L) 0 0 Disc pH	рН (
SILVER Stream Code 42122 Q7-10 Qh N:	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 : 0 Permit Number	Drai A (sc 0 11 tream Flow (cfs) 2390.5 0 2390.5 0 Exis Di Di Fl (m	50000 inage Area g mi) 1500.50 WD Ratio 0 0 0 sting Pe isc low ngd) () 0 Slope 0.00000 Rch Width (ft) 0 0 ermitted Disc Flow (mgd)	0.5 PWS W (mgc S Rch Depth V (ft) 0 0 0 Disc Flow (mgd)	i 0.5 /ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 Scharge I Reserve Factor	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 App F Tributar Hard (mg/L) 100 100 CFC PMF	0 PPly C PH 7 7 7 THH PMF	0 Stream Hard (mg/L) 0 0 0 CRL PMF	1 pH 0 0 Disc Hard (mg/L)	0 <u>Analysis</u> Hard p (mg/L) 0 0 Disc pH	H
SILVER Stream Code 42122 Q7-10 Qh N:	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 2 0 Permit Number	Drai A (scc scc scc scc scc scc scc scc scc sc	50000 inage Vrea q mi) 1500.50 WD Ratio 0 0 sting Pe isc low ngd) (0	0 0 Slope 0.00000 Rch Width (ft) 0 0 ermitted Disc Flow (mgd) 0	0.5 PWS W (mgc S Rch Depth V (ft) 0 0 0 0 Disc Flow (mgd) 0	i 0.5 /ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 scharge I Reserve Factor 0	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 Ap F Tributar Hard (mg/L) 100 100 CFC PMF 0	0 PPIy C PH 7 7 7 THH PMF 0	0 Stream Hard (mg/L) 0 0 CRL PMF	1 pH 0 0 Disc Hard (mg/L) 100	0 Analysis Hard p (mg/L) 0 0 Disc pH 7	ын С
SILVER Stream Code 42122 Q7-10 Qh Na	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 : 0 Permit Number	Drai A (sc 0 11 tream Flow (cfs) 2390.5 0 Exist D D Fl (m	50000 inage Vrea q mi) 1500.50 WD Ratio 0 0 sting Po isc low ngd) (0) 0 Slope 0.00000 Rch Width (ft) 0 0 ermitted Disc Flow (mgd) 0	0.5 PWS W (mgc S Rch Depth V (ft) 0 0 Design Disc Flow (mgd) 0 Pau	i 0.5 (ith i) 0.00 Stream D: Rch (elocity (fps) 0 0 Scharge D Reserve Factor 0 0 0 Charge D Charge D	ata Rch Trav (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 Ap F Tributar Hard (mg/L) 100 100 CFC PMF	0 PPly C Z PH 7 7 7 THH PMF	0 <u>Stream</u> Hard (mg/L) 0 0 CRL PMF	1 pH 0 0 Disc Hard (mg/L) 100	0 Analysis Hard p (mg/L) 0 0 Disc pH 7	Н
SILVER Stream Code 42122 27-10 2h N: F	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 3 0 Permit Number	Drai A (sc (sc (sc (sc) 2390.5 0 2390.5 0 Exis Fi (m	50000 inage vrea q mi) 1500.50 WD Ratio 0 wD sting Pe isc low ngd) 0 0 Disc Conc) 0 Slope 0.00000 Rch Width (ft) 0 0 crmitted Disc Flow (mgd) 0 Trib Conc	0.5 PWS W (mgc S Rch Depth \ (ff) 0 0 0 Design Disc Flow (mgd) 0 Pau Disc Daily CV	i 0.5 (ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 scharge D Reserve Factor 0 rameter D Dourl CV	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 App F Tributar Hard (mg/L) 100 100 CFC PMF 0 Stream	0 PPIY C 2 PH 7 7 7 THH PMF 0 Fate Coef	0 Hard (mg/L) 0 0 CRL PMF 0 FOS	1 pH 0 0 Disc Hard (mg/L) 100 Crit Mod	0 Analysis Hard p (mg/L) 0 0 Disc pH 7 7 Max Disc Conc	н
SILVER Stream Code 42122 27-10 2h N:	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 : 0 Permit Number	Drai A (sc (sc (sc) 11 tream Flow (cfs) 2390.5 0 2390.5 0 Exis Flow (m	50000 inage Vrea q mi) 1500.50 WD Ratio 0 0 sting Pe isc 10w ngd) 0 Disc Conc (µg/L)) 0 Slope 0.00000 Rch Width (ft) 0 0 conc (mgd) 0 Trib Conc (µg/L)	0.5 PWS W (mgc S Rch Depth \ (ft) 0 0 Design Disc Flow (mgd) 0 Pau Disc CV	i 0.5 (ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 scharge D Reserve Factor 0 rameter D Disc Hourl CV	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 App F 100 100 CFC PMF 0 Stream CV	0 PPIY C 2 2 PH 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	0 Stream Hard (mg/L) 0 0 CRL PMF 0 FOS	1 pH 0 Disc Hard (mg/L) 100 Crit Mod	0 Analysis Hard p (mg/L) 0 0 Disc pH 7 7 Max Disc Conc (µg/L)	э Н 4
SILVER Stream Code 42122 27-10 2h N: F ALUMINU	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 : 0 Permit Number	Drai A (sc (sc (sc) 11 tream Flow (cfs) 2390.5 0 2390.5 0 Exis C Exis (m	50000 inage Vrea q mi) 1500.50 WD Ratio 0 0 sting Pe isc 10w ngd) 0 Disc Conc (µg/L) 0) 0 Slope 0.00000 Rch Width (ft) 0 0 conc (µg/L) 0 0	0.5 PWS W (mgc S Rch Depth \ (ft) 0 0 Design Disc Flow (mgd) 0 Pau Disc CV 0.5 0.5	i 0.5 (ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 scharge D Reserve Factor 0 rameter D Disc Hourl CV	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 App F 100 100 100 CFC PMF 0 Stream CV	0 Pply C 2 PH 7 7 7 THH PMF 0 Fate Coel	0 Stream Hard (mg/L) 0 0 CRL PMF 0 FOS	1 pH 0 0 Disc Hard (mg/L) 100 Crit Mod	0 Analysis Hard p (mg/L) 0 0 Disc pH 7 7 Max Disc Conc (µg/L) 0 0	H
SILVER Stream Code 42122 27-10 2h N: F ALUMINU CADMIUM COPPER	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 : 0 Permit Number	Drai A (sc (sc (sc) 11 tream Flow (cfs) 2390.5 0 2390.5 0 Exis C Exis (m	50000 inage Vrea q mi) 1500.50 WD Ratio 0 0 sting Pe isc 10w ngd) 0 Disc Conc (µg/L) 0 0 0) 0 Slope 0.00000 Rch Width (ft) 0 0 cmitted Disc Flow (mgd) 0 Trib Conc (µg/L) 0 0	0.5 PWS W (mgc S Rch Depth \ (ft) 0 0 Disc Flow (mgd) 0 Paily 0 CV 0.5 0.5 0.5	i 0.5 (ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 scharge D Reserve Factor 0 rameter D Disc Hourl CV 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 App F Inibutar Hard (mg/L) 100 100 CFC PMF 0 CFC PMF 0 Stream CV	0 ply C Z pH 7 7 7 THH PMF 0 Fate Coel	0 Stream Hard (mg/L) 0 0 CRL PMF 0 FOS FOS	1 pH 0 0 Disc Hard (mg/L) 100 Crit Mod	0 Analysis Hard p (mg/L) 0 0 Disc pH 7 7 7 Max Disc Conc (µg/L) 0 0 0 0	эн (
SILVER Stream Code 42122 27-10 2h N: P ALUMINU CADMIUM COPPER LEAD	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 3 0 Permit Number	Drai (sc (sc (sc (sc (sc) 2390.5 0 2390.5 0 Exis Exis (m	50000 inage Vrea q mi) 1500.50 WD Ratio 0 0 0 sting Pe isc 150w 150w 0 0 Disc Conc Conc (µg/L) 0 0 0 0 0 0 0 0 0 0 0 0 0) 0 Slope 0.00000 Rch Width (ft) 0 0 cmitted Disc Disc Flow (mgd) 0 Trib Conc (µg/L) 0 0 0	0.5 PWS W (mgc S Rch Depth \ (ft) 0 0 Design Disc Flow (mgd) 0 Pau Disc Daily CV 0.5 0.5 0.5 0.5	i 0.5 (ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 Scharge D Reserve Factor 0 rameter D Discr CV 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 App F 100 100 100 CFC PMF 0 Stream CV) 0 0 0 0 0 0	0 PPIY C Z PH 7 7 7 THH PMF 0 Fate Coel 0 0 0 0	0 Stream Hard (mg/L) 0 0 CRL PMF 0 FOS 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 pH 0 0 Disc Hard (mg/L) 100 Crit Mod	0 Analysis Hard p (mg/L) 0 0 Disc pH 7 7 Max Disc Conc (µg/L) 0 0 0 0 0	H
SILVER Stream Code 42122 27-10 2h N: P ALUMINU COPPER LEAD MERCURY	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 3 0 Permit Number	Drai (sc (sc (sc (sc (sc 2390.5 0 2390.5 0 Exis Fi (m	50000 inage Vea q mi) 1500.50 WD Ratio 0 0 0 sting Pe isc 150w 150w 150w 0 0 0 0 0 0 0 0 0 0 0 0 0) 0 Slope 0.00000 Rch Width (ft) 0 0 crmitted Disc Flow (mgd) 0 Trib Conc (µg/L) 0 0 0 0 0	0.5 PWS W (mgc S Rch Depth V (ff) 0 0 Disc Flow (mgd) 0 Pau Disc Daily CV CV 0.5 0.5 0.5 0.5 0.5	i 0.5 (ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 scharge D Reserve Factor 0 rameter D Discr Hour CV 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 Ap F Inibutar Hard (mg/L) 100 100 CFC PMF 0 CFC PMF 0 Stream CV) 0 0 0 0 0 0 0	0 Pply C Z PH 7 7 7 THH PMF 0 Fate Codel 0 0 0 0 0 0 0 0 0 0 0 0 0	0 Stream Hard (mg/L) 0 0 CRL PMF 0 FOS 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 pH 0 0 Disc Hard (mg/L) 100 Crit Mod 1 1 1 1	0 Analysis Hard p (mg/L) 0 0 Disc pH 7 7 7 Max Disc Conc (µg/L) 0 0 0 0 0 0	H
SILVER Stream Code 42122 27-10 2h N: 20-10 2h N: P ALUMINU COPPER LEAD MERCUR? PHENOL	RMI 12.90 LFY (cfsm) 0.2078 ame	Elevation (ft) 734.0 Trib S Flow (cfs) 0 3 0 Permit Number	Drai A (sc (sc (sc (sc 2390.5 0 2390.5 0 Exis Fi (m	50000 inage Vea q mi) 1500.50 WD Ratio 0 0 0 sting Pe isc 1500 0 0 0 0 0 0 0 0 0 0 0 0) 0 Slope 0.00000 Rch Width (ft) 0 0 crmitted Disc Flow (mgd) 0 Trib Conc (µg/L) 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 PWS W (mgc S Rch Depth V (ff) 0 0 Design Disc Flow (mgd) 0 Pau Disc Daily CV 0.5 0.5 0.5 0.5 0.5 0.5	i 0.5 (ith i) 0.00 Stream D: Rch /elocity (fps) 0 0 Scharge D Reserve Factor 0 rameter D Discr Hour CV 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	ata Rch Trav Time (days) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 Ap F Inibutar Hard (mg/L) 100 100 CFC PMF 0 CFC PMF 0 Stream CV) 0 0 0 0 0 0 0 0 0 0	0 Pply C Z PH 7 7 7 THH PMF 0 Fate Code 0 0 0 0 0 0 0 0 0 0 0 0 0	0 Stream Hard (mg/L) 0 0 CRL PMF 0 FOS 5 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 pH 0 0 Disc Hard (mg/L) 100 Crit Mod 1 1 1 1 1 1	0 Analysis Hard p (mg/L) 0 0 0 Disc pH 7 7 7 Max Disc Conc (µg/L) 0 0 0 0 0 0 0 0 0	эH (

Hydrodynamics

S	WP Basi	1	Stream	n Code:			Stream	m Name	1		
	18A		42	122			ALLEGH	ENY RI\	/ER		
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
					Q7	-10 Hyd	Irodyna	mics			00000
13.404	2390	Q	2390	0.10829	0.0002	0.8563	1452.2	1696.0	1.9221	0.0159	1000+
12.904	2390.5	0	2390.5	NA	0	0	0	0	0	0	NA
					Q	h Hydr	odynan	nics			
13.404	6663.6	c	6663.6	0.10829	0.0002	1.3444	1452.2	1080.2	3.4130	0.009	1000+
12.904	6664.8	Q	6664.8	NA	0	0	0	0	. 0	0	NA

		Was	teload Allo	ocations			
Name	Permit Number	8					
Oakmont O002	PA0217905	- 546					
			AFC				
-10: CCT (m	in) 15 PI	WF 0.699	Analysis	spH 7	Analysis	Hardness	99.997
Parameter	Strea Co (µg	am Strea nc CV /L)	m Trib / Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
CADAGEMA			0	0	2 014	2 133	32957.46
CADIMION	Dissol	WOC	Chemical Ir	anelator of (2.014 944 applied	2.100	02001110
0000070	LISSO	VEU VIQO	. Chemical u		12 / 20	13 000	216284 5
GOPPER	Direct	00000	Observiced in	oveleter of (10.400	10.000	210204.0
	Dissoi	ved wuuc	. Chemical tr	ansiator or o	ex co	01 843	1250000
LEAD	0	0	0	U-	09.00	01.045	1200000
	Dissol	ved wuc	Chemical tr	ansiator or u	J.791 applied	1.047	26447 49
MERCURY	0	0	0	0	1,4	1.047	20441.40
10/0707-07022-070	Dissoi	wed WQC	, Chemical tr	ansiator of (0.85 applied.	0.704	50407.00
SILVER	0	0	0	0	3.217	3.784	58467.89
	Disso	ved WQC	Chemical tr	anslator of	0.85 applied.		
PHENOL	0	0	0	0	NA	NA	NA
ALUMINUM	0	0	0	0	750	750	1.158E+07
			CFC				
CCT (mi	n) 720 l	PMF 0.69	9 Analysi:	spH 7	Analysi	s Hardness	99.997
Parameter	Strea	m Stre c. C	am Trib V Conc.	Fate Coef	WQC	WQ Obj	WLA
	(µg/	L)	(µg/L)	2	(µg/L)	(hð/r)	(hð\r)
CADMIUM	0	0	0	0	0.246	0.271	4181.118
	Disso	lved WQC	. Chemical tr	anslator of	0.909 applied	£	
COPPER	0	0	0	0	8.956	9.329	144131.1
	Disso	ved WQC	. Chemical tr	anslator of	0.96 applied.		
LEAD	0	0	0	0	2.517	3.181	49154.93
	Disso	lved WQC	Chemical tr	anslator of	0.791 applied	i.	
MERCURY	0	0	0	0	0.77	0.906	13996.11
	Disso	lved WQC	Chemical tr	anslator of	0.85 applied.		
SILVER	0	0	0	0	NA	NA	NA
PHENOL	o	0	0	0	NA	NA	NA
ALUMINUM	0	0	D	0	NA	NA	NA
	Name Oakmont 0002 10: CCT (m Parameter CADMIUM COPPER LEAD MERCURY SILVER PHENOL ALUMINUM CCT (mi Parameter CADMIUM COPPER LEAD MERCURY SILVER PHENOL ALUMINUM	Name Permit Number Oakmont O002 PA0217905 10: CCT (min) 15 PI Parameter Co Co Parameter Co Dissoi COPPER 0 Dissoi LEAD 0 Dissoi MERCURY 0 Dissoi SILVER 0 Dissoi PHENOL 0 Dissoi CCT (min) 720 M Parameter Con Dissoi COPPER 0 Dissoi CCT (min) 720 M Parameter Con Dissoi COPPER 0 Dissoi CIEAD 0 Dissoi LEAD 0 Dissoi CIEAD 0 Dissoi SILVER 0 Dissoi SILVER 0 Dissoi PHENOL 0 Dissoi	Name Permit Number Oakmont 0002 PA0217905 10: CCT (min) 15 PMF 0.699 Parameter Conc CV (µg/L) CADMIUM 0 0 Dissolved WQC 0 0 LEAD 0 0 MERCURY 0 0 SILVER 0 0 PHENOL 0 0 ALUMINUM 0 0 COPPER 0 0 Dissolved WQC 0 0 ALUMINUM 0 0 Dissolved WQC 0 0 COPPER 0 0 Dissolved WQC 0 0 COPPER 0 0 Dissolved WQC 0 0 CADMIUM 0 0 Dissolved WQC 0 0 COPPER 0 0 Dissolved WQC 0 0 Dissolved WQC 0	Name Permit Number Oakmont O002 PA0217905 10: CCT (min) 15 PMF 0.699 Analysis Parameter Conc CV Conc CV Conc CADMIUM 0 0 0 0 0 LEAD 0 0 0 0 0 Dissolved WQC. Chemical tr Dissolved WQC. Chemical tr SILVER 0 0 0 0 0 ALUMINUM 0 0 0 0 0 0 0 0	Name Permit Number Oakmont 0002 PA0217905 AFC AFC 10: CCT (min) 15 PMF 0.699 Analysis pH 7 Parameter Conc CV Conc Conc Conc CO 0 0 CADMIUM 0 0 0 0 0 0 0 CADMIUM 0 0 0 0 0 0 0 CADMIUM 0 0 0 0 0 0 0 LEAD 0 0 0 0 0 0 0 MERCURY 0 0 0 0 0 0 0 MERCURY 0 0 0 0 0 0 0 SILVER 0 0 0 0 0 0 0 ALUMINUM 0 0 0 0 0 0 0 Dissolved	Wasteload Allocations Name Permit Number Oakmont 0002 PA0217905 AFC 10: CCT (min) 15 PME 0.699 Analysis pH 7 Analysis Parameter Stream Stream Trib Fate WQC CADMIUM 0 0 0 0 2.014 Dissolved WQC Chemical translator of 0.944 applied COPER 0 0 0 0.46.58 Dissolved WQC Chemical translator of 0.96 applied. D.9 0.9 0.9 1.4 Dissolved WQC Chemical translator of 0.96 applied. D.9 0.9 0 1.4 Dissolved WQC Chemical translator of 0.85 applied. D.9 0.0 0 0.0 MERCURY 0 0 0 0 0 0.0 NA ALUMINUM 0 0 0 0 0 0 0.0 0.0 CCT (min) 720 PMF 0.699 Anal	Wasteload Allocations Name Permit Number Oakmont 0002 PA0217905 Action 0002 PA0217905 Stream Stream Stream Trib Fate WQC WQ Parameter CCT (min) 15 PMF 0.699 Analysis pH 7 Analysis Hardness Parameter Conc CV Conc Coef Ug/L Ug/L CADMIUM 0 0 0 0 2.014 2.133 Dissolved WQC Chemical translator of 0.944 applied. COPPER 0 0 0 3.399 Dissolved WQC Chemical translator of 0.791 applied. Dissolved WQC Chemical translator of 0.85 applied. LEAD 0 0 0 0 0 3.217 3.784 Dissolved WQC Chemical translator of 0.85 applied. Dissolved WQC Chemical translator of 0.85 applied. LEAD 0 0 0 0 0 0 2.217 3.784 Dissolved WQC

PENTOXSD Analysis Results

Wasteload Allocations

RMI	Name	Permit Number				4		
13.40	Oakmont 0002	PA0217905	-			13		
			т	нн				
Q7-10:	CCT (min)	720 PN	IF NA	Analysi	spH NA	Analysi	s Hardness	NA
	Parameter	Stream Conc (µg/L	n Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
	CADMIUM	0	o	0	0	NA	NA	NA
	COPPER	0	0	0	0	NA	NA	NA
	LEAD	0	0	0	0	NA	NA	NA
	MERCURY	0	0	0	0	0.05	0.05	57.562
	SILVER	0	0	0	0	NA	NA	NA
	PHENOL	0	o	0	0	10400	10400	1.197E+07
	ALUMINUM	0	0	0	0	NA	NA	NA
			c	RL				
Qh:	CCT (min)	720 PN	NF 0.073					
	Parameter	Stream Conc (µg/L	n Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
	CADMIUM	0	0	0	0	NA	NA	NA
	COPPER	0	0	0	0	NA	NA	NA
	LEAD	0	0	0	o	NA	NA	NA
	MERCURY	0	0	0	0	NA	NA	NA
	SILVER	0	٥	0	0	NA	NA	NA
	PHENOL	0	0	0	0	NA	NA	NA
	ALUMINUM	0	0	0	0	NA	NA	NA

PENTOXSD Analysis Results	

SWP Basin	Stream Code	() ()	15	Stream	Name:		
18A	42122			ALLEGHE	NY RIVER		
RMI	Name	Per Nur	rmit mber	Disc Flov (mgd)	v		
13.40	Oakmont O002	PA02	17905	0.0700			
		Effluent			Max. Daily	Most S	tringent
P	arameter	(µg/L)	Gove Crite	erning erion	Limit (µg/L)	WQBEL (µg/L)	WQBEL Criterion
ALUMINUM		7420000	AF	≂c	1.158E+07	7420000	AFC
CADMIUM		4181.118	CF	⁼C	6523.216	4181.118	CFC
COPPER		138629.6	AF	≓C	216284.5	138629.6	AFC
LEAD		49154.93	CF	FC	76689.6	49154.93	CFC
MERCURY		57.562	T⊢	HH .	89.805	57.562	THH
PHENOL		1.197E+07	TH	HH .	1.867E+07	1.197E+07	THH
SILVER		37475.55	AF	C	58467.88	37475.55	AFC

ATTACHMENT H: TRC Modeling Results for Outfall 002

TRC EVALUATION

239 0.0 0	00 = Q stream (cf 07 = Q discharge 4 = no. samples 3 = Chlorine Den 0 = Chlorine Den 5 = BAT/BPJ Val 0 = % Factor of 1	s) (MGD) nand of Stream nand of Discharge ue Safety (FOS)	0.5 0.5 0.7 0.7 0.7 0 0 0 0	= CV Daily = CV Hourly = AFC_Partial M = CFC_Partial M = AFC_Criteria = CFC_Criteria =Decay Coeffic	lix Factor lix Factor Compliance Time (min) Compliance Time (min) ient (K)
Source	Reference	AFC Calculations		Reference	CFC Calculations
TRC PENTOXSD TRG PENTOXSD TRG	1.3.2.iii 5.1a 5.1b	WLA afc = LTAMULT afc = LTA_afc=	4928.332 0.373 1836.414	1.3.2.iii 5.1c 5.1d	WLA cfc = 4804.730 LTAMULT cfc = 0.581 LTA_cfc = 2793.245
Source		Efflue	nt Limit Calcu	lations	
PENTOXSD TRG PENTOXSD TRG	5.1f 5.1g	AVG MON INST MAX	AML MULT = LIMIT (mg/l) = LIMIT (mg/l) =	1.720 0.500 1.170	BAT/BPJ
WLA afc LTAMULT afc LTA_afc	(.019/e(-k*AFC + Xd + (AFC_ EXP((0.5*LN(c wla_afc*LTAML	_tc)) + [(AFC_Yc*Qs*.019/Q Yc*Qs*Xs/Qd)]*(1-FOS/100) /h^2+1))-2.326*LN(cvh^2+1) JLT_afc	d*e(-k*AFC_t a ^0.5)	c))	
WLA_cfc	(.011/e(-k*CFC_ + Xd + (CFC_ EXP((0.5*LN(c	_tc) + [(CFC_Yc*Qs*.011/Qd Yc*Qs*Xs/Qd)]*(1-FOS/100) /d^2/no_samples+1))-2.326	*e(-k*CFC_tc)) _sam <mark>ples</mark> +1)^0.:	5)
AML MULT AVG MON LIMIT INST MAX LIMIT	EXP(2.326*LN MIN(BAT_BPJ, 1.5*((av_mon_	/LI_CTC ((cvd^2/no_samples+1)^0.5) MIN(LTA_afc,LTA_Cfc)*AML_ imit/AML_MULT)/LTAMULT	-0.5*LN(cvd^2 MULT) _afc)	2/no_samples+1))

ATTACHMENT I: StreamStats Report for Outfall 003

StreamStats Report

Region ID: PA Workspace ID: PA20190329123518303000 40.53172, -79.83790 Clicked Point (Latitude, Longitude): 2019-03-29 08:35:37 -0400 Time: ford Detroit • Chatham ake St Clair Erie Lake Erie Toledo Cleveland Youngstown Akron State College • Mansfield PENNSYLVAN Pittsburgh Altoona Harrisburg OHIO lumbus Ohio

Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	11500	square miles
ELEV	Mean Basin Elevation	1598.3	feet
PRECIP	Mean Annual Precipitation	43.8	inches

Low-Flow Statistics Parameters (97 Percent (11200 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	11500	square miles	2.33	1720
ELEV	Mean Basin Elevation	1598.3	feet	898	2700
PRECIP	Mean Annual Precipitation	43.8	inches	38.7	47.9

Low-Flow Statistics Parameters [3 Percent (301 square miles) Low Row Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	11500	square miles	2.26	1400
ELEV	Mean Basin Elevation	1598.3	feet	1050	2580

Low-Flow Statistics Disclaimers [97 Percent (11200 square miles) Low Flow Region 3]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [97 Percent (11200 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1490	ft^3/s
30 Day 2 Year Low Flow	1890	ft^3/s
7 Day 10 Year Low Flow	987	ft^3/s
30 Day 10 Year Low Flow	1180	ft^3/s
90 Day 10 Year Low Flow	1590	ft^3/s

NPDES Permit Fact Sheet Oakmont Municipal Authority Hulton Purification Plant

Low-Flow Statistics Disclaimers [3 Percent (301 square miles) Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [3 Percent (301 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1510	ft^3/s
30 Day 2 Year Low Flow	1910	ft^3/s
7 Day 10 Year Low Flow	984	ft^3/s
30 Day 10 Year Low Flow	1070	ft^3/s
90 Day 10 Year Low Flow	1480	ft^3/s
Statistic	Value	Unit
7 Day 2 Year Low Flow	1490	ft^3/s
30 Day 2 Year Low Flow	1890	ft^3/s
7 Day 10 Year Low Flow	987	ft^3/s
30 Day 10 Year Low Flow	1180	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

ATTACHMENT J: Toxics Screening Analysis Results for Outfall 003

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.6

CLEAR FORM

Facility: Oakmont Hulton	NPDES Permit No.:	PA0217905	Outfall:	003
Analysis Hardness (mg/L): 66.5	Discharge Flow (MGD):	0.3	Analysis pH (SU):	7.1
Stream Flow, Q7-10 (cfs): 2390				

	Parameter Maximum Applicatio		imum Concentration in lication or DMRs (µg/L)	m Concentration in Most Stringent tion or DMRs (μg/L) Criterion (μg/L) Ρ		Most Stringent WQBEL (µg/L)	Screening Recommendation
· · ·	Total Dissolved Solids		140000	500000	No		
10	Chloride		27400	250000	No		
no	Bromide	<	1000	N/A	No		
5	Sulfate		42200	250000	No		
20	Fluoride		740	2000	No		
	Total Aluminum		300	750	No		
	Total Antimony	<	5	5.6	No		6
	Total Arsenic	<	5	10	No		
	Total Barium	<	100	2400	No		
	Total Beryllium	<	2	N/A	No		
	Total Boron	<	100	1600	No (Value < QL)		1
	Total Cadmium	<	2	0.271	Yes	975.752	No Limits/Monitoring
	Total Chromium	<	20	N/A	No		
	Hexavalent Chromium	<	5	10.4	No		
	Total Cobalt	<	5	19	No		
2	Total Copper	<	20	9.3	Yes	32351.68	No Limits/Monitoring
dn	Total Cyanide	<	10	N/A	No	5	
Gro	Total Iron		30	1500	No		
-	Dissolved Iron		20	300	No		
	Total Lead	<	20	3.2	Yes	11470.91	No Limits/Monitoring
	Total Manganese		120	1000	No		
	Total Mercury	<	0.5	0.05	Yes	13.469	No Limits/Monitoring
	Total Molybdenum	<	5	N/A	No		
	Total Nickel	<	20	52.2	No		
	Total Phenols (Phenolics)		170	5	Yes	2800000	No Limits/Monitoring
	Total Selenium	<	5	5.0	No (Value < QL)		
	Total Silver	<	5	3.8	Yes	8745.112	No Limits/Monitoring
	Total Thallium	<	2	0.24	No (Value < QL)		-
6	Total Zinc	<	20	119.8	No		

ATTACHMENT K: PENTOXSD Modeling Results for Outfall 003

PENTOXSD

							Mod	leling Ing	out Data	Ř	1201020110				111102
Stream Code	RMI	Elevatio (ft)	'n	Drainage Area (so mi)	0	Slope	PWS V (mg	Vith (d)		Ar I	oply FC				
42122	13.43	734	.50	11500.	00	0.00000		0.00		6	2				
								Stream Da	ita						10
	LFY	Trib Flow	Stre Fk	oam W ow Ra	D tio	Rch Width	Rch Depth	Rch Velocity	Rch Trav	<u>Tributar</u> Hard	у рН	<u>Stream</u> Hard	pH	<u>Analysi</u> Hard	<u>s</u> pH
	(cfsm)	(cfs)	(C	fs)		(ft)	(ft)	(fps)	(days)	(mg/L)	3	(mg/L)	i.	(mg/L)	
Q7-10	0.2078	0	2	390	0	0	0	Q	0	100	7	0	0	0	0
Qh		0		0	0	0	0	o	0	100	7	0	0	0	0
						01 3	D	ischarge D	ata	+		Carlos Carlos		20	
N	lame	Permi Numb	it er	Existing Disc Flow	Pe	rmitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
58				(mgd)	(mgd)	(mgd)						(mg/L)		
Oakn	nont 003	PA0217	905	0.3		0	0	0	0.7	0.7	0	0	66.5	7.1	-
							Pa	arameter D	ata						
5	Parameter N	lame		Dis Co	ic nc	Trib Conc	Disc Daily CV	Disc Hourly CV	Steam Conc	Stream	Fate Coef	FOS	Crit Mod	Max Disc Conc	
CADAMIN			1993	(µg/	L)	(µg/L)		= 05	(µg/1	.)	0	0	4	(µg/L)	
COPPER	n			200	000	0	0.9	5 0.5 5 0.5	0	0	0	ō	1	o	
LEAD	12			200	000	0	0.9	5 0.5	0	0	0	0	1	0	
MERCUR	Y			5	0	0	0.9	5 0.5	0	0	0	0	1	0	
PHENOL				1.78	+07	0	0.8	5 0.5	0	0	0	0	1	0	
SILVER			2017	500	000	0	0.0	5 0.5	0	0	0	0	1	0	
Stream Code	RMI	Elevatio (ft)	n	Drainag Area (sq mi)	¢)	Slope	PWS (m)	With gd)		A	pply FC	<u>10</u> 9			
46126	12.35	7.34		11300.	30	0.00000	ŝ.	0.00	12200		M)				
		-	2338	000 8		1201		Stream D:	ata	-		220.000		1253520	220
	LFY	Flow	Fl	eann W ow Ra	atio	Width	Rch Depth	Rch Velocity	Rch Trav Time	Hard	PH PH	Strear Hard	pH	Analys Hard	pH
-	(cisin)	(CIS)	(C	rs)	263	(11)	(11)	(ips)	(days)	(mg/L)	199	(mg/L)	3857	(mg/L)	00
27-10	0.2079	0	23	90.5	0	0	0	0	0	100	7	0	0	0	
Qh	163	0		0	0	0	0	0	0	100	7	0	0	0	- 8
							D	ischarge D	Data						
N	lame	Permi Numb	it er	Existing Disc Flow	Pe	rmitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH	CRL PMF	Disc Hard	Disc pH	
				(mgd)	(mgď)	(mgd)		Derror and				(mg/L))	222
													100	7	
87				0		0	0	0	0	0	0	Q	100	00.00	
				0	;	0	0 Pi	0 arameter D	0)ata	0	0	O	100		
F	Parameter M	Name		0 Dis Co	sc nc	0 Trib Conc	0 Pa Dise Daily CV	0 arameter D c Disc / Hourl / CV	0 Data Stear y Con	0 n Stream c CV	0 Fate Coe	o FOS	Crit	d Disc Conc	
F	^D arameter M	Name		0 Dis Co (µg)	sc nc /L)	0 Trib Conc (µg/L)	0 Disc Daily CV	0 arameter D c Disc / Houri / CV	0 Data Stear y Con (µg/	0 n Stream c CV L)	0 Fate Coe	o FOS of	Crit	Max d Disc Conc (µg/L)	
F	Parameter M	Name		0 Dia Co (µg)	sc nc /L)	0 Trib Conc (µg/L) 0	0 Disc Daily CV)	0 arameter D c Disc / Houri / CV 5 0.5	0 Data Stear y Con (µg/ i 0	0 n Stream c CV L) 0	0 Fate Coe	e FOS	Crit Mo	Max d Disc Conc (µg/L) 0	
CADMIUN	Parameter M	l ame		0 Dis Co (µg	sc nc /L) 0	0 Trib Conc (µg/L) 0 0	0 Pic Disc Daily CV) 0.	0 arameter Disc / Houri / CV 5 0.5 5 0.5	0 Data Stear y Con (µg/ i 0 0 0	0 n Stream c CV L) 0 0	0 Fate Coe	FOS of 0 0	Crit Mo	Max d Disc Conc (µg/L) 0	
F CADMIUN COPPER LEAD	Parameter M	Name		O Dis Co (µg)	sc nc /L) 0 0	0 Trib Conc (µg/L) 0 0	0 Disc Daily CV) 0. 0.	0 arameter E c Disc / Houri / CV 5 0.5 5 0.5 5 0.5	0 Stear y Con (µg/ i 0 i 0	0 n Stream c CV L) 0 0	0 Fate Coe 0 0 0	0 FOS of 0 0 0	Crit Mo	d Disc Conc (µg/L) 0 0	
CADMIUN COPPER LEAD MERCUR PHENOI	Parameter M A Y	l ame		O Dis Co (µg	sc nc /L) 0 0 0	0 Trib Conc (µg/L) 0 0 0 0	0 Pis Daily CV) 0. 0. 0.	0 arameter D c Disc / Houri / CV 5 0.5 5 0.5 5 0.5 5 0.5	0 Data Stear y Con (µg/ i 0 i 0 i 0	0 n Stream c CV L) 0 0 0 0	0 Fate Coe 0 0 0 0	0 FOS of 0 0 0 0	Crit Mo 1 1 1	Max d Disc Conc (µg/L) 0 0 0 0	

62

Hydrodynamics

S	WP Basin	1	Stream	n Code:			Stream	m Name	:		
	18A		42	122			ALLEGH	ENY RIV	/ER		
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
					Q7	-10 Hyd	irodyna	mics			
13.434	2390	0	2390	0.4641	0.0002	0.8562	1452.5	1696.4	1.9223	0.0159	1000+
12.934	2390.5	C	2390.5	NA	0	0	0	0	0	0	NA
					Q	h Hydr	odynan	nics			
13.434	6663.6	C	6663.6	0.4641	0.0002	1.3443	1452.5	1080.5	3.4131	0.009	1000+
12,934	6664.8	C	6664.8	NA	0	0	0	0	0	0	NA

Wasteload Allocations

RMI	Name	Permit No	umber						
13.43	Oakmont 003	PA0217	905						
					AFC				
Q7-1	0: CCT (min	ı) 15	PMF	0.699	Analysis	pH 7	Analysis	Hardness	99.99
	Parameter		Stream Conc (µg/L)	Stream CV	n Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WILA (µg/L)
	CADMIUM		0	0	0	o	2.014	2.133	7691.167
			Dissolved	WQC.	Chemical tra	anslator of	0.944 applied		
	COPPER		0	0	0	0	13.438	13.998	50473.82
	100 00 00 00 00 00 00 00 00 00 00 00 00	i	Dissolved	WQC.	Chemical tra	anslator of	0.96 applied.		0.000
	LEAD		0	0	0	0	64.575	81.635	294363.2
			Dissolved	WQC.	Chemical tra	anslator of	0.791 applied	100.00000000	
	MERCURY		0	0	0	0	1.4	1.647	5939.008
			Dissolved	WQC.	Chemical tra	anslator of	0.85 applied.		
	SILVER		0	0	0	0	3.216	3.784	13643.78
		02	Dissolved	WQC.	Chemical tra	anslator of	0.85 applied.		
	PHENOL		0	0	0	0	NA	NA	NA
					CFC				
Q7-10:	CCT (min)	720	PMF	0.699	Analysis	pH 7	Analysis	s Hardness	99.99
			Stream	Stream	m Trib	Fate	WQC	WQ	WLA
	Parameter		Conc. (µg/L)	ÇV	Conc. (µg/L)	Coet	(µg/L)	(µg/L)	(µg/L)
	CADMIUM	-	0	0	0	0	0.246	0.271	975.752
			Dissolved	WQC.	Chemical tra	ansiator of	0.909 applied	2000000 	
	COPPER		0	0	0	0	8.955	9.328	33635.75
			Dissolved	WQC.	Chemical tra	anslator of	0.96 applied.		
	LEAD		0	0	0	0	2.516	3,181	11470.91
			Dissolved	WQC.	Chemical tra	anslator of	0.791 applied		
	MERCURY		0	D	0	0	0.77	0.906	3266.454
			Dissolved	WQC.	Chemical tra	anslator of	0.85 applied.		
	SILVER		0	D	0	.0	NA	NA	NA

Wasteload Allocations

RMI	Name	Permit Number							
13.43	Oakmont 003	PA02	17905						
				1	нн				
Q7-10:	CCT (min)	720	PMF	NA	Analysi	spH NA	Analysi	s Hardness	NA
¥.	Parameter	68	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
u ann an Ann	CADMIUM		0	0	0	0	NA	NA	NA
	COPPER		0	0	0	0	NA	NA	NA
	LEAD		0	0	0	0	NA	NA	NA
	MERCURY		0	0	0	0	0.05	0.05	13.469
	SILVER		0	0	O	0	NA	NA	NA
	PHENOL		0	0	o	0	10400	10400	2800000

					5.1250				
Qh:	CCT (min)	720	PMF	0.073					
	Parameter		Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
	CADMIUM		0	0	0	0	NA	NA	NA
	COPPER		0	0	0	0	NA	NA	NA
	LEAD		0	0	0	0	NA	NA	NA
	MERCURY		0	0	0	0	NA	NA	NA
	SILVER		0	0	0	0	NA	NA	NA
	PHENOL		0	0	0	0	NA	NA	NA

Recommended Effluent Limitations Stream Name: SWP Basin Stream Code: ALLEGHENY RIVER 42122 18A RMI Name Permit Disc Flow Number (mgd) PA0217905 0.3000 Oakmont 003 13.43 Most Stringent Effluent Max. Daily Limit Limit Governing WQBEL WQBEL Parameter Criterion (µg/L) (ug/L) (µg/L) Criterion 1522.329 975.752 CFC CFC CADMIUM 975.752 AFC COPPER 32351.68 AFC 50473.82 32351.68 11470.91 CFC 17896.47 11470.91 CFC LEAD 13.469 THH THH 21.013 13.469 MERCURY 4370000 2800000 THH 2800000 THH PHENOL AFC 13643.78 8745.112 SILVER 8745.112 AFC

ATTACHMENT L: TRC Modeling Results for Outfall 003

TRC EVALUATION

239 0. 0. 0.	0 = Q stream (cf 3 = Q discharge 4 = no. samples 3 = Chlorine Den 0 = Chlorine Den 5 = BAT/BPJ Val 0 = % Factor of S	s) (MGD) nand of Stream nand of Discharge ue Safety (FOS)	0.5 = CV Daily 0.5 = CV Hourly 0.7 = AFC_Partial Mix Factor 0.7 = CFC_Partial Mix Factor 0 = AFC_Criteria Compliance Time (min) 0 = CFC_Criteria Compliance Time (min) 0 = Decay Coefficient (K)							
Source	Reference	AFC Calculations		Reference	CFC Calculations					
TRC PENTOXSD TRG PENTOXSD TRG	1.3.2.iii 5.1a 5.1b	WLA afc = LTAMULT afc = LTA_afc=	1149.959 0.373 428.502	1.3.2.iii 5.1c 5.1d	WLA cfc = 1121.112 LTAMULT cfc = 0.581 LTA_cfc = 651.762					
Source		Effluer	nt Limit Calcu	lations						
PENTOXSD TRG PENTOXSD TRG	5.1f 5.1g	AVG MON I INST MAX I	AML MULT = LIMIT (mg/l) = LIMIT (mg/l) =	1.720 0.500 1.170	BAT/BPJ					
WLA afc LTAMULT afc LTA_afc	(.019/e(-k*AFC_ + Xd + (AFC_' EXP((0.5*LN(c) wla_afc*LTAML	_tc)) + [(AFC_Yc*Qs*.019/Qd Yc*Qs*Xs/Qd)]*(1-FOS/100) /h^2+1))-2.326*LN(cvh^2+1) JLT_afc	d*e(-k*AFC_to ^0.5)	c))						
WLA_cfc	(.011/e(-k*CFC + Xd + (CFC_	_tc) + [(CFC_Yc*Qs*.011/Qd Yc*Qs*Xs/Qd)]*(1-FOS/100)	*e(-k*CFC_tc))						
LTAMULT_cfc LTA_cfc	EXP((0.5*LN(cv wla_cfc*LTAMU	/d^2/no_samples+1))-2.326* JLT_cfc	*LN(cvd^2/no_	_samples+1)^0.	5)					
AML MULT AVG MON LIMIT INST MAX LIMIT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1)) MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT) 1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)									