pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0253162**
Facility Type	**Industrial**	APS ID	**1020830**
Major / Minor	**Minor**	Authorization ID	**1322255**

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

Applicant and Facility Information

Applicant Name	**Iron Cumberland, LLC**	Facility Name	**Alicia Harbor Facility**
Applicant Address	855 Kirby Road	Facility Address	299 Alicia Road
	Waynesburg, PA 15370		Greensboro, PA 15338
Applicant Contact	Noah Beazell	Facility Contact	Brittany N. Thompson
Applicant Phone	724-395-3231	Facility Phone	724-395-3238
Client ID	329531	Site ID	532876
SIC Code	4491	Municipality	Monongahela Township
SIC Description	Marine Cargo Handling	County	Greene
Date Application Received	July 31, 2020	EPA Waived?	Yes
Date Application Accepted	August 4, 2020	If No, Reason	

Purpose of Application: NPDES permit renewal and name change.

Summary of Review

The permittee is changing its name as well as renewing its NPDES permit. The permittee submitted a Notice of Intent (NOI) to transfer and amend NPDES Permit PA0253162 for Discharges of Industrial Wastewater. Also being transferred is the WQM Part II Permit (#3076405) for the small flow sewage treatment plant, and WQM Part II Permit (#3016200) for the recently modified sedimentation basin (Pond SW-1). These transfers are for a name change only. Ownership remains the same. The name change occurred on April 8, 2021.

The current permits are issued to:
Cumberland Contura, LLC
855 Kirby Road
PO Box 1020
Waynesburg, PA 15370

Contact Person:
Noah Beazell – Environmental Compliance Manager
724-395-3231
NBeazell@ironsenergy.com

For a facility located at:
299 Alicia Road
Greensboro, PA 15338

The permits are being transferred to:
Iron Cumberland, LLC
855 Kirby Road
PO Box 1020
Waynesburg, PA 15370

The permittee's NAICS Code is 213 – Support Activities for Coal Mining

Approve	Deny	Signatures	Date
X		Mark S. Okrutny / Environmental Engineering Specialist	March 15, 2022
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	March 29, 2022

Summary of Review

The Iron Cumberland Alicia Harbor Facility is a harbor barge load-out facility for coal with a sewage treatment plant on-site. Coal is taken from rail cars and put on a conveyer that loads the coal onto barges. The rail car loading area is at a higher elevation than the sewage treatment plant but all water that comes into contact with the loading area is conveyed to a treatment basin (Pond SW-1) at the same elevation as the sewage treatment plant. The sewage treatment plant treats sewage from employees of Cumberland Contura.

The facility is situated on the west bank of the Monongahela River. Water is discharged to the Monongahela River which is classified as a Warm Water Fishery. It was last inspected by the Department on September 19, 2014. No Violations were noted. The facility is bordered on the east by the Monongahela River and is bordered on the north, south and west by forested hillsides.

WQM Part II Permit 3076405 was originally issued on October 8, 1976 to the United States Steel Corporation and authorized construction of the sewage treatment plant (STP) which consists of: flow equalization, extended aeration, final clarification and chlorination.

The discharge from the STP was previously covered by a sewage NPDES permit. An inspection on August 3, 2005 determined that the facility should be covered by an industrial waste NPDES permit instead of a sewage NPDES permit. Thus, permit PA0253162 replaced sewage permit PA0216674 on October 1, 2015 and was issued to Cumberland Coal Resources.

On September 26, 2018 WQM Part II Permit 3016200 was issued for improvements to the coal pile settling pond (Pond SW-1) to include increased capacity, an impermeable liner, a sediment forebay, skimmer, and spillway modifications. The pond handles stormwater runoff from coal piles as well as uncontaminated stormwater runoff. Modifications to Pond SW-1 were completed on November 4, 2021.

On January 3, 2019 the NPDES permit was amended to include a new outfall (094) for uncontaminated stormwater. The permit was also transferred from Cumberland Coal Resources to Cumberland Contura, LLC.

The current NPDES permit has 7 outfalls with monitoring for the following parameters:

003 – small flow sewage treatment plant
(flow, pH, Dissolved O2, TRC, CBOD5, TSS, Fecal Coliform, Total N, Ammonia Nitrogen, Total P)

095 – principal spillway from Pond SW-1 – industrial activity: coal loading, unloading, storage and transportation
(flow, pH, TSS, TDS, Oil & Grease, Total Al, Dissolved Fe, Total Fe, Total Mn)

096 – emergency spillway from Pond SW-1– industrial activity: coal loading, unloading, storage and transportation
(flow, pH, TSS, TDS, Oil & Grease, Total Al, Dissolved Fe, Total Fe, Total Mn)

097 – stormwater that is not impacted by industrial activity
(not monitored)

098 - stormwater that is not impacted by industrial activity
(not monitored)

099 – stormwater that is not impacted by industrial activity
(not monitored)

094 – stormwater that is not impacted by industrial activity
(not monitored)

It is recommended that a draft permit be published for public comment in response to this application.

Public Participation

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

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	003	Design Flow (MGD)	0.004
Latitude	39º 50' 01.56"	Longitude	-79º 55' 25.42"
Quad Name	Masontown	Quad Code	2006
Wastewater Description:	Treated sewage effluent		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99417096	RMI	81.2
Drainage Area	4460 mi^2	Yield (cfs/mi^2)	NA
Q_{7-10} Flow (cfs)	560	Q_{7-10} Basis	US Army Corps of Engineers
Elevation (ft)	770	Slope (ft/ft)	0.0001
Watershed No.	19-G	Chapter 93 Class.	WWF
Existing Use	WWF	Existing Use Qualifier	
Exceptions to Use	Navigation	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL
Nearest Downstream Public Water Supply Intake	Masontown Municipal Water Works		
PWS Waters	Monongahela River	Flow at Intake (cfs)	425
PWS RMI	78.87	Distance from Outfall (mi)	81.1

Changes Since Last Permit Issuance: There have been no changes to the sewage treatment plant.

Outfall 003

Outfall 003 discharges sewage effluent from a small package plant facility. The facility was permitted under the WQM permit 3076405 on October 8, 1976 to the United States Steel Corporation. Wastewater treatment at the facility consists of flow equalization, extended aeration, final clarification and chlorination.

Technology Based Effluent Limitations

Effluent standards will be implemented for CBOD5 based upon 25 PA Code Chapter 92a.47(a)(1) and 40 CFR 133.102(a)(4)(i). Effluent standards for Total Suspended Solids will be implemented based upon 25 PA Code Chapter 92a.47(a)(1) and 40 CFR 133.102(b)(1). Effluent standards for Fecal Coliform will be implemented based upon 25 PA Code Chapter 92a.47(a)(4-5). Effluent standards for Total Residual Chlorine will be implemented based upon 25 PA Code Chapter 92a.48(b)(2). Effluent standards for pH will be implemented based upon 25 PA Code Chapter 95.2 and 40 CFR 133.102(c).

An effluent limitation for dissolved oxygen with a minimum of 4.0 mg/L will be implemented based on the standard in 25 PA Code Chapter 93 and best professional judgment. Monitoring will be required for total nitrogen and total phosphorus based upon 25 PA Code Chapter 92a.61. The effluent standards and technology based effluent limitations are summarized in Table 1, below.

Table 1: Effluent standards and technology based effluent limitations.

Parameter	Minimum	Monthly Average	Daily Maximum	Maximum	Instantaneous Maximum
CBOD5 (mg/L)	-	25	-	-	50
TSS (mg/L)	-	30	-	-	60
Total Residual Chlorine (mg/L)	-	0.5	-	-	1.6
Fecal Coliform (No./mL) (5/1 to 9/30)	-	200/100mL (Geo Mean)	30	-	1,000/100 mL
Fecal Coliform (No./mL) (10/1 to 4/30)		2,000/100 mL (Geo Mean)			10,000/ 100 mL
Dissolved Oxygen (mg/L)	4.0	-	-	-	-
pH (S.U.)	6.0	-	-	9.0	-

Water Quality Based Effluent Limitations

The discharge was modeled using WQM 7.0 for CBOD5, ammonia nitrogen and dissolved oxygen. The discharge was also modeled using the TRC spreadsheet for total residual chlorine. Both of these indicated that no water quality based effluent limitations are necessary. Ammonia nitrogen, total nitrogen and total phosphorus are pollutants of concern therefore monitoring will be included for those pollutants which is shown in Table 2, below.

Table 2: Monitoring requirements based on water quality concerns.

Parameter	Monthly Average	Daily Maximum
Ammonia Nitrogen (mg/L)	Report	Report
Total Nitrogen (mg/L)	-	Report
Total Phosphorus (mg/L)	-	Report

The Policy and Procedure for NPDES Permitting of Discharges of Total Dissolved Solids (TDS) stipulates that the mass loading approved prior to August 21, 2010 should be defined in a Part C condition. This discharge was approved previously in permit number PA0216674. The DEP chose to assign a new permit number (PA0253162) to this facility. Therefore, this discharge will still be considered to have been approved prior to August 21, 2010. It is not anticipated that Outfall 003 will discharge high levels of TDS. The DEP will rely on the permittee to report if there is a change in the quantity or quality of the wastewater being discharged.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	095	Design Flow (MGD)	Precipitation Induced
Latitude	39º 49' 57.76"	Longitude	-79º 55' 24.81"
Quad Name	Masontown	Quad Code	2006
Wastewater Description:	Stormwater associated with industrial activity,		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99417096	RMI	81.1
Drainage Area	4460 mi^2	Yield (cfs/mi^2)	NA
Q_{7-10} Flow (cfs)	560	Q_{7-10} Basis	US Army Corps of Engineers
Elevation (ft)	770	Slope (ft/ft)	0.0001
Watershed No.	19-G	Chapter 93 Class.	WWF
Existing Use	WWF	Existing Use Qualifier	
Exceptions to Use	Navigation	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL
Nearest Downstream Public Water Supply Intake	Masontown Municipal Water Works		
PWS Waters	Monongahela River	Flow at Intake (cfs)	425
PWS RMI	78.87	Distance from Outfall (mi)	81.1

Changes Since Last Permit Issuance:
Modifications to Pond SW-1 were completed on November 4, 2021. Part II permit 3016200 was issued on September 26, 2018 for the rehabilitation/modification of the pond. Modifications include a diversion ditch, a 30 mil HDPE liner or compacted clay liner, addition of a sediment forebay, pond enlargement, and spillway modifications. The chemical treatment process involved is the addition of flocculant that will only be implemented as needed to reduce the Total Suspended Solids effluent concentration to <50 mg/l in accordance with the NPDES permit.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	096	Design Flow (MGD)	Precipitation Induced
Latitude	39º 49' 57.76"	Longitude	-79º 55' 28.8"
Quad Name	Masontown	Quad Code	2006
Wastewater Description:	Stormwater associated with industrial activity,		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99416980	RMI	81.7300
Drainage Area	4460 mi^2	Yield (cfs/mi^2)	NA
Q_{7-10} Flow (cfs)	560	Q_{7-10} Basis	US Army Corps of Engineers
Elevation (ft)	770	Slope (ft/ft)	0.0001
Watershed No.	19-G	Chapter 93 Class.	WWF
Existing Use	WWF	Existing Use Qualifier	
Exceptions to Use	Navigation	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL
Nearest Downstream Public Water Supply Intake	Masontown Municipal Water Works		
PWS Waters	Monongahela River	Flow at Intake (cfs)	425
PWS RMI	78.87	Distance from Outfall (mi)	81.1

Changes Since Last Permit Issuance: Same as for Outfall 095.

Outfalls 095 & 096

Outfall 095 will discharge stormwater associated with industrial activity after it has been treated by a sedimentation basin. The stormwater will come into contact with coal handling, loading, unloading, transportation and storage. As such, this stormwater is considered an industrial waste. Outfall 096 is the emergency overflow from the treatment basin and will, therefore, receive the same limits as Outfall 095.

Technology Based Effluent Limitations

Stormwater runoff from coal loading, unloading, handling, transportation and storage areas are not subject to Federal Effluent Limitation Guidelines. Effluent limitations are therefore based on applicable state regulations and guidelines and on the Department's Best Professional Judgment (BPJ). When establishing a limit for stormwater runoff from coal piles, the Department has determined that it is Best Professional Judgement to use the TSS limit provided in 40 CFR Part 423.12 Steam Electric Power Generating Point Source Category. The limit for TSS is 50 mg/l. The sampling frequency will be 1/month to ensure that BMPs for the handling of materials are effective.

This facility will handle, unload, load, transport and store clean coal. There will be no other coal managed on site. The only other technology based effluent limitation from an ELG that is available for coal runoff are the technology based effluent limitations from the federal ELG for coal preparation plants and coal preparation plant associated areas under 40 CFR Part 434, Subpart B §§ 434.20 – 434.25. The coal at this site will have already been cleaned at a coal preparation plant so it should be of a better quality than the coal found at a coal preparation plant. At a coal preparation plant the coal has not been sorted so the coal varies in quality. Since the facility only moves clean coal it is likely that the coal pile runoff at this

facility will be similar that from coal piles at steam-electric power generation facilities (i.e., similar concentrations and types of constituents).

DEP does not have specific coal chemistries available for review, however, it is likely that the coal stored at this facility is similar to the coal stored at steam electric generating facilities. Therefore, since the effluent limits from the ELG for Steam Electric Power Generation found in 40 CFR § 423.12(b)(1) and (b)(9) are national performance standards developed by EPA and DEP has determined that the facility operations and wastewater characteristics are similar it is acceptable to apply these effluent limitations at Outfall 095. The adoption of those performance standards and the technology basis for those standards is also appropriate because the same treatment technologies will be implemented at the Cumberland facility as would be implemented at a steam electric power generating plant (sedimentation). EPA's effluent limit rationale as described in the Steam Electric ELG Development Document will substitute for DEP's case-by-case BPJ effluent limit evaluation. BMPs from the former Appendix E of DEP's PAG-03 General Permit (which contained effluent limitations for coal storage areas and which are in the current permit) will also be included in Part C of the renewed permit.

40 CFR § 423.12(b)(10) states that, "*Any untreated overflow from facilities designed, constructed, and operated to treat the volume of coal pile runoff which is associated with a 10 year, 24 hour rainfall event shall not be subject to the limitations in paragraph (b)(9) of this section*." It has been determined that 40 CFR § 423.12(b)(9) is the most appropriate technology based effluent limitation. Therefore, if Cumberland does not comply with the effluent limitation in 40 CFR § 423.12(b)(9) and can demonstrate that this exceedance took place during a 10 year 24 hour or larger precipitation event (or snowmelt of equivalent volume) then this will not be considered an effluent violation. As such, the following Part C condition was added to the previous permit and will be retained in this renewal. The Condition reads:

Any untreated overflow from facilities designed, constructed, and operated to treat the volume of runoff which is associated with a 10-year, 24-hour rainfall event shall not be subject to the 50 mg/L TSS limit at Outfalls 095 and 096. The burden of proof is on the permittee to show that untreated overflows occurred as a result of runoff volumes in excess of the 10-year, 24-hour rainfall event.

Effluent standards for pH from 25 PA Code Chapter 95.2 (1) and dissolved iron from 25 PA Code Chapter 95.2 (4) will also be implemented. Oil & grease is a pollutant of concern due to the coal handling and railcar maintenance operations at the facility therefore the effluent standard from 25 PA Code Chapter 95.2 (2) (ii) for oil and grease will be applied. All applicable technology based effluent limitations are summarized in Table 3, below.

Table 3: Applicable technology based effluent limitations and effluent standards.

Parameter	Minimum	Monthly Average	Daily Maximum	Maximum
Iron, dissolved (mg/L)	-	Report	-	7.0
TSS (mg/L)	-	Report	50.0	-
Oil & Grease (mg/L)	-	15.0	30.0	-
pH (S.U.)	6.0	-	-	9.0

Water Quality Based Effluent Limitations

A water quality analysis for Outfall 095 using the Department's Toxics Management Spreadsheet (TMS) was not performed because Outfall 095 is a precipitation induced discharge and will likely not discharge during low flow conditions.

The facility existed prior to August 21, 2010 so Outfall 095 is an existing discharge under Chapter 95.10 and is not subject to effluent limitations for Total Dissolved Solids (TDS). This discharge was approved previously in permit number PA0216674. The DEP chose to assign a new permit number (PA0253162) to this facility. Therefore, this discharge will still be considered to have been approved prior to August 21, 2010.

The Policy and Procedure for NPDES Permitting of Discharges of Total Dissolved Solids stipulates that the mass loading approved prior to August 21, 2010 should be defined in a Part C condition. However, there is no reliable way to calculate a discharge flow for stormwater that would make it possible to translate a discharge concentration of TDS into a mass. In conjunction with that, no sampling data for TDS exists for the facility. The current permit monitored the discharge for TDS but the eDMRs showed no discharge from Pond SW-1, presumably because the water infiltrated to the ground since the

pond was not lined or, for a time being was under construction for modifications. Now that the pond is lined with a synthetic liner there should be discharges from pond SW-1 via outfall 095 and possibly 096. Therefore, monitoring for TDS will be maintained in the renewed permit.

Runoff associated with coal storage is expected to discharge high concentrations of TDS but, since the facility only discharges intermittently it would take a large change in operation to effect an increase of 5,000 pounds per day of TDS. Monitoring for TDS will be continued to help establish the existing loading. The DEP will rely on the permittee to report if there is a change in the quantity or quality of the wastewater being discharged.

TDS and its major constituents including sulfate, chloride, and bromide have emerged as pollutants of concern in several major watersheds in the Commonwealth. The conservative nature of these solids allows them to accumulate in surface waters and they may remain a concern even if the immediate downstream public water supply is not directly impacted. Bromide has been linked to formation of disinfection byproducts at increased levels in public water systems.

The current permit for this facility includes monitoring at Pond SW-1 for sulfate, chloride and bromide in order to collect data on these parameters in relation to the amount of TDS produced as a consequence of actions associated with Triennial Review 13 and by the Environmental Quality Board directing the DEP to collect additional data related to sulfate, chloride, and 1,4-dioxane under the authority of §92a.61. At this time, the Department has determined that we have collected sufficient data from facilities over the past seven years that monitoring for sulfate, chloride and bromide in relation to the amount of TDS produced is no longer needed. Therefore, monitoring for sulfate, chloride and bromide is being discontinued for Pond SW-1 in the draft permit.

Iron, aluminum and manganese are typically present in discharges associated with coal storage so monitoring requirements will be imposed for those pollutants as well. Monitoring requirements are summarized in Table 4, below.

Table 4: Monitoring requirements based on best water quality concerns.

Parameter	Monthly Average	Daily Maximum
TDS (mg/L)	Report	Report
Aluminum (mg/L)	Report	Report
Iron (mg/L)	Report	Report
Manganese (mg/L)	Report	Report

Discharge, Receiving Waters and Water Supply Information

Outfall No.	097	Design Flow (MGD)	0.0 (stormwater)
Latitude	39º 49' 46.14"	Longitude	-79º 55' 23.91"
Quad Name	Masontown	Quad Code	2006
Wastewater Description:	Stormwater that is not impacted by industrial activity (not monitored)		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99417290	RMI	82.4700
Drainage Area	4460 mi^2	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	560	Q_{7-10} Basis	US Army Corps of Engineers
Elevation (ft)	770	Slope (ft/ft)	0.0001
Watershed No.	19-G	Chapter 93 Class.	WWF
Existing Use	WWF	Existing Use Qualifier	
Exceptions to Use	Navigation	Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL
Nearest Downstream Public Water Supply Intake			
PWS Waters	Monongahela River	Flow at Intake (cfs)	425
PWS RMI	78.87	Distance from Outfall (mi)	2.3

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	098	Design Flow (MGD)	0.0 (stormwater)
Latitude	39º 49' 43.15"	Longitude	-79º 55' 23.01"
Quad Name	Masontown	Quad Code	2006
Wastewater Description:	Stormwater that is not impacted by industrial activity (not monitored)		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99417290	RMI	82.4700
Drainage Area	4460	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	560 mi^2	Q_{7-10} Basis	US Army Corps of Engineers
Elevation (ft)	770	Slope (ft/ft)	0.0001
Watershed No.	19-G	Chapter 93 Class.	WWF
Existing Use	WWF	Existing Use Qualifier	
Exceptions to Use	Navigation	Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL
Nearest Downstream Public Water Supply Intake			
PWS Waters	Monongahela River	Flow at Intake (cfs)	425
PWS RMI	78.87	Distance from Outfall (mi)	2.3

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	099	Design Flow (MGD)	0.0 (stormwater)
Latitude	39º 49' 39.11"	Longitude	-79º 55' 22.98"
Quad Name	Masontown	Quad Code	2006
Wastewater Description:	Stormwater that is not impacted by industrial activity (not monitored)		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99417290	RMI	82.4700
Drainage Area	4460	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	560 mi^2	Q_{7-10} Basis	US Army Corps of Engineers
Elevation (ft)	770	Slope (ft/ft)	0.0001
Watershed No.	19-G	Chapter 93 Class.	WWF
Existing Use	WWF	Existing Use Qualifier	
Exceptions to Use	Navigation	Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL
Nearest Downstream Public Water Supply Intake			
PWS Waters	Monongahela River	Flow at Intake (cfs)	425
PWS RMI	78.87	Distance from Outfall (mi)	2.3

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	094	Design Flow (MGD)	0.0 (stormwater)
Latitude	39º 50' 00.39"	Longitude	-79º 55' 26.04"
Quad Name	Masontown	Quad Code	2006
Wastewater Description:	Stormwater that is not impacted by industrial activity (not monitored)		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99416980	RMI	0.6300
Drainage Area	4460	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	560 mi^2	Q_{7-10} Basis	US Army Corps of Engineers
Elevation (ft)	770	Slope (ft/ft)	0.0001
Watershed No.	19-G	Chapter 93 Class.	WWF
Existing Use	WWF	Existing Use Qualifier	
Exceptions to Use	Navigation	Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL
Nearest Downstream Public Water Supply Intake			
PWS Waters	Monongahela River	Flow at Intake (cfs)	425
PWS RMI	78.87	Distance from Outfall (mi)	2.3

Changes Since Last Permit Issuance:
Outfall 094 was added in an amendment to the permit that was issued on January 3, 2019. Outfall 094 is situated between Outfalls 003 (north) and 096 (south).

Other Comments:

Outfalls 097, 098, 099 and 094

Outfalls 097, 098, 099 and 094 discharge stormwater from portions of the facility that do not come into contact with industrial activity. They will be listed as discharge points in Part C of the permit. No monitoring requirements will be imposed.

Treatment Facility Summary				
Treatment Facility Name: Cumberland Mine Harbor				
WQM Permit No.	**Issuance Date**			
3076405	October 13, 1976			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Secondary	Extended Aeration	Chlorination	0.0003
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.0015	3.57	Not overloaded	Sludge holding tank	WWTP

Changes Since Last Permit Issuance: none

Other Comments: This is a package plant. The plant consists of one comminutor with a bypass bar screen, one aeration tank, one settling tank, one sludge holding tank and a chlorine contact tank equipped with a Sanuril chlorinator. The plant has been designed to serve 42 men per day with an average flow of 1500 gal/day. The hydraulic loads are based on 35 gallons per capita and 0.085 pounds of BOD per capita.

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☐	PENTOXSD for Windows Model (see Attachment)
☒	TRC 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.
☐	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.
☒	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: Establishing Effluent Limitations for Individual Sewage Permits, Individual NPDES Sewage Applications, Individual NPDES Industrial Waste and Industrial Stormwater Applications
☒	Other: StreamStats, Google Earth, US Army Corps of Engineers

Attachments

Attachment A: StreamStats Drainage Area

Attachment B: Input Data WQM 7.0

Attachment C: WQM Hydrodynamics Outputs

Attachment D: WQM 7.0 Modeling Specifications

Attachment E: WQM 7.0 Waste Load Allocations

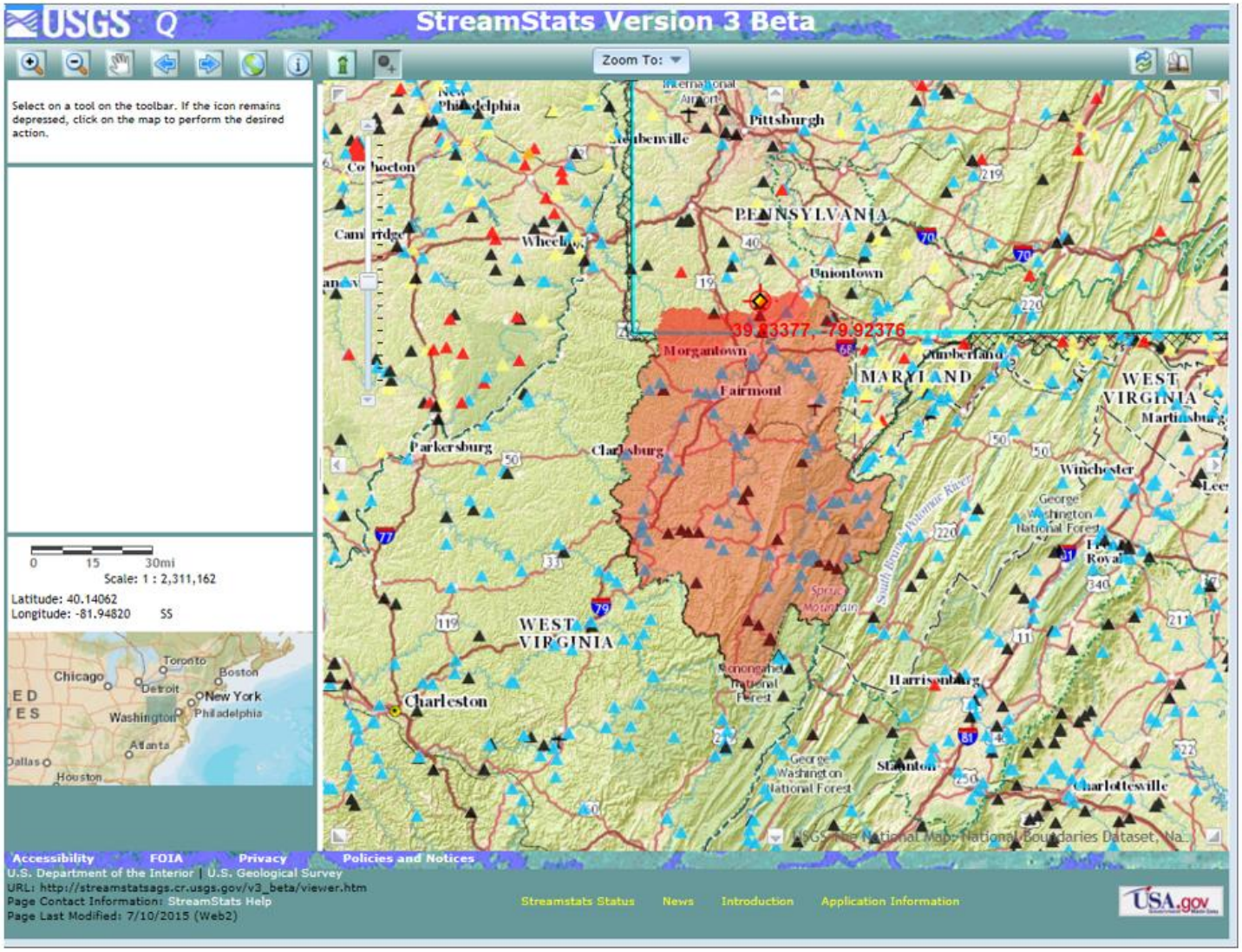
Attachment F: WQM 7.0 D.O. Simulation

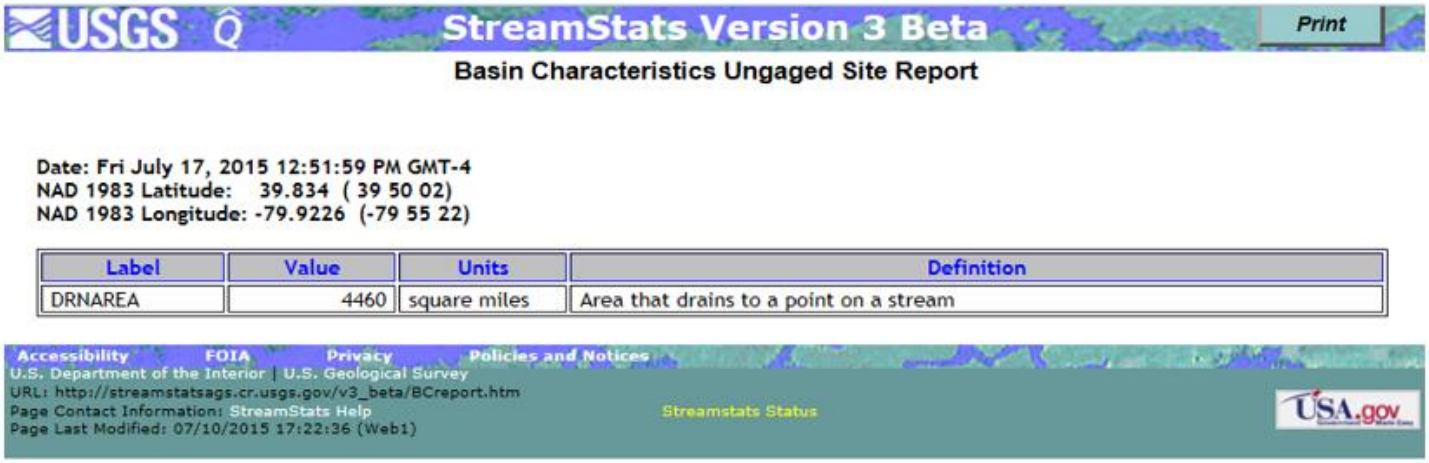
Attachment G: WQM 7.0 Effluent Limits

Attachment H: TRC Evaluation

Attachment I: Site Map

Attachment A:
StreamStats Drainage Area


USGS
StreamStats Version 3 Beta
Zoom To:
Select on a tool on the toolbar. If the icon remains depressed, click on the map to perform the desired action.
0 15 30mi
Scale: 1 : 2,311,162
Latitude: 40.14062
Longitude: -81.94820
Pittsburgh
PENNSYLVANIA
Uniontown
Morgantown
Fairmont
Parkersburg
Clarksburg
MARYLAND
WEST VIRGINIA
Winchester
Harrisonburg
Charleston
Staunton
Charlottesville
Chicago
Toronto
Boston
Detroit
New York
Washington
Philadelphia
Atlanta
Houston
Accessibility FOIA Privacy Policies and Notices
U.S. Department of the Interior | U.S. Geological Survey
URL: http://streamstatsags.cr.usgs.gov/v3_beta/viewer.htm
Page Contact Information: StreamStats Help
Page Last Modified: 7/10/2015 (Web2)
Streamstats Status News Introduction Application Information
USA.gov


USGS
StreamStats Version 3 Beta
Print
Basin Characteristics Ungaged Site Report
Date: Fri July 17, 2015 12:51:59 PM GMT-4
NAD 1983 Latitude: 39.834 (39 50 02)
NAD 1983 Longitude: -79.9226 (-79 55 22)
Label | Value | Units | Definition
DRNAREA | 4460 | square miles | Area that drains to a point on a stream
Accessibility FOIA Privacy Policies and Notices
U.S. Department of the Interior | U.S. Geological Survey
URL: http://streamstatsags.cr.usgs.gov/v3_beta/BCreport.htm
Page Contact Information: StreamStats Help
Page Last Modified: 07/10/2015 17:22:36 (Web1)
Streamstats Status
USA.gov

Attachment B:
Input Data WQM 7.0

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19A	37185	MONONGAHELA RIVER	81.200	763.00	4460.00	0.00010	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	560.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Cumberland Harb	PA0253162	0.0040	0.0040	0.0040	0.000	25.00	7.00

Parameter Data

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

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19A	37185	MONONGAHELA RIVER	78.970	762.00	4538.00	0.00010	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.180	0.00	560.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

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

Attachment C:
WQM Hydrodynamics Outputs

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19A	37185	MONONGAHELA RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
81.200	560.00	0.00	560.00	.0062	0.00010	1.214	486.05	400.37	0.95	0.144	20.00	7.00
Q1-10 Flow												
81.200	358.40	0.00	358.40	.0062	0.00010	NA	NA	NA	0.74	0.184	20.00	7.00
Q30-10 Flow												
81.200	761.60	0.00	761.60	.0062	0.00010	NA	NA	NA	1.13	0.121	20.00	7.00

Attachment D:
WQM 7.0 Modeling Specifications

WQM 7.0 Modeling Specifications

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

Attachment E:
WQM 7.0 Waste Load Allocations

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19A	37185	MONONGAHELA RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
81.200	Cumberland Harb	9.67	50	9.67	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
81.200	Cumberland Harb	1.92	25	1.92	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
81.20	Cumberland Harb	25	25	25	25	3	3	0	0

Attachment F:
WQM 7.0 D.O. Simulation

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19A	37185	MONONGAHELA RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
81.200	0.004	20.000	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
486.048	1.214	400.372	0.949
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.00	0.000	0.00	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.243	0.443	Tsivoglou	6
Reach Travel Time (days)			
0.144			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.014	2.00	0.00	8.24
0.029	2.00	0.00	8.24
0.043	2.00	0.00	8.24
0.057	2.00	0.00	8.24
0.072	2.00	0.00	8.24
0.086	2.00	0.00	8.24
0.101	2.00	0.00	8.24
0.115	2.00	0.00	8.24
0.129	2.00	0.00	8.24
0.144	2.00	0.00	8.24

Attachment G:
WQM 7.0 Effluent Limitations

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19A	37185	MONONGAHELA RIVER

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
81.200	Cumberland Harb	PA0253162	0.004	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

Attachment H:
TRC Evaluation

TRC EVALUATION Facility Name Cumberland Coal Mine Harbor- Outfa

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

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 14434.408	1.3.2.iii	WLA cfc = 14072.409
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 5378.605	5.1d	LTA_cfc = 8181.039

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.170	

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

Attachment I:
Site Map


Cumberland Harbor
39 50 1.56 -79 55
Alicia Rd