pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0228133**
Facility Type	**Industrial**	APS ID	**999049**
Major / Minor	**Minor**	Authorization ID	**1283265**

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

Applicant and Facility Information

Applicant Name	**PA DOT Engineering District 2-0**	Facility Name	**PA DOT Cameron County Maintenance Building**
Applicant Address	70 Penndot Drive Clearfield, PA 16830-6051	Facility Address	21013 CCC Memorial Highway Emporium, PA 15834-5921
Applicant Contact	Stephen Kardohely, Maintenance Environmental Coordinator	Facility Contact	Karen May, Clerical Supervisor
Applicant Phone	(814) 765-0450	Facility Phone	(814) 486-3727
Client ID	62168	Site ID	522771
SIC Code	7542	Municipality	Lumber Township
SIC Description	Services - Car Washes	County	Cameron
Date Application Received	July 31, 2019	EPA Waived?	Yes
Date Application Accepted	August 14, 2019	If No, Reason	

Purpose of Application: Renewal a NPDES Permit.

Summary of Review

The subject facility is a PennDOT regional repair facility with a discharge resulting from a truck wash.

A map of the discharge location is attached.

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.

Approve	Deny	Signatures	Date
X		Keith C. Allison / Project Manager	February 4, 2020
		Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.0005
Latitude	41º 26' 49.60"	Longitude	-78º 10' 21.40"
Quad Name	Cameron, PA	Quad Code	0720
Wastewater Description:	IW Process Effluent without ELG		
Receiving Waters	Driftwood Branch Sinnemahoning Creek (TSF)	Stream Code	24963
NHD Com ID	61429210	RMI	13.8
Drainage Area	263 mi^2	Yield (cfs/mi^2)	0.0345
Q_{7-10} Flow (cfs)	9.07	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	939	Slope (ft/ft)	0.00166
Watershed No.	8-A	Chapter 93 Class.	TSF
Existing Use	EV	Existing Use Qualifier	Antidegradation
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Nearest Downstream Public Water Supply Intake	PA-American Water Company @ Milton, PA		
PWS Waters	West Branch Susquehanna River	Flow at Intake (cfs)	8,500,000
PWS RMI	10.8	Distance from Outfall (mi)	Approx. 144

Changes Since Last Permit Issuance: The above stream and drainage characteristics are from the previous review and remain adequate except for the RMI which has been corrected.

Other Comments: The receiving stream attained the Exceptional Value designation with this discharge is place.

No downstream water supply is expected to be affected by the discharge with the limitations and monitoring proposed.

Treatment Facility Summary
Treatment consists of four-compartment oil/water separator, two cartridge particle filters, and two 55-gallon carbon filters.

Compliance History

DMR Data for Outfall 001 (from January 1, 2019 to December 31, 2019)

Parameter	DEC-19	SEP-19	JUN-19	MAR-19	DEC-19	SEP-19	JUN-19**	MAR-19
Flow (MGD) Average Monthly*	0.00085	0.000273	0.000163	0.001947	0.000907	0.000273		0.003573
Flow (MGD) Daily Maximum	0.000440	0.000290	0.000250	0.000550	0.000330	0.000110		0.000760
pH (S.U.) Minimum	7.06	7.14	7.7	7.6	7.5	7.9		6.7
pH (S.U.) Instantaneous Maximum	7.06	7.14	7.7	7.6	7.5	7.9		6.7
TSS (mg/L) Average Monthly	3.0	4	3.0	< 2.0	< 2.0	< 2.0		3.0
TSS (mg/L) Instantaneous Maximum	2	4	3.0	< 2.0	< 2.0	< 2.0		3.0
Oil and Grease (mg/L) Average Monthly	< 5	< 5	< 5.0	< 5.0	< 5.0	< 5.0		< 5.0
Oil and Grease (mg/L) Instantaneous Maximum	1.28	< 5	< 5.0	< 5.0	< 5.0	< 5.0		< 5.0
Parameter	**2019**				**2018**			
Total Dissolved Solids (mg/L) Daily Maximum	9270				2024			
Ethylbenzene (µg/L) Daily Maximum	< 2.0				< 2.0			
Benzene (µg/L) Daily Maximum	< 2.0				< 2.0			
Chloride(mg/L) Daily Maximum	4,919				1015			
Toluene (µg/L) Daily Maximum	< 2.0				< 2.0			
Total Xylenes (µg/L) Daily Maximum	< 6.0				< 2.0			

* - It appears that the values reported on DMRs for average monthly flow are the average number of gallons per month over the three months of the quarter rather than gallons per day.

** - The DMR for the Second Quarter of 2019 could not be found in the Department's files.

Compliance History	
Summary of Inspections:	The facility has been inspected annually by the Department over the past permit term. The most recent inspection by Clarissa Alcorn, WQS, was on August 15, 2019. All inspections over the past permit term have identified no violations.
Comments:	A WMS query found the open violations in the attached table for PA DOT District 2-0 all for an I-80 rest stop.

Existing Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/quarter	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/quarter	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	1/quarter	Grab
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	15.0	XXX	30.0	1/quarter	Grab
Ethylbenzene	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Benzene	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Chloride	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Toluene	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Xylenes	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0005
Latitude 41º 26' 50.00" **Longitude** -78º 10' 24.00"
Wastewater Description: IW Process Effluent without ELG

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
Oil and Grease	15	Average Monthly	-	95.2(2)(ii)
	30	Daily Maximum	-	
pH	6.0 – 9.0 S.U.	Min – Max	-	95.2(1)

Water Quality-Based Limitations

A "Reasonable Potential Analysis" (Attachment B) determined that no additional parameters were candidates for limitations or monitoring. The existing monitoring for Benzene, Toluene, Ethylbenzene, and Xylene will remain for these parameters that are indicators for the presence of petroleum products in the discharge.

Emerging Pollutants (Total Dissolved Solids (TDS), Sulfate, Chloride, Bromide, 1,4-Dioxane)

As a result of direction from the Environmental Quality Board and EPA, the Department has begun increased monitoring for the emerging pollutants of TDS, Sulfate, Chloride, Bromide, and 1,4-Dioxane. As a vehicle wash wastewater discharge it is expected to contain TDS and chlorides. Therefore, the monitoring for these two parameters will remain. The other parameters (Sulfate, Bromide, and 1,4-Dioxane) are not expected to be present in significant levels. The PENTOXSD modeling produced no limitations for these parameters because their criteria are applicable to a downstream water supply and no near downstream water supply is present on the receiving stream to enter into the model.

Best Professional Judgment (BPJ) Limitations

Comments: The existing limitation for TSS was established pursuant to BPJ. No additional BPJ limitations are necessary at this time.

Antidegradation

This discharge predates the Exceptional Value existing use of Driftwood Branch Sinnemahoning Creek. Therefore, no additional limitations are necessary pursuant to the Antidegradation requirements of 25 PA Code §§93.4a and 93.4c.

Anti-Backsliding

No limitations were made less stringent consistent with the anti-degradation requirements of the Clean Water Act and 40 CFR §122.44(l).

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instant. Minimum	Average Quarterly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report Avg Qrtly	Report Daily Max	XXX	XXX	XXX	XXX	1/quarter	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/quarter	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	1/quarter	Grab
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	15.0	XXX	30.0	1/quarter	Grab
Ethylbenzene (µg/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Benzene (µg/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Chloride	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Toluene (µg/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Xylenes (µg/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

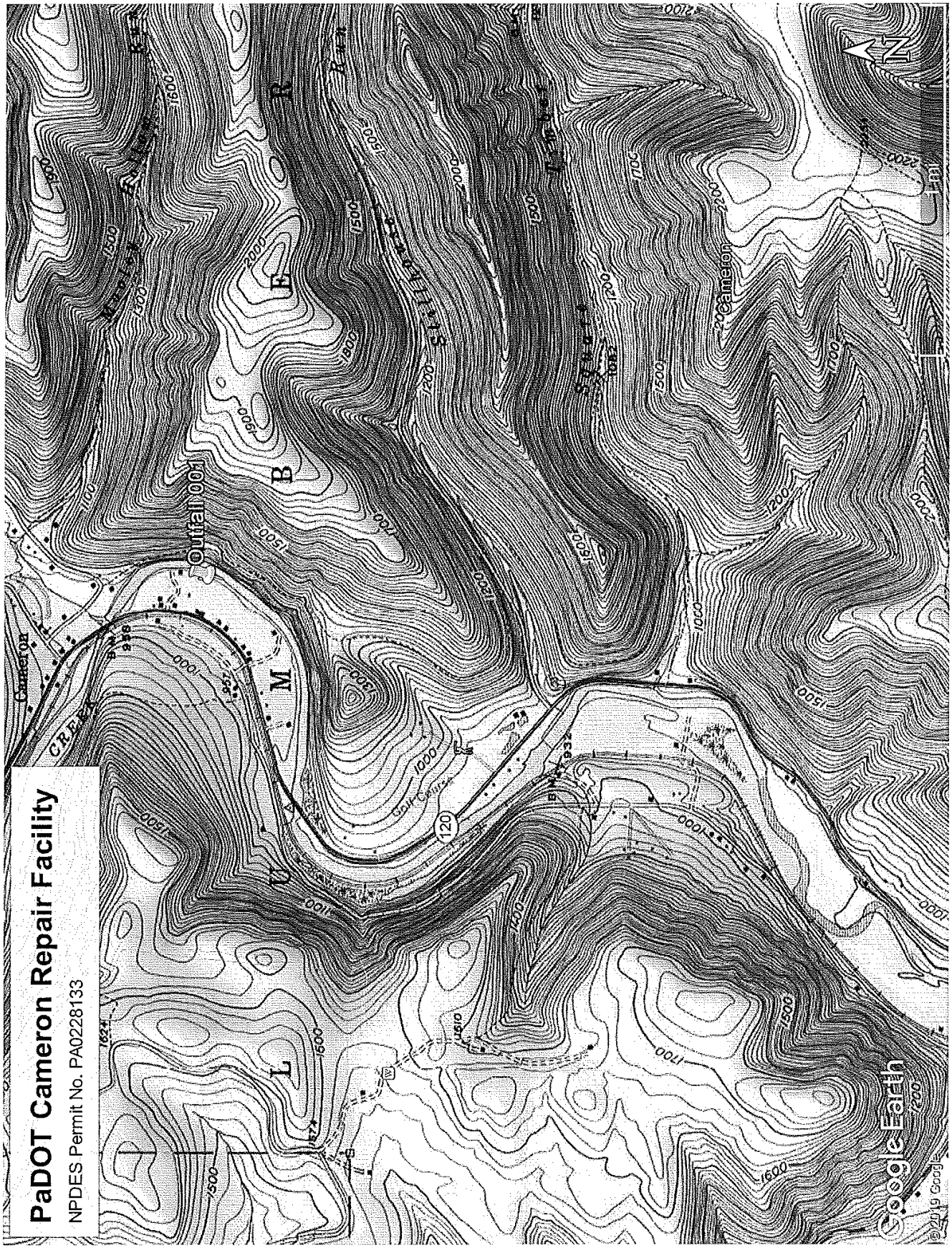
Compliance Sampling Location: Outfall 001

Other Comments: Monthly averages limitations and monitoring for Flow, TSS, and Oil and Grease have been modified from to quarterly averages to quarterly averages consistent with the monitoring frequency. Also, the monitoring for Benzene, Toluene, Ethylbenzene, and Xylene will be explicitly listed as µg/L which corresponds to the monitoring for these parameters. No other changes are proposed from the existing monitoring requirements and limitations.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	PENTOXSD for Windows Model (see Attachment **D**)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Toxics Screening Analysis Spreadsheet (see Attachment **C**)
☒	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 Industrial Permits, 9/10/13;
☐	Other:

Attachments:

A. Discharge Location Map
B. List of Open Violations for District 2-0
C. Reasonable Potential Analysis a/k/a Toxics Screening Analysis
D. PENTOXSD Modeling


PaDOT Cameron Repair Facility
NPDES Permit No. PA0228133
Outfall 001
Cameron
Google Earth

Client: PA DOT ENG DIST 2 0

Open Violations: 14

CLIENT ID	CLIENT	PF ID	FACILITY	INSP PROGRAM	PROGRAM SPECIFIC ID	VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION	PF INSPECTOR	INSP REGION
62168	PA DOT ENG DIST 2 0	266565	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180832	853763	06/26/2019	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266565	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180832	853764	06/26/2019	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854857	06/26/2019	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854858	06/26/2019	B3B	FAILURE TO PROVIDE NOTIFICATION TO DEP WITHIN 1-HOUR OF DETERMINING THAT A PRIORITY VIOLATION EXISTS	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854859	06/26/2019	A3	FAILURE TO PROVIDE 1-HOUR NOTIFICATION TO DEP DURING AN IMMINENT THREAT SITUATION	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854860	06/26/2019	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854861	06/26/2019	A1	CIRCUMSTANCES EXIST WHICH ADVERSELY EFFECT THE QUANTITY OR QUALITY OF WATER	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854862	06/26/2019	B6A	OTHER VIOLATIONS DEEMED TO BE SIGNIFICANT DEFICIENCIES	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854863	06/26/2019	B3B	FAILURE TO PROVIDE NOTIFICATION TO DEP WITHIN 1-HOUR OF DETERMINING THAT A PRIORITY VIOLATION EXISTS	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854864	06/26/2019	B6A	OTHER VIOLATIONS DEEMED TO BE SIGNIFICANT DEFICIENCIES	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854865	06/26/2019	A3	FAILURE TO PROVIDE 1-HOUR NOTIFICATION TO DEP DURING AN IMMINENT THREAT SITUATION	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854866	06/26/2019	A2A	FAILURE OR SIGNIFICANT INTERRUPTION IN KEY WATER TREATMENT PROCESSES	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854867	06/26/2019	B3B	FAILURE TO PROVIDE NOTIFICATION TO DEP WITHIN 1-HOUR OF DETERMINING THAT A PRIORITY VIOLATION EXISTS	CHAMBERS, ROBERT	NCRO
62168	PA DOT ENG DIST 2 0	266566	PA DEPT OF TRANSPORTATION	Safe Drinking Water	4180833	854868	06/26/2019	B6A	OTHER VIOLATIONS DEEMED TO BE SIGNIFICANT DEFICIENCIES	CHAMBERS, ROBERT	NCRO

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.6

Facility: PADOT - 2018 results
NPDES Permit No.: PA0228133
Outfall: 001
Analysis Hardness (mg/L): 100
Discharge Flow (MGD): 0.001
Analysis pH (SU): 7
Stream Flow, Q_{7-10} (cfs): 9.07

	Parameter	Maximum Concentration in Application or DMRs (µg/L)		Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Group 1	Total Dissolved Solids		2024000	500000	Yes		
	Chloride		1015000	250000	Yes		
	Bromide			N/A			
	Sulfate			250000			
	Fluoride			2000			
Group 2	Total Aluminum			750			
	Total Antimony			5.6			
	Total Arsenic		15	10	Yes	117314.5	No Limits/Monitoring
	Total Barium		550	2400	No		
	Total Beryllium			N/A			
	Total Boron			1600			
	Total Cadmium	<	2	0.271	Yes	3174	No Limits/Monitoring
	Total Chromium	<	5	N/A	No		
	Hexavalent Chromium			10.4			
	Total Cobalt			19			
	Total Copper			9.3			
	Total Cyanide			N/A			
	Total Iron			1500			
	Dissolved Iron			300			
	Total Lead	<	5	3.2	Yes	37324	No Limits/Monitoring
	Total Manganese			1000			
	Total Mercury	<	0.2	0.05	No (Value < QL)		
	Total Molybdenum			N/A			
	Total Nickel			52.2			
	Total Phenols (Phenolics)			5			
	Total Selenium		30	5.0	Yes	58529	No Limits/Monitoring
	Total Silver	<	5	3.8	Yes	9709	No Limits/Monitoring
	Total Thallium			0.24			
	Total Zinc			119.8			
Group 3	Acrolein	<		3			
	Acrylamide	<		0.07			
	Acrylonitrile	<		0.051			
	Benzene	<	2	1.2	Yes	79215	No Limits/Monitoring
	Bromoform	<		4.3			
	Carbon Tetrachloride	<	20	0.23	Yes	15183	No Limits/Monitoring
	Chlorobenzene	<	20	130	No		
	Chlorodibromomethane	<		0.4			
	Chloroethane	<		N/A			
	2-Chloroethyl Vinyl Ether	<		3500			
	Chloroform	<	20	5.7	Yes	376274	No Limits/Monitoring
	Dichlorobromomethane	<		0.55			
	1,1-Dichloroethane	<		N/A			
	1,2-Dichloroethane	<	20	0.38	Yes	25084	No Limits/Monitoring
	1,1-Dichloroethylene	<	20	33	No		
	1,2-Dichloropropane	<		2200			
	1,3-Dichloropropylene	<		0.34			
	Ethylbenzene	<	2	530	No	6210000	
	Methyl Bromide	<		47			
	Methyl Chloride	<		5500			
	Methylene Chloride	<		4.6			
	1,1,2,2-Tetrachloroethane	<		0.17			
	Tetrachloroethylene	<	20	0.69	Yes	45549	No Limits/Monitoring
	Toluene	<	2	330	No		
	1,2-trans-Dichloroethylene	<		140			
	1,1,1-Trichloroethane	<		610			
	1,1,2-Trichloroethane	<		0.59			
	Trichloroethylene	<	20	2.5	Yes	165032	No Limits/Monitoring
	Vinyl Chloride	<	20	0.025	Yes	1650	No Limits/Monitoring
Group 4	2-Chlorophenol	<		81			
	2,4-Dichlorophenol	<		77			
	2,4-Dimethylphenol	<		130			
	4,6-Dinitro-o-Cresol	<		13			
	2,4-Dinitrophenol	<		69			
	2-Nitrophenol	<		1600			
	4-Nitrophenol	<		470			
	p-Chloro-m-Cresol	<		30			
	Pentachlorophenol	<		0.27			
	Phenol	<		10400			
	2,4,6-Trichlorophenol	<		1.4			

Toxics Screening Analysis Spreadsheet (v 2.6).xlsm, 2/4/2020

PENTOXSD

Modeling Input Data

Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope	PWS With (mgd)	Apply FC
24963	13.80	938.00	263.00	0.00000	0.00	☑

Stream Data

	LFY	Trib Flow	Stream Flow	WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	Tributary Hard	Tributary pH	Stream Hard	Stream pH	Analysis Hard	Analysis pH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.0345	0	0	0	0	0	0	0	100	7	0	0	0	0
Qh		0	0	0	0	0	0	0	100	7	0	0	0	0

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard (mg/L)	Disc pH
PaDOT Cameron	PA0228133	0.0005	0	0	0	0	0	0	0	100	7

Parameter Data

Parameter Name	Disc Conc (µg/L)	Trib Conc (µg/L)	Disc Daily CV	Disc Hourly CV	Steam Conc (µg/L)	Stream CV	Fate Coef	FOS	Crit Mod	Max Disc Conc (µg/L)
1,2-DICHLOROETHANE	20	0	0.5	0.5	0	0	0	0	1	0
ARSENIC	15	0	0.5	0.5	0	0	0	0	1	0
BENZENE	2	0	0.5	0.5	0	0	0	0	1	0
CADMIUM	2	0	0.5	0.5	0	0	0	0	1	0
CARBON TETRACHLORIDE	20	0	0.5	0.5	0	0	0	0	1	0
CHLORIDE (PWS)	1015000	0	0.5	0.5	0	0	0	0	1	0
CHLOROFORM	20	0	0.5	0.5	0	0	0	0	1	0
ETHYLBENZENE	2	0	0.5	0.5	0	0	0	0	1	0
LEAD	5	0	0.5	0.5	0	0	0	0	1	0
SELENIUM	30	0	0.5	0.5	0	0	0	0	1	0
SILVER	5	0	0.5	0.5	0	0	0	0	1	0
TETRACHLOROETHYLENE	20	0	0.5	0.5	0	0	0	0	1	0
TOTAL DISSOLVED SOLIDS (PWS)	2024000	0	0.5	0.5	0	0	0	0	1	0
TRICHLOROETHYLENE	20	0	0.5	0.5	0	0	0	0	1	0
VINYL CHLORIDE	20	0	0.5	0.5	0	0	0	0	1	0
XYLENE	2	0	0.5	0.5	0	0	0	0	1	0

Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope	PWS With (mgd)	Apply FC
24963	12.08	920.00	280.00	0.00000	0.00	☑

Stream Data

	LFY	Trib Flow	Stream Flow	WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	Tributary Hard	Tributary pH	Stream Hard	Stream pH	Analysis Hard	Analysis pH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.0345	0	0	0	0	0	0	0	100	7	0	0	0	0
Qh		0	0	0	0	0	0	0	100	7	0	0	0	0

Discharge Data

Name	Permit Number	Existing Disc Flow	Permitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH
		(mgd)	(mgd)	(mgd)						(mg/L)	
		0	0	0	0	0	0	0	0	100	7

Parameter Data

Parameter Name	Disc Conc (µg/L)	Trib Conc (µg/L)	Disc Daily CV	Disc Hourly CV	Steam Conc (µg/L)	Stream CV	Fate Coef	FOS	Crit Mod	Max Disc Conc (µg/L)
1,2-DICHLOROETHANE	0	0	0.5	0.5	0	0	0	0	1	0
ARSENIC	0	0	0.5	0.5	0	0	0	0	1	0
BENZENE	0	0	0.5	0.5	0	0	0	0	1	0
CADMIUM	0	0	0.5	0.5	0	0	0	0	1	0
CARBON TETRACHLORIDE	0	0	0.5	0.5	0	0	0	0	1	0
CHLORIDE (PWS)	0	0	0.5	0.5	0	0	0	0	1	0
CHLOROFORM	0	0	0.5	0.5	0	0	0	0	1	0
ETHYLBENZENE	0	0	0.5	0.5	0	0	0	0	1	0
LEAD	0	0	0.5	0.5	0	0	0	0	1	0
SELENIUM	0	0	0.5	0.5	0	0	0	0	1	0
SILVER	0	0	0.5	0.5	0	0	0	0	1	0
TETRACHLOROETHYLENE	0	0	0.5	0.5	0	0	0	0	1	0
TOTAL DISSOLVED SOLIDS (PWS)	0	0	0.5	0.5	0	0	0	0	1	0
TRICHLOROETHYLENE	0	0	0.5	0.5	0	0	0	0	1	0
VINYL CHLORIDE	0	0	0.5	0.5	0	0	0	0	1	0
XYLENE	0	0	0.5	0.5	0	0	0	0	1	0

PENTOXSD Analysis Results

Hydrodynamics

SWP Basin	Stream Code:	Stream Name:
08A	24963	DRIFTWOOD BRANCH SINNEMAHONING CR.

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 Hydrodynamics											
13.800	9.0735	0	9.0735	0.00077	0.002	0.8250	56.014	67.892	0.1964	0.5353	128.877
12.080	9.66	0	9.66	NA	0	0	0	0	0	0	NA
Qh Hydrodynamics											
13.800	51.060	0	51.060	0.00077	0.002	1.7644	56.014	31.747	0.5167	0.2034	41.214
12.080	53.934	0	53.934	NA	0	0	0	0	0	0	NA

PENTOXSD Analysis Results

Wasteload Allocations

RMI	Name	Permit Number
13.80	PaDOT Cameron	PA0228133

AFC

Q7-10: **CCT (min)** 15 **PMF** 0.341 **Analysis pH** 7 **Analysis Hardness** 100

Parameter	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
ARSENIC	0	0	0	0	340	340	1360000
	Dissolved WQC. Chemical translator of 1 applied.						
CADMIUM	0	0	0	0	2.014	2.133	8539.035
	Dissolved WQC. Chemical translator of 0.944 applied.						
LEAD	0	0	0	0	64.581	81.645	326821.3
	Dissolved WQC. Chemical translator of 0.791 applied.						
SELENIUM	0	0	0	0	NA	NA	NA
SILVER	0	0	0	0	3.217	3.784	15148.85
	Dissolved WQC. Chemical translator of 0.85 applied.						
BENZENE	0	0	0	0	640	640	2560000
CARBON TETRACHLORIDE	0	0	0	0	2800	2800	1.12E+07
CHLOROFORM	0	0	0	0	1900	1900	7600000
1,2-DICHLOROETHANE	0	0	0	0	15000	15000	6.004E+07
ETHYLBENZENE	0	0	0	0	2900	2900	1.16E+07
TETRACHLOROETHYLENE	0	0	0	0	700	700	2800000
TRICHLOROETHYLENE	0	0	0	0	2300	2300	9200000
VINYL CHLORIDE	0	0	0	0	NA	NA	NA
CHLORIDE (PWS)	0	0	0	0	NA	NA	NA
XYLENE	0	0	0	0	1100	1100	4400000
TOTAL DISSOLVED SOLIDS (PWS)	0	0	0	0	NA	NA	NA

CFC

Q7-10: **CCT (min)** 128.877 **PMF** 1 **Analysis pH** 7 **Analysis Hardness** 100

Parameter	Stream Conc. (µg/L)	Stream CV	Trib Conc. (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
ARSENIC	0	0	0	0	150	150	1750000
	Dissolved WQC. Chemical translator of 1 applied.						

PENTOXSD Analysis Results

Wasteload Allocations

RMI	Name	Permit Number						
13.80	**PaDOT Cameron**	**PA0228133**						
	CADMIUM	0	0	0	0	0.246	0.271	3174.796
		Dissolved WQC. Chemical translator of 0.909 applied.						
	LEAD	0	0	0	0	2.517	3.182	37324.67
		Dissolved WQC. Chemical translator of 0.791 applied.						
	SELENIUM	0	0	0	0	4.6	4.989	58529.98
		Dissolved WQC. Chemical translator of 0.922 applied.						
	SILVER	0	0	0	0	NA	NA	NA
	BENZENE	0	0	0	0	130	130	1520000
	CARBON TETRACHLORIDE	0	0	0	0	560	560	6560000
	CHLOROFORM	0	0	0	0	390	390	4570000
	1,2-DICHLOROETHANE	0	0	0	0	3100	3100	3.636E+07
	ETHYLBENZENE	0	0	0	0	580	580	6800000
	TETRACHLOROETHYLENE	0	0	0	0	140	140	1640000
	TRICHLOROETHYLENE	0	0	0	0	450	450	5270000
	VINYL CHLORIDE	0	0	0	0	NA	NA	NA
	CHLORIDE (PWS)	0	0	0	0	NA	NA	NA
	XYLENE	0	0	0	0	210	210	2460000
	TOTAL DISSOLVED SOLIDS (PWS)	0	0	0	0	NA	NA	NA

THH

Q7-10: **CCT (min)** 128.877 **PMF** 1 **Analysis pH** NA **Analysis 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)
ARSENIC	0	0	0	0	10	10	117314.5
CADMIUM	0	0	0	0	NA	NA	NA
LEAD	0	0	0	0	NA	NA	NA
SELENIUM	0	0	0	0	NA	NA	NA
SILVER	0	0	0	0	NA	NA	NA

PENTOXSD Analysis Results

Wasteload Allocations

RMI	Name	Permit Number						
13.80	**PaDOT Cameron**	**PA0228133**						
	BENZENE	0	0	0	0	NA	NA	NA
	CARBON TETRACHLORIDE	0	0	0	0	NA	NA	NA
	CHLOROFORM	0	0	0	0	NA	NA	NA
	1,2-DICHLOROETHANE	0	0	0	0	NA	NA	NA
	ETHYLBENZENE	0	0	0	0	530	530	6210000
	TETRACHLOROETHYLENE	0	0	0	0	NA	NA	NA
	TRICHLOROETHYLENE	0	0	0	0	NA	NA	NA
	VINYL CHLORIDE	0	0	0	0	NA	NA	NA
	CHLORIDE (PWS)	0	0	0	0	250000	250000	NA
	XYLENE	0	0	0	0	70000	70000	8.212E+08
	TOTAL DISSOLVED SOLIDS (PWS)	0	0	0	0	500000	500000	NA

CRL

Qh: **CCT (min)** 41.214 **PMF** 1

Parameter	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
ARSENIC	0	0	0	0	NA	NA	NA
CADMIUM	0	0	0	0	NA	NA	NA
LEAD	0	0	0	0	NA	NA	NA
SELENIUM	0	0	0	0	NA	NA	NA
SILVER	0	0	0	0	NA	NA	NA
BENZENE	0	0	0	0	1.2	1.2	79215.75
CARBON TETRACHLORIDE	0	0	0	0	0.23	0.23	15183.02
CHLOROFORM	0	0	0	0	5.7	5.7	376274.8

PENTOXSD Analysis Results

Wasteload Allocations

RMI	Name	Permit Number						
13.80	**PaDOT Cameron**	**PA0228133**						
	1,2-DICHLOROETHANE		0	0	0	0	0.38	0.38	25084.99
	ETHYLBENZENE		0	0	0	0	NA	NA	NA
	TETRACHLOROETHYLENE		0	0	0	0	0.69	0.69	45549.05
	TRICHLOROETHYLENE		0	0	0	0	2.5	2.5	165032.8
	VINYL CHLORIDE		0	0	0	0	0.025	0.025	1650.328
	CHLORIDE (PWS)		0	0	0	0	NA	NA	NA
	XYLENE		0	0	0	0	NA	NA	NA
	TOTAL DISSOLVED SOLIDS (PWS)		0	0	0	0	NA	NA	NA

PENTOXSD Analysis Results

Wasteload Allocations

RMI	Name	Permit Number
13.80	PaDOT Cameron	PA0228133

PENTOXSD Analysis Results

Recommended Effluent Limitations

SWP Basin	Stream Code:	Stream Name:
08A	24963	DRIFTWOOD BRANCH SINNEMAHONING CR.

RMI	Name	Permit Number	Disc Flow (mgd)
13.80	PaDOT Cameron	PA0228133	0.0005

Parameter	Effluent Limit (µg/L)	Governing Criterion	Max. Daily Limit (µg/L)	Most Stringent WQBEL (µg/L)	Most Stringent WQBEL Criterion
1,2-DICHLOROETHANE	20	INPUT	31.203	25084.99	CRL
ARSENIC	15	INPUT	23.402	117314.5	THH
BENZENE	2	INPUT	3.12	79215.75	CRL
CADMIUM	2	INPUT	3.12	3174.796	CFC
CARBON TETRACHLORIDE	20	INPUT	31.203	15183.02	CRL
CHLORIDE (PWS)	1010000	INPUT	1580000	NA	NA
CHLOROFORM	20	INPUT	31.203	376274.8	CRL
ETHYLBENZENE	2	INPUT	3.12	6210000	THH
LEAD	5	INPUT	7.801	37324.67	CFC
SELENIUM	30	INPUT	46.805	58529.98	CFC
SILVER	5	INPUT	7.801	9709.801	AFC
TETRACHLOROETHYLENE	20	INPUT	31.203	45549.05	CRL
TOTAL DISSOLVED SOLIDS (PWS	2020000	INPUT	3150000	NA	NA
TRICHLOROETHYLENE	20	INPUT	31.203	165032.8	CRL
VINYL CHLORIDE	20	INPUT	31.203	1650.328	CRL
XYLENE	2	INPUT	3.12	2460000	CFC