

Southwest Regional Office CLEAN WATER PROGRAM

 Application Type
 Renewal

 Facility Type
 Municipal

 Major / Minor
 Major

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

 Application No.
 PA0096342

 APS ID
 805319

 Authorization ID
 1285831

Applicant and Facility Information

Applicant Name	Fairchance-Georges Joint Municipal Sewer Authority	Facility Name	Fairchance-Georges STP
Applicant Address	141 Big Six Road	Facility Address	141 Big Six Road
	Smithfield, PA 15478-1601		Smithfield, PA 15478-1601
Applicant Contact	Mr. Dennis Eicher	Facility Contact	Same as Applicant
Applicant Phone	(724) 564-1010	Facility Phone	Same as Applicant
Client ID	74949	Site ID	263584
Ch 94 Load Status	Not Overloaded	Municipality	Georges Township
Connection Status	No Limitations	County	Fayette
Date Application Recei	ved August 27, 2019	EPA Waived?	No
Date Application Accept	oted	If No, Reason	Major Facility
Purpose of Application	Application for a renewal of an exis	sting NPDES Permit for	the discharge of treated Sewage.

Summary of Review

The applicant has applied for a renewal of an existing NPDES Permit, Permit No. PA0096342, which was previously issued by the Department on March 1, 2015. That permit expired on February 29, 2020.

WQM Permit 2685407 A-3, issued on April 24, 2017, approved construction of an expanded STP with Hydraulic Design Capacity 1.5 MGD and organic capacity of 2,502 lbs/day. Construction was completed in March of 2020. The expanded treatment process consists of equalization tank, mechanically cleaned fine bar screen, 4 SBRs, aerobic sludge digestion, UV disinfection, belt filter press and effluent pump station (for use during flood conditions).

The receiving stream, Georges Creek, is classified as a WWF and is located in State Watershed No. 19-G.

The applicant has complied with Act 14 Notifications and no comments were received.

The application states there are no stormwater related outfalls located at the STP. Part C will not contain language titled "Requirements Applicable to Stormwater Outfalls".

Sludge use and disposal description and location(s): Aerobic sludge digestion tanks are used for the treatment of Class B biosolids. A belt filter press is then used for the dewatering of digested sludge and solids are disposed of at a municipal landfill.

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-

Approve	Deny	Signatures	Date
x		Will C Mittell William C. Mitchell, E.I.T. / Environmental Engineering Specialist	July 7, 2021
x		Christopher Kriley, P.E. / Program Manager	July 8, 2021

Summary of Review

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 V	Nater	s and Water Supply Infor	matio	n	
Outfall No. 001				Design Flow (MGD)	
Latitude 39° 48'	28.25	"		Longitude	-79º 46' 5.79"
Quad Name Smithfield			Quad Code	2007	
Wastewater Description	on:	Sewage Effluent			
Poopining Waters	Coord	es Creek (WWF)		Stream Code	41340
	Ŭ	× /			
_	99417	110		RMI	13.3
Drainage Area	14.5			Yield (cfs/mi ²)	0.008 PA Water Resources Bull.
					12, Sta. 03072590,
					Georges Ck. at Smithfield
Q ₇₋₁₀ Flow (cfs)	0.116			Q7-10 Basis	with Storet Update
Elevation (ft)	991			Slope (ft/ft)	0.003
Watershed No.	19-G			Chapter 93 Class.	WWF
Existing Use	All			Existing Use Qualifier	None
Exceptions to Use	None			Exceptions to Criteria	None
Assessment Status		Impaired			
Cause(s) of Impairme	ent	METALS, SILTATION			
Source(s) of Impairme	ent	ACID MINE DRAINAGE,	ACID	MINE DRAINAGE	
TMDL Status				Name	
	. .		.	•	
Background/Ambient	Data		Dat	a Source	
pH (SU)					
Temperature (°F)					
Hardness (mg/L)					
Other:					
Nearest Downstream	Public	c Water Supply Intake	Dur	hkard Valley Joint Municipa	al Authority
		ahela River		Flow at Intake (cfs)	480
PWS RMI		· · · · · · · · · · · · · · · · · · ·		Distance from Outfall (mi)	7.8

Changes Since Last Permit Issuance: No Changes to the Receiving Waters or Water Supply Information.

Treatment Facility Summary						
Treatment Facility Na	me: Fairchance Georges	STP				
WQM Permit No.	Issuance Date					
2685407 A-2 (Existing STP)	October 25, 2004					
2685407 A-3 (Expanded STP)	April 24, 2017					
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)		
Sewage	Secondary With Ammonia Reduction	Sequencing Batch Reactor	Ultraviolet	0.695 (Year: 2018)		
Hydraulic Capacity (MGD)	Organic Capacity (Ibs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal		
1.5	2,502	Not Overloaded	Aerobic Sludge Digestion & Belt Filter Press	Landfill		

Changes Since Last Permit Issuance: Expanded STP went online on March 31, 2020.

Compliance History

Operations Compliance Check Summary Report

Facility: Fairchance-Georges-JMSA_STP

NPDES Permit No.: PA0096342

Compliance Review Period: 06/24/2016 - 06/24/2021

Open Violations by Client Summary

None.

Inspection Summary

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC	# OF VIOLATIONS
2691685	02/06/2018	Chapter 94 Inspection	PA Dept of Environmental Protection	No Violations Noted	0
3185133	04/30/2021	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	0
3171477	04/01/2021	Administrative/File Review	PA Dept of Environmental Protection	Violation(s) Noted	<u>1</u>
2768083	08/28/2018	Chapter 94 Inspection	PA Dept of Environmental Protection	No Violations Noted	0

Violation Summary

VIOL	VIOLATION	VIOLATION	VIOLATION TYPE	RESOLVED	VIOLATION
ID	DATE	TYPE	DESC	DATE	COMMENT
912455	04/01/2021	92A.44	NPDES - Violation of effluent limits in Part A of permit	06/24/2021	Numerous effluent violations of ammonia prior to May 2020.

Enforcement Summary

No enforcement actions.

DMR Violation Summary

Effluent limit violation summary

MONITORING END DATE	OUTFALL	PARAMETER	SAMPLE VALUE	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
07/31/2016	001	Ammonia- Nitrogen	4.3	2.0	mg/L	Average Monthly
07/31/2016	001	Ammonia- Nitrogen	16.7	3.0	mg/L	Weekly Average

NPDES Permit Fact Sheet Fairchance-Georges STP

07/31/2016	001	Ammonia- Nitrogen	33.9	12.5	lbs/day	Average Monthly
07/31/2016	001	Ammonia- Nitrogen	135.0	18.8	lbs/day	Weekly Average
05/31/2018	001	Ammonia- Nitrogen	3.1	3.0	mg/L	Weekly Average
08/31/2018	001	Carbonaceous Biochemical Oxygen Demand (CBOD5)	24	15	mg/L	Weekly Average
09/30/2018	001	pН	5.6	6.0	S.U.	Minimum
05/31/2019	001	Fecal Coliform	1920	1000	CFU/100 ml	Instantaneous Maximum
06/30/2019	001	Fecal Coliform	1245	1000	CFU/100 ml	Instantaneous Maximum
07/31/2019	001	Ammonia- Nitrogen	2.2	2.0	mg/L	Average Monthly
01/31/2020	001	Ammonia- Nitrogen	6.4	3.5	mg/L	Average Monthly
01/31/2020	001	Ammonia- Nitrogen	12.4	5.3	mg/L	Weekly Average
02/29/2020	001	Ammonia- Nitrogen	6.4	3.5	mg/L	Average Monthly
02/29/2020	001	Ammonia- Nitrogen	11.8	5.3	mg/L	Weekly Average
02/29/2020	001	Ammonia- Nitrogen	68.2	66.3	lbs/day	Weekly Average
03/31/2020	001	Ammonia- Nitrogen	9.4	3.5	mg/L	Average Monthly
03/31/2020	001	Ammonia- Nitrogen	11.2	5.3	mg/L	Weekly Average
03/31/2020	001	Ammonia- Nitrogen	54.8	43.8	lbs/day	Average Monthly
03/31/2020	001	Ammonia- Nitrogen	75.4	66.3	lbs/day	Weekly Average
04/30/2020	001	Ammonia- Nitrogen	3.9	3.5	mg/L	Average Monthly
04/30/2020	001	Ammonia- Nitrogen	8.0	5.3	mg/L	Weekly Average

Compliance Status:

Facility had numerous effluent violations in 201 through 2020 due to poor operation, specifically, override of SBR program mode. New plant operator corrected this practice and no effluent violations have occurred since April 2020.

Completed by: David Roote

Completed date: 6/25/2021

Development of Effluent Limitations

Outfall No.	001		Design Flow (MGD)	1.5
Latitude	39º 48' 28.25	· II)	Longitude	-79º 46' 5.79"
Wastewater De	escription:	Sewage Effluent		

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
CBOD ₅	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
CBOD5	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
Solids	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
рН	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform				
(5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform				
(5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform				
(10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform				
(10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: Impose the above Technology-Based Limitations for pH & Fecal Coliform.

Water Quality-Based Limitations

A "Reasonable Potential Analysis" (Attachment WQM 7.0 Output Data, Toxic Management Spreadsheet Version 1.3) was conducted.

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
CBOD ₅ (5/1-10/31)	10	Average Monthly	WQM 7.0 Version 1.0b
CBOD _{5 (} 11/1-4/30)	20	Average Monthly	WQM 7.0 Version 1.0b
Ammonia Nitrogen (5/1-10/31)	2.0	Average Monthly	WQM 7.0 Version 1.0b
Ammonia Nitrogen (11/1-4/30)	3.5	Average Monthly	WQM 7.0 Version 1.0b
Dissolved Oxygen	5.0	Minimum	WQM 7.0 Version 1.0b
Free Cyanide	0.004	Average Monthly	TMS Version 1.3
Total Zinc	0.14	Average Monthly	TMS Version 1.3

Comments: Part C.III. (Titled "WQBELs for Toxic Pollutants) has been added to the permit. The Authority has the opportunity to collect site-specific data and conduct a TRE. The Authority will have 2 years to complete the required studies and submit a Final WQBEL Compliance Report to the Department before having to comply with Final Permit Limits for Free Cyanide and Total Zinc. A Pre-Draft Letter/Survey for Toxic Pollutants will also be attached to the Draft Permit Issuance.

The Toxic Management Spreadsheet Version 1.3 modeling results recommends Monitoring for Total Boron, Total Copper, and Dissolved Iron.

The NPDES Permit Application indicates that the STP does not receive IW flow from an IU.

Best Professional Judgment (BPJ) Limitations

Comments: N/A

NPDES Permit Fact Sheet Fairchance-Georges STP

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (I) Reissued permits. (1) Except as provided in paragraph (I)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

The facility is not seeking to revise the previously permitted effluent limits.

Additional Considerations:

Ultraviolet (UV) disinfection is used therefore Total Residual Chlorine (TRC) limits are not applicable. Routine monitoring of UV Transmittance will be at the same monitoring frequency that is used for TRC.

For pH, Dissolved Oxygen (DO) and UV Transmittance, a monitoring frequency 1/day has been imposed. In general, less frequent monitoring may be established only when the permittee demonstrates that there will be no discharge on days where monitoring is not required.

Sewage discharges will include monitoring, at a minimum, for E. Coli, in new and reissued permits, with a monitoring frequency of 1/month for facilities with a design flows >= 1 MGD per Chapter 92.a.61.

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). A 1/quarter monitor and report requirement for Total N & Total P has been added to the permit as per Chapter 92.a.61.

Mass loading limits are applicable for publicly owned treatment works. Current policy requires average monthly mass loading limits be established for CBOD5, TSS, and NH₃-N and average weekly mass loading limits be established for CBOD5 and TSS. Average monthly mass loading limits (lbs/day) are based on the formula: design flow (MGD) x concentration limit (mg/L) x conversion factor (8.34).

For POTWs with design flows greater than 2,000 GPD influent BOD₅ and TSS monitoring must be established in the permit, and the monitoring should be consistent with the same frequency and sample type as is used for other effluent parameters.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations. Please note that Monitoring Requirements were changed for Flow to 2/week Metered to be consistent with the guidance.

Whole Effluent Toxicity (WET)

For Outfall 001, \Box Acute \boxtimes Chronic WET Testing was completed:

For the permit renewal application (4 tests).

- Quarterly throughout the permit term.
- Quarterly throughout the permit term and a TIE/TRE was conducted.

Other:

The dilution series used for the tests was: 100%, 98%, 95%, 48%, and 24%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 95%.

Summary of Four Most Recent Test Results

TST Data Analysis

(NOTE – Please see the attached DEP WET Analysis Spreadsheet).

Ceriodaphnia R		sults (Pass/Fail) Pimephales Results (Pass/Fail		
Test Date	Survival	Reproduction	Survival	Growth
10/3/2017	PASS	PASS	PASS	PASS
10/30/2018	PASS	PASS	PASS	PASS
10/22/2019	PASS	PASS	PASS	PASS
10/26/2020	PASS	PASS	PASS	PASS

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

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (*NOTE* – *In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests*).

Comments: N/A

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

Acute Partial Mix Factor (PMFa): 1.0 Chronic Partial Mix Factor (PMFc): 1.0

1. Determine IWC – Acute (IWCa):

(Q_d x 1.547) / ((Q₇₋₁₀ x PMFa) + (Q_d x 1.547))

[(1.5 MGD x 1.547) / ((0.116 cfs x 1.0) + (1.5 MGD x 1.547))] x 100 = 95.24%

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

If the discharge is to the tidal portion of the Delaware River, indicate how the type of test was determined:

N/A

Type of Test for Permit Renewal: Chronic Tests

2a. Determine Target IWCa (If Acute Tests Required)

TIWCa = 0.9524 / 0.3 = 100%

2b. Determine Target IWCc (If Chronic Tests Required)

(Q_d x 1.547) / (Q₇₋₁₀ x PMFc) + (Q_d x 1.547)

[(1.5 MGD x 1.547) / ((0.116 cfs x 1) + (1.5 MGD x 1.547))] x 100 = **95%**

3. Determine Dilution Series

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

Dilution Series = 100%, 98%, 95%, 48%, and 24%.

WET Limits

Has reasonable potential been determined? YES
NO

Will WET limits be established in the permit?
YES
NO

If WET limits will be established, identify the species and the limit values for the permit (TU).

N/A

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits:

N/A

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 August 31, 2023.

			Effluent L	imitations.			Monitoring Requireme		
Parameter	Mass Units	(lbs/day) ⁽¹⁾		Concentrat	ions (mg/L)		Minimum ⁽²⁾	Required	
Farameter	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type	
								24-Hr	
Free Cyanide	Report	Report	XXX	Report	Report	XXX	1/week	Composite	
								24-Hr	
Total Zinc	Report	Report	XXX	Report	Report	XXX	1/week	Composite	

Compliance Sampling Location: 001

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: September 1, 2023 through Permit Expiration Date.

			Effluent L	imitations			Monitoring Re	quirements	
Parameter	Mass Units	(lbs/day) ⁽¹⁾		Concentrat	ions (mg/L)		Minimum ⁽²⁾	Required	
Falameter	Average Monthly	Daily Maximum	Minimum	Average Daily Instant. inimum Monthly Maximum Maximum		Instant. Maximum	Measurement Frequency	Sample Type	
								24-Hr	
Free Cyanide	0.05	0.08	XXX	0.004	0.006	0.01	1/week	Composite	
								24-Hr	
Total Zinc	1.84	1.94	XXX	0.14	0.15	0.15	1/week	Composite	

Compliance Sampling Location: 001

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.

			Effluent Lir	nitations			Monitoring Re	quirements
Parameter	Mass Units	; (lbs/day) ⁽¹⁾		Concentrati	ons (mg/L)		Minimum ⁽²⁾	Required
Farameter	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report Daily Max	xxx	XXX	xxx	xxx	2/week	Metered
_pH (S.U.)	ххх	xxx	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	ХХХ	1/day	Grab
CBOD5 Nov 1 - Apr 30	250	375	XXX	20.0	30.0	40	2/week	24-Hr Composite
CBOD5 May 1 - Oct 31	125	185	XXX	10.0	15.0	20	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	ххх	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	xxx	XXX	2/week	24-Hr Composite
TSS	310	475	XXX	25.0	38.0	50	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	ххх	xxx	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	ххх	xxx	XXX	200 Geo Mean	XXX	1000	2/week	Grab
E. Coli (No./100 ml)	ххх	xxx	XXX	XXX	xxx	Report	1/month	Grab
UV Transmittance (%)	ххх	xxx	Report	XXX	XXX	ххх	1/day	Measured
Total Nitrogen	ХХХ	xxx	xxx	XXX	Report Daily Max	xxx	1/quarter	24-Hr Composite

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

			Effluent Lin	nitations			Monitoring Requirement		
Parameter	Mass Units	(lbs/day) ⁽¹⁾		Concentrat	ions (mg/L)		Minimum ⁽²⁾	Required	
Faranieler	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type	
Ammonia-Nitrogen								24-Hr	
Nov 1 - Apr 30	43	XXX	XXX	3.5	XXX	7	2/week	Composite	
Ammonia-Nitrogen								24-Hr	
May 1 - Oct 31	25	XXX	XXX	2.0	XXX	4	2/week	Composite	
					Report			24-Hr	
Total Phosphorus	XXX	XXX	XXX	XXX	Daily Max	XXX	1/quarter	Composite	
		Report			Report			24-Hr	
Total Boron	Report	Daily Max	XXX	Report	Daily Max	XXX	1/week	Composite	
		Report			Report			24-Hr	
Total Copper	Report	Daily Max	XXX	Report	Daily Max	XXX	1/week	Composite	
		Report		•	Report			24-Hr	
Dissolved Iron	Report	Daily Max	XXX	Report	Daily Max	XXX	1/week	Composite	

Compliance Sampling Location: 001

WQM 7.0 Version 1.0b Evaluation Annual Average Design Flow 1.5 MGD

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Warmer Perio & Modeling - 1.5 MGD Flow -

	SWP Basi			Stre	eam Name		RMI	Eleva (f		Drainage Area (sq mi)	Slop (ft/ft)	Withdr	awal	Apply FC
	19G	413	340 GEOF	GES CR	EEK		13.30	0 9	91.00	14.50	0.000	00	0.00	V
					St	ream Da	ta							
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tem	<u>Tributary</u> p pH	· 1	<u>Stream</u> Temp	pН	
oona.	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C))		(°C)		
27-10 21-10 230-10	0.008	0.00 0.00 0.00	0.00 0.00 0.00	0.000 0.000 0.000	0.000 0.000 0.000	20.0	0.00	0.00	25	5.00 7.	20	0.00	0.00	
					D	scharge	Data							
			Name	Per	mit Numbe	Existing Disc	Permitte Disc Flow (mgd)	d Design Disc Flow (mgd)	Rese Fac	Di srve Ter ctor (%	mp	Disc pH		
		Fairc	hance Geo	r PA	0096342	1.500	0 1.500	0 1.50	00 0	0.000	20.00	7.00		
					Pa	arameter	Data							
			1	Paramete	r Name	c	onc C	onc	tream Conc mg/L)	Fate Coef (1/days)				
	-		CBOD5	7	Existen Fairchö) (15.00	2.00	0.00	0.90		-		
			Dissolved	Oxygen	Georges	STP	5.00	6.70	0.00	0.00				
			NH3-N	44	itspt:	15MG.I	2.00	0.15	0.00	0.60				

Tuesday, June 10, 2014

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Input Data WQM 7.0	

	SWP Basin	Strea Cod		Str	eam Name		RM	E	levation (ft)	Draina Are (sq r	a	ilope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
	19G	413	40 GEOR	GES CR	EEK		10.4	00	945.0	0 1	18.37 0.	00000	0.00	V
					St	ream Data	a							
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depi		<u>Tributa</u> mp	pH	<u>8</u> Temp	<u>itream</u> pH	
Conu.	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°	(C)		(°C)		
Q7-10 Q1-10 Q30-10	0.008	0.00 0.00 0.00	0.00 0.00 0.00	0.000 0.000 0.000	0.000	20.0	0.00	0	.00	25.00	7.20	0.	00 0.00	
					D	ischarge [Data							
			Name	Pe	rmit Numbe	Existing Disc r Flow (mgd)	Permit Disc Flow (mgd	; D	lisc R	eserve actor	Disc Temp (°C)	Disc pH	· ·	
		Georg	ges TWMA	PA	0218391	0.1600		00 0	.1600	0.000	20.0	0 7	.00	
					Pa	arameter (-				
			,	Paramete	er Name	Di		Trib Conc	Stream Conc					
							g/L) (mg/L)	(mg/L)) (1/da)	ys)			
			CBOD5	۶ ۲	Susting Searger Munfa	STWA S	20.00	2.00	0.0	00 1	.20			
			Dissolved	Oxygen	Munfe	a)	4.00	6.70			00.00			
			NH3-N	oxygen এগ	Munfa P Limil	s (4.00 _3.00	0.15						

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Input Data WQM 7.0

	SWP Basin	Strea Cod		Ste	eam Name		RM	ii E!	evation (ft)	Drainage Area (sq mi)	s Slo (ft∕	Withde	awal	Apply FC
	19G	413	340 GEOF	GES CR	EEK		10.0	020	940.00	35.3	22 0.0	0000	0.00	V
					St	ream Da	ta							
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Dept		<u>Tributary</u> np p	н	<u>Ştream</u> Temp	рН	
Cond.	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)		
Q7-10 Q1-10 Q30-10	0.008	0.00 0.00 0.00	0.00	0.000 0.000 0.000	0.000	20.0	0.0	0 0	.00 2	5.00	7.20	0.00	0.00	
					Di	scharge	Data							
			Name	Pe	mit Numbe	Existing Disc) Permi Dis Fio	c D w F	isc Res	serve 1 actor	Disc Temp (°C)	Disc pH		
						0.000	0.0	000 0	0000	0.000	20.00	7.00		
					Pa	arameter	Data							
				Paramete	er Name		Nsc Conc	Trib Conc	Stream Conc	Fate Coef				
						(r	ng/L)	(mg/L)	(mg/L.)	(1/days)				
			CBOD5	No	s Discho 2009	• >	25.00	2.00	0.00	0.12	2			
			Dissolved	Oxygen	Reach		3.00	6.70	0.00	0.00	0			
			NH3-N			(25.00	0.00	0.00	0.60	0			

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Input Data WQM 7.0

	SWP Basin	Strea Coo		Stre	am Name		RMI		vation (ft)	Drainage Area (sq mi)		ope t/ft)	PWS Withdraw (mgd)	al	Apply FC
	19G	413	340 GEOR	GES CR	EEK		8.60	00	920.00	40.	00 0.0	0000	0	.00	V
					St	ream Dat	а								
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tem	Tributary p p	н	3 Temp	<u>Stream</u> pl	н	
oona.	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(作)	(°C	}		(°C)			
Q7-10 Q1-10 Q30-10	0.008	0.00 0.00 0.00	0.00 0.00 0.00	0.000 0.000 0.000	0.000 0.000 0.000	20.0	0.00	0.0	0 2	5.00	7.20	0.	.00 0	0.00	
					Di	scharge	Data								
			Name	Per	mit Number	Disc	Permitte Disc Flow (mgd)	Dis Flo	c Res w Fa	erve 1 ctor	Disc ľemp (°C)	Dis pH			
						0.000	p 0.000	0 0.0	000	0.000	20.00) 7	.00		
					Pa	irameter l	Data								
			1	Paramete	r Name			frib : Conc	Stream Conc	Fate Coef		-			
					, realize	(m	g/L) (n	ng/L)	(mg/L.)	(1/days)					
	-		CBOD5		Dasaho	40 5	25.00	2.00	0.00						
			Dissolved NH3-N	Oxygen	Reach	Acre	3.00 25.00	6.70 0.00	0.00	0.00					

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	SW	P Basin	Strea	m Code				Stream	Name			
		19G	41340									
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slops (ft/ft)	Depth (ft)	Widih (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10	0 Flow											
13.300	0.12	0.00	0.12	2.3205	0.00300	.813	16.27	20	0.18	0.962	20.24	7.01
10.400	0.15	0.00	0.15	2.568	0.00249	.862	17.23	20	0.18	0.127	20.27	7.01
10.020	0.28	0.00	0.28	2.568	0.00267	.933	18.66	20	0.16	0.530	20.49	7.02
Q1-1	0 Flow											
13.300	0.07	0.00	0.07	2.3205	0.00300	NA	NA	NA	0.18	0.972	20.16	7.00
10.400	0.09	0.00	0.09	2.568	0.00249	NA	NA	NA	0.18	0.128	20.18	7.01
10.020	0.18	0.00	0.18	2.568	0.00267	NA	NA	NA	0.16	0.541	20.33	7.01
Q30-	10 Flow											
13.300	0.26	0.00	0.26	2.3205	0.00300	NA	NA	NA	0.19	0.933	20.50	7.02
10.400	0.32	0.00	0.32	2.568	0.00249	NA	NA	NA	0.19	0.123	20.56	7.02
10.020	0.62	0.00	0.62	2.568	0.00267	NA	NA	NA	0.17	0.497	20.98	7.03

WQM 7.0 Hydrodynamic Outputs

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WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	M
WLA Method	EMPR	Use Inputted W/D Ratio	V
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	
Q30-10/Q7-10 Ratio	Based on 52.21 Andering 280.00%	Temperature Adjust Kr	
D.O. Saturation	Modeling (80.00%	Use Balanced Technology	
D.O. Gosl	5		

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		WQM 7	0 Wast	teload	Allo	catio	ns		
<u>s</u>	WP Basin Stre	am Code			Stream	Name			
	19G	41340		GE	EORGES	CREEP	(
NH3-N A	cute Allocation	ns							
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterior (mg/L)	n V	ltiple VLA 1g/L)	Critical Reach	Percent Reduction	
13.300	Fairchance Geor	9.53	4	9.1	53	4	0	0	_
10.400	Georges TWMA	8.47	6	9.8	51	6	0	0	
10.020	÷	NA	NA	9.3	38	NA	NA	NA	
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Mult Wi (mg	A	Critical Reach	Percent Reduction	
13.300	Fairchance Geor	1.83	2	1.6		2	0	0	
	Georges TWMA	1.47	3	1.0		3	0	0	
10.020		NA	NA	1.7	75	NA	NA	NA	
Dissolved RMI	d Oxygen Alloo Discharge Na	ç me Baseli			Multiple	Baselin		Critical Reach	Percent Reductio
10 00	Fairchance Geor	(mg/L		(mg/L)	(mg/L) 2	(mg/L) 5		0	0
10100		13.9	20 13.95	2	2	ь 4	5 4	0	0
10.40	Georges TWMA		:0 20	2	3	4	4	0	0

NA

NA

NA

NA NA

NA

NA

NA

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10.02

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	WQ	M 7.0	D.O.S	<u>imulation</u>	
SWP Basin	Stream Code			Stream Name	
19G	41340		G	EORGES CREEK	
RMI 13.300	Total Discharge 1.50		Ana	lysis Temperature (% 20.238	C) Analysis.pH 7.008
Reach Width (ft)	Reach De	pth (ft)		Reach WDRatio	Reach Velocity (fps)
16.268 Reach CBOD5 (mg/L)	0.81 Reach Ko	(1/days)	B	20.000 each NH3-N (mg/L)	0.184 Reach Kn (1/days)
13.38 <u>Reach DO (mg/L)</u> 5.081	0.82 <u>Reach Kr (</u> 5.25	1/days)		1.91 <u>Kr Equation</u> Tsivoglou	0.611 <u>Reach DO Goal (mg/L)</u> 5
Reach Travel Time (days 0.962	a) TravTime (days)	Subreach CBOD5 (mg/L)	Results NH3-N (mg/L)	D.O. (mg/L)	
	0.096	12.34	1.80	5.08	
	0.192	11.39	1.70	5.19	
	0.289	10.51	1.60	5.37	
	0.385	9.69	1.51	5.58	
	0.481	8.94	1.42	5.79	
	0.577	8.25	1.34	6.01	
	0.674	7.61	1.27	6.22	
	0.770	7.02	1.19	6.42	Same Not a subtrain
	0.866	6.48	1.13	6.61 { Dak	Seconders 7 > 5,0 criteria
•	0.962	5.98	1.06	6.70_)	
<u>RMI</u> 10.400	Total Discharge 1.66		Anal	vsis Temperature (°C 20.271	C) Analysis.pH 7.009
Reach Width (ft)	Reach De	pth (ft)		Reach WDRatio	Reach Velocity (fps)
17.232	0.86	2		20.000	0.183
Reach CBOD5 (mg/L)	Reach Kc (B	each NH3-N (mg/L)	Reach Kn (1/days)
7.21	0.91			1.23	0.613
Reach DO (mg/L) 6.454	Reach Kr (4.33			Kr Equation Tsivoglou	Reach DO Goal (mg/L) 5
each Travel Time (days 0.127	TravTime		NH3-N	D.O.	
	(days)	(mg/L)	(mg/L)	(mg/L)	
	0.013	7.13	1.22	6.43	
	0.025	7.04	1.21	6.41	
	0.038	6.96	1.20	6.39	
	0.051	6.88	1.19	6.38	
	0.063	6.80	1.18	6.37	
	0.076	6.72	1.17	6.36	
	0.089	6.64	1.16	6.35	
	0.102	6.57	1.15		- KA altonia -
	0.114	6.49	1.15	76.34 C L C	D D C C I L C C C C C C C C C C C C C C C C
	0.127	6.41	1.14	6.34 j Sa	> 50 criteria - e Next Reach for Recove
				a arelia	

WOM 7 0 D O Simulati

			0.0.0	maiado			
SWP Basin St	tream Code			Stream Name	2		
19G	41340		G	EORGES CRE	EK		
BMI	Total Discharge	e Flow (mgd	D Ana	lysis Temperati	ure (°C)	Analysis pH	
10.020	1,66	0		20.494		7.016	
Reach Width (ft)	Reach De	pth (ft)		Reach WDRa	tio	Reach Velocity (fps)	
18.657	0.93	3		20.000		0.164	
Reach CBOD5 (mg/L)	Reach Kc	(1/days)	B	leach NH3-N (n	ng/L)	Reach Kn (1/days)	
6.20	0.88	-		1.07		0.623	
Reach DO (mg/L)	Reach Kr (Kr Equation		Reach DO Goal (mg/L)	
6.356	4.15	0,		Tsivoglou		5	
Reach Travel Time (days) 0.530	TravTime (days)	Subreach CBOD5 (mg/L)	h Results NH3-N (mg/L)	D.O. (mg/L)			
	0.053	5.91	1.04	6.36 📿	007	S.O criteria & 1	resa
	0.105	5.64	1.01	6.39 🔪			
	0.159	. 5.37	0.97	6.43 之			
	0.212	5.12	0.94	6.48			
	0.265	4.88	0.91	6.55			
	0.318	4.66	0.88	6.62			
	0.371	4.44	0.85	6.69			
	0.424	4.23	0.83	6.70			
	0.477	4.03	0.80	6.70			
	0.530	3.84	0.77	6,70			

WQM 7.0 D.O.Simulation

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	SWP Basin S 19G	tream Code 41340		Stream Name GEORGES CREI			
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Efft. Limi Minimum (mg/L)
13.300	Fairchance Geo	PA0096342	1.500	CBODS Timper I & Ruis NH3-N 20 M3 Dissolved Oxygen	≤ 513.95 X. 2	4	5
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limi Minimum (mg/L)
10.400	Georges TWM/	PA0218391	0.160	CBODS Exist		6	
				Dissolved Oxygen	(4

WQM 7.0 Effluent Limits

Note. No need to ruw this in Uniform Treatment (UT) Hode, on a knew take the least stringent limits of BAPR and WT Hode and repunish EMPR Hode, The same above limits with result. The above second dischargers RXIs finglimits remained unchanged, which is the desired result.

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Colder Period Modeling - 1.5 HGD Flow -Input Data WQM 7.0 Tising Background & Reach Data From Previous Modeling

	SWP Basin	Strea Cod		Stre	eam Name		RMI	Eleva (我)		rainage Area (sq mi)	Slope (fVft)	PWS Withdrav (mgd)		Apply FC
	19G	413	40 GEOR	GES CRI	EK		13.30	0 9	91.00	14.50 (0.00000	c	0.00	
					St	ream Dat	a							
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	<u>Ti</u> Temp	<u>ributary</u> pH	Tem	<u>Stream</u> p p	н	
e ona.	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	1		
Q7-10 Q1-10	0.016	0.00 0.00	0.00 0.00	0.000 0.000	0.000 0.000	20.0	0.00	0.00	5.0	00 7.20	0).00	0.00	
Q30-10		0.00	0.00	0.000	0.000									
					Di	scharge l	Data							
			Name	Per	mit Number	Disc	Permitte Disc Flow (mgd)	d Design Disc Flow (mgd)	Reser Facto		Dis pl			
		Faircl	nance Geo	r PA	096342	1.500	1.5000) 1.500	0.0 0.0	000 15.	.00	7.00		
					Pa	arameter l	Data							
				aramete	r Name				ream Conc	Fate Coef				
				en annotes	1461155	(m	g/L) (m	g/L) (n	ng/i.) (1/days)				
	-		CBOD5	e~	stistin antenas	1	25.00	2.00	0.00	1.50				
			Dissolved	Oxygen	arrenar Sealge: mults o me luc	$\left< \frac{557P}{5} \right>$	5.00 1	10.18	0.00	0.00				
			NH3-N	Ô,	75 HG	ĝί	4.50	0.15	0.00	0.60				

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	SWP Basir			Stre	am Name		RMI	Elevi (f		Draina; Area (sq m	ĩ	Slope (ft/ft)	PWS Withdra (mgd	wal	Appiy FC
	19G	413	340 GEOR	GES CR	EEK		10.40	0 9	945.00	14	8.37	0.00000		0.00	
					St	ream Dat	a								
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tem		pH	Tem		рH	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	0°))		(°C)			
Q7-10	0.016	0.00	0.00	0.000	0.000	20.0	0.00	0.00		5.00	7.20	o 0	0.00	0.00	
Q1-10		0.00	0.00	0.000	0.000										
Q30-10		0.00	0.00	0.000	0.000										
					Di	scharge l	Data								
			Name	Per	mit Number	Existing Disc Flow	Permitte Disc Flow	d Desig Disc Flow	Res	erve ctor	Disc Tem				

(mgd)

Parameter Data Disc

0.1600

Conc

(mg/Ľ)

PA0218391

CBOD5 Reisting (25.00 Dissolved Oxygen Hun, Ruth 4.00

STPLIMILS (9.00

Parameter Name

(mgd)

0.1600

Trib

Conc

(mg/L)

2.00

10.18

0.15

(mgd)

0.1600

Stream

Conc

(mg/L) (1/days)

0.00

0.00

0.00

0.000

Fate Coef

1.50

0.00

0.60

(°C)

15.00

7.00

Georges TWMA

NH3-N

Input Data WOM 7.0

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Input Data WQM 7.0	
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	SWP Basin	Strea Cod		Str	eam Name		RMI	El	evation (ft)	Drainago Area (sq mi)		Wit	PWS hdrawal mgd)	Apply FC
	19Ġ	413	340 GEOR	GES CR	EEK		10.02	20	940.00	35.	22 0.0	00000	0.00	
					St	ream Dat	ta							
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depti	n Tem	<u>Tributary</u> p p	н	<u>Stre</u> Temp	am pH	
cond.	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(作)	(°C)		(°C)		
Q7-10 Q1-10	0.016	0.00	0.00	0.000		20.0	0.00	0.	00	5.00	7.20	0.00	0.00	
Q30-10		0.00	0.00	0.000	0.000									
					D	ischarge	Data							
			Name	Pe	rmit Numbe	Disc	Permitt Disc Flow (mgd)	Di Fl	sc Res		Dísc l'emp (°C)	Disc pH		
					-	0.000	0.000	0 0.	0000	0.000	15.00	7.00		
					Pa	arameter	Data							
				Paramete	er Name	_		Trib Conc	Stream Conc	Fate Coef				
						(n	ng/L) (r	ng/L)	(mg/L)	(1/days)				
			CBOD5	1	10 Dise	unges	25.00	2.00	0.00	0.12	2			
			Dissolved	Oxygen	Here	, /	3.00	10.18	0.00	0.00)			
			NH3-N		Extern	de d C	25.00	0.15	0.00	0.60	,			

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	SWP Basin	Strea Cod		Stre	am Name		RMI		ation ft)	Drainage Area (sq mi)	Slope (ft/ft)	Withd	rawal	Apply FC
	19G	413	340 GEOR	GES CR	EK		8.60	0	920.00	40.00	0.000	00	0.00	\mathbf{V}
					St	ream Dat	8							
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tem	<u>Tributary</u> np pH	Т	<u>Strean</u> emp	n pH	
Cona.	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	{°C)		(°C)		
Q7-10 Q1-10 Q30-10	0.016	0.00	0.00 0.00 0.00	0.000 0.000 0.000	0.000 0.000 0.000	20.0	0.00	0.00)	5.00 7	.20	0.00	0.00	
400-10		0.00	0.00										1	
			Name	Per	Di mit Number	Disc	Data Permitte Disc Flow (mgd)	Disc	Res v Fa	erve Te clor	lsc mp (C)	Disc pH		
						0.000	0.000	0 0.00	000	0.000	15.00	7.00		
					Pa	rameter	Data							
				Paramete	r Nama				Stream Conc	Fale Coef				
			'	atannete	1 Halfie	(11	ig/L) (n	ng/L)	(mg/L)	(1/days)				
			CBOD5		Madis Here Read	charae	25.00	2.00	0.00	0.12				
			Dissolved	Oxygen	Read	il. S	3.00	10.18	0.00	0.00				
			NH3-N		Sale	mzed	25.00	0.15	0.00	0.60				

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					0411	anno	0 0 0				
SWI	P Basin	Strea	m Code				Stream	Name			
	19G	4	1340			GE	ORGES	CREEK			
Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	•	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH
(cfs)	(cfs)	(cfs)	(cfs)	(和/我)	(ft)	(ft)		(fps)	(days)	(°C)	
Flow											
0.23	0.00	0.23	2.3205	0.00300	.822	16.44	20	0.19	0.938	14.09	7.01
0.29	0.00	0.29	2.568	0.00249	.872	17.43	20	0.19	0.123	13.97	7.02
0.56	0.00	0.56	2.568	0.00267	.952	19.05	20	0.17	0.503	13.20	7.03
Flow											
0.15	0.00	0.15	2.3205	0.00300	NA	NA	NA	0.19	0.955	14.40	7.01
0.19	0.00	0.19	2.568	0.00249	NA	NA	NA	0.18	0.128	14.32	7.01
0.36	0.00	0.36	2.568	0.00267	NA	NA	NA	0.17	0.522	13.77	7.02
10 Flow	,										
0.51	0.00	0.51	2.3205	0.00300	NA	NA	NA	0.20	0.884	13.19	7.03
0.65	0.00	0.65	2.568	0.00249	NA	NA	NA	0.20	0.115	12.98	7.03
1.25	0.00	1.25			NA	NA		0.19			7.08
	Stream Flow (cfs)) Flow 0.23 0.29 0.56) Flow 0.15 0.19 0.36 10 Flow 0.51 0.65	Flow With (cfs) (cfs) 0 Flow 0.23 0.00 0.29 0.00 0.56 0.00 0 Flow 0.15 0.00 0.19 0.00 0.36 0.00 10 Flow 0.51 0.00 0.65 0.00	SWP Basin Stream 19G 4 Stream PWS Flow With (cfs) (cfs) 0 Flow 0.23 0.29 0.00 0.56 0.00 0.56 0.00 0.15 0.00 0.15 0.00 0.15 0.00 0.15 0.00 0.56 0.00 0.15 0.00 0.15 0.00 0.15 0.00 0.51 0.00 0.51 0.00 0.51 0.00	SWP Basin Stream Code 19G 41340 Stream PWS Flow With Stream PWS Flow With Stream PWS (cfs) (cfs) 0.56 0.00 0.23 0.00 0.29 0.00 0.56 0.00 0.56 0.00 0.56 0.00 0.15 2.3205 0.15 0.00 0.56 0.00 0.56 0.00 0.56 0.00 0.15 2.3205 0.19 0.00 0.36 0.00 0.36 0.00 0.36 2.568 0 0.51 0.51 0.00 0.51 0.3205 0.65 0.00	SWP Basin Stream Code 19G 41340 Stream PWS With Net Stream Flow Disc Flow Reach Flow (cfs) (cfs) (cfs) Disc Flow Reach (cfs) 0.56 (cfs) 0.23 2.3205 0.00300 0.29 0.00 0.29 2.568 0.00249 0.56 0.00 0.56 2.568 0.00267 O Flow 0.15 2.3205 0.00300 0.19 0.00 0.15 2.3205 0.00300 0.19 0.00 0.15 2.3205 0.00300 0.19 0.00 0.15 2.3205 0.00300 0.19 0.00 0.15 2.3205 0.00300 0.19 0.00 0.36 2.568 0.00267 0 0.00 0.19 2.568 0.00249 0.36 0.00 0.36 2.568 0.00249 0.36 0.00 0.36 2.568 0.00249 0.51	SWP Basin Stream Code 19G 41340 Stream PWS Flow Net Stream Disc Flow Reach Malysis Depth Stream PWS (cfs) Net (cfs) Disc (cfs) Reach (fi/ft) Depth 0 (cfs) (cfs) 0.23 2.3205 0.00300 .822 0.29 0.00 0.29 2.568 0.00249 .872 0.56 0.00 0.56 2.568 0.00267 .952 0 Flow 0.15 2.3205 0.00300 NA 0.15 0.00 0.15 2.3205 0.00300 NA 0.19 0.00 0.15 2.3205 0.00300 NA 0.19 0.00 0.19 2.568 0.00267 NA 0.36 0.00 0.36 2.568 0.00267 NA 0.19 0.00 0.36 2.568 0.00267 NA 0.51 0.00 0.51 2.3205 0.00300 NA	19G 41340 GE Stream PWS Net Disc Reach Depth Width Flow With Stream Analysis Slope Disc Reach Depth Width (cfs) (cfs) (cfs) (cfs) (fi) (fi) (fi) 0 Flow Flow Flow (fi/fi) (fi) (fi) 0.23 0.00 0.23 2.3205 0.00300 .822 16.44 0.29 0.00 0.29 2.568 0.00249 .872 17.43 0.56 0.00 0.56 2.566 0.00267 .952 19.05 0 Flow 0.15 2.3205 0.00300 NA NA 0.15 0.00 0.15 2.3205 0.00300 NA NA 0.19 0.568 0.00249 NA NA 0.36 0.00 0.36 2.568 0.00267 NA NA 0.36 0.	SWP Basin Stream Code Stream I 19G 41340 GEORGES Stream PWS Flow Net With Disc Stream Reach Flow Depth (cfs) Width (cfs) W/D Ratio 0 Flow 0.23 0.00 0.23 2.3205 0.00300 .822 16.44 20 0.29 0.00 0.29 2.568 0.00249 .872 17.43 20 0.56 0.00 0.56 2.568 0.00267 .952 19.05 20 0 Flow 0.15 2.3205 0.00300 NA NA NA 0.15 0.00 0.56 2.568 0.00267 .952 19.05 20 0 Flow 0.15 2.3205 0.00300 NA NA NA 0.19 0.00 0.15 2.3205 0.00267 NA NA NA 0.16 0.00 0.15 2.3205 0.00300 NA NA NA 0.19 0.00	SWP Basin Stream Code Stream Name 19G 41340 GEORGES CREEK Stream PWS Flow Net With Disc Stream Reach Analysis Depth Slope Width W/D Ratio Velocity Ratio 0(cfs) (cfs) (cfs) (ff) (ft) (ft) (ft) (ft) 0.23 0.00 0.23 2.3205 0.00300 .822 16.44 20 0.19 0.29 0.00 0.29 2.568 0.00249 .872 17.43 20 0.19 0.56 0.00 0.56 2.568 0.00267 .952 19.05 20 0.17 0 Flow 0.15 2.3205 0.00300 NA NA NA 0.19 0.56 0.00 0.15 2.3205 0.00300 NA NA 0.19 0.15 0.00 0.15 2.3205 0.00300 NA NA 0.17 0 Flow 0.36 2.568 0.00267 NA	SWP Basin Stream Code Stream Name 19G 41340 GEORGES CREEK Stream PWS Flow Net With Disc Stream Reach Analysis Depth Slope Width Ratio W/D Ratio Velocity Velocity Reach Trav Time (cfs) (cfs) (cfs) (ft/ft) (ft) (ft) (ft) (ft) 0.019 0.938 0.23 0.00 0.23 2.3205 0.00300 .822 16.44 20 0.19 0.938 0.29 0.00 0.29 2.568 0.00267 .952 19.05 20 0.17 0.603 0.56 0.00 0.15 2.3205 0.00300 NA NA NA 0.19 0.123 0.56 0.00 0.56 2.568 0.00267 .952 19.05 20 0.17 0.603 0.15 0.00 0.15 2.3205 0.00300 NA NA NA 0.18 0.128 0.13 0.00 0.19	SWP Basin Stream Code Stream Name 19G 41340 GEORGES CREEK Stream PWS Flow Net (cfs) Disc (cfs) Reach (cfs) Depth (ft) Width (ft) W/D Ratio Velocity Reach (fps) Analysis Temp Time (fps) Analysis Temp (ec) 0 (cfs) Net (cfs) Disc (cfs) Reach (cfs) Depth (ft) Width (ft) W/D Ratio Velocity (fps) Reach (days) Analysis Temp (ec) 0 (cfs) 0.02 2.3205 0.00300 .822 16.44 20 0.19 0.938 14.09 0.23 0.00 0.23 2.3205 0.00267 .952 19.05 20 0.17 0.603 13.20 0 Flow 0.15 2.3205 0.00300 NA NA NA 0.19 0.955 14.40 0.15 0.00 0.15 2.3205 0.00267 NA NA NA 0.17 0.563 14.32 0.15 0.00 0.36 2.568 0.002

WQM 7.0 Hydrodynamic Outputs

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NPDES Permit Fact Sheet Fairchance-Georges STP

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WQM 7.0 Modeling Specifications

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Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	\mathbf{V}
WLA Method	EMPR	Use Inputted W/D Ratio	\mathbf{V}
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	
Q30-10/Q7-10 Ratio	From S221	Temperature Adjust Kr	
D.O. Saturation	Prestions 280.00%	Use Balanced Technology	\Box
D.O. Goal	5		

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Version 1.0b

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					llocatio		
	SWP Basin S	ream Code		St	ream Name		
	19G	41340		GEO	RGES CREE	<	
NH3-N	Acute Allocati	ons					
RM	Discharge Na	Baseline me Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
13.30	00 Fairchance Geo	r 14.57	9	14.57	9	0	0
10.40	00 Georges TWMA	18.47	18	14.65	18	0	0
10.03	20	NA	NA	15.17	NA	NA	NA
NH3-N	Chronic Alloc	ations					
RMI	Discharge Nam	Baseline e Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
13.30	00 Fairchance Geo	r 3.13	3.79	3.13	3.79	0	0
	00 Georges TWMA	3.77	9	3.17	9	0	0

WOM 7 OW -4-1-43

Dissolved Oxygen Allocations

10.020

		CBC	<u>DD5</u>	NH	3-N	Dissolved	d Oxygen	Critical	Percent
RMI	Discharge Name	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Reach	Reduction
13.30	Fairchance Geor	19.79	19.79	3.79	3.79	5	5	0	0
10.40	Georges TWMA	25	25	9	9	4	4	0	0
10.02		NA	NA	NA	NA	NA	NA	NA	NA

3.45

NA

NA

NA

ΝA

NA

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		VQ	M 7.0	0.0.5	imula	tion		
SWP Basin	Stream Code				Stream I	Name		
19G	41340			G	SEORGES	CREEK		
<u>RMI</u> 13.300		1.50) <u>Ana</u>	14.0		Analysis pH 7.015	
Reach Width (ft) 16.435	Rea	0.82	<u>pth (ft)</u> 2		Reach W 20.0		Reach Velocity (fps) 0.189	
Reach CBOD5 (mg/L) 18.17 Reach DO (mg/L)		h Kc (1.16 h Kr (1/days) 9 1/days)	E	Reach NH3 3.4 Kr Equ	-N (mg/L) 6 ation	Reach Kn (1/days) 0.381 Reach DO Goal (mg/L)	
5.471 Reach Travel Time (day	a)	5.39			Tsivog	llou	5	
0.938	Trav	Time iys)	Subreach CBOD5 (mg/L)	Results NH3-N (mg/L)	D.O. (mg/L)			
	(0.094	16.71	3.34	5.24			
	(0.188	15.37	3.22	5.26			
		0.281	14.14	3.11	5.41			
		0.375	13.01	3.00	5.63			
).469).563	11.97 11.01	2.89 2.79	5.88 6.15			
		0.656	10.13	2.69	6.41			
		0.750	9.31	2.60	6.66	200R	ecovers >5.0CI	Steria.
	(0.844	8.57	2.51	6.90			
	(0.938	7.88	2.42	,7.13	2		
RMI 10.400 Reach Width (ft)		1.660	Flow (mgd)) oth (ft)	Anai	i <u>ysis Temp</u> 13.97 Reach W	-	Analysis <u>pH</u> 7.017 Reach Velocity (fps)	
17.433		0.872			20.00		0.188	
Reach CBOD5 (mg/L)	Read		1/days)	B	each NH3		Reach Kn (1/days)	
9.23 Deach DO (mail)	Read	1.232 h Kr (1	2 1/days)		2.94 <u>Kr Equ</u> a		0.377 Reach DO Goal (mo/L)	
Reach DO (mg/L)	I Search	4.460			Tsivog		5	
6.925							3	
6.925			Subreach CBOD5 (mg/L)	Results NH3-N (mg/L)	D.O. (mg/L)		5	
6.925 each Travel Time (days	Travi (da)		CBOD5	NH3-N	D.O.		5	
6.925 leach Travel Time (days	Travi (da)	ys)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)			
6.925 leach Travel Time (days		ys) 0.012 0.025 0.037	CBOD5 (mg/L) 9.13	NH3-N (mg/L) 2.93	D.O. (mg/L) 6.89			
6.925 leach Travel Time (days		ys) 0.012 0.025 0.037 0.049	CBOD5 (mg/L) 9.13 9.02 8.92 8.82	NH3-N (mg/L) 2.93 2.91 2.90 2.89	D.O. (mg/L) 6.89 6.86 6.84 6.81			
6.925 each Travel Time (days	Travi (da) 0 0 0 0 0 0 0 0 0 0	ys) 0.012 0.025 0.037 0.049 0.062	CBOD5 (mg/L) 9.13 9.02 8.92 8.82 8.72	NH3-N (mg/L) 2.93 2.91 2.90 2.89 2.89 2.87	D.O. (mg/L) 6.89 6.86 6.84 6.81 6.79			
6.925 Reach Travel Time (days		0.012 0.025 0.037 0.049 0.062 0.074	CBOD5 (mg/L) 9.13 9.02 8.92 8.82 8.72 8.62	NH3-N (mg/L) 2.93 2.91 2.90 2.89 2.87 2.86	D.O. (mg/L) 6.89 6.86 6.84 6.81 6.79 6.76			
6.925 Reach Travel Time (days		0.012 0.025 0.037 0.049 0.062 0.074 0.086	CBOD5 (mg/L) 9.13 9.02 8.92 8.82 8.72 8.62 8.62 .8.52	NH3-N (mg/L) 2.93 2.91 2.90 2.89 2.87 2.86 2.85	D.O. (mg/L) 6.89 6.86 6.84 6.81 6.79 6.78 6.76	000	•	
6.925 leach Travel Time (days	- Travi (da) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.012 0.025 0.037 0.049 0.062 0.074 0.086 0.099	CBOD5 (mg/L) 9.13 9.02 8.92 8.82 8.72 8.62 8.62 8.52 8.42	NH3-N (mg/L) 2.93 2.91 2.90 2.89 2.87 2.86 2.85 2.85 2.83	D.O. (mg/L) 6.89 6.86 6.84 6.81 6.79 6.78 6.76 6.75	200=	•	ar Recarle
6.925 each Travel Time (days	- Travi (da) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.012 0.025 0.037 0.049 0.062 0.074 0.086	CBOD5 (mg/L) 9.13 9.02 8.92 8.82 8.72 8.62 8.62 .8.52	NH3-N (mg/L) 2.93 2.91 2.90 2.89 2.87 2.86 2.85	D.O. (mg/L) 6.89 6.86 6.84 6.81 6.79 6.78 6.76	2 D0 2	> 5. O Criteria- 2 Nevil Reach f	or Recove
6.925 each Travel Time (days	- Travi (da) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ys) 0.012 0.025 0.037 0.049 0.062 0.074 0.086 0.099 0.111	CBOD5 (mg/L) 9.13 9.02 8.92 8.82 8.72 8.62 8.62 8.52 8.42 8.33	NH3-N (mg/L) 2.93 2.91 2.90 2.89 2.87 2.86 2.85 2.83 2.83 2.82	D.O. (mg/L) 6.89 6.86 6.84 6.81 6.79 6.78 6.76 6.75 6.75	S Do Ser	•	iar Recarde

WOM 7 0 D O Simulatio

<u>SWP Basin</u> 19G	Stream Code 41340		G	Stream Nai EORGES CF	_					
RMI	Total Discharge	e Flow (mgd) Ana	lysis Temper	ature (°C)	Analysis pH				
10.020	1.66	0		13.201		7.030				
Reach Width (ft)	Reach De	opth (ft)		Reach WDF	<u>Ratio</u>	Reach Velocity (fps)				
19.048	0.95	2		20.000		0.173 Reach Kn (1/days)				
Reach CBOD5 (mg/L)	Reach Kc	(1/days)	R	each NH3-N	(mg/L)					
7.69	1.18			2.58		0.356				
Reach DO (mg/L)	Reach Kr			Kr Equation	on	Reach DO Goal (mg/L)				
7.036	4.37	5		Tsivoglo	u	5				
Reach Travel Time (days) 0.503	TravTime (days)	Subreach CBOD5 (mg/L)	Results NH3-N (mg/L)	D.O. (mg/L)						
	0.050	7.37	2.53	7.09 7	a ag'	5.0 criteria & pece				
	0.101	7.05	2.49	7.16		20 Chickle & Inche	14.04			
	0.151	6.75	2.44	7.23						
	0.201	6.46	2.40	7.31						
	0.251	6.19	2.36	7.39						
	0.302	5.92	2.32	7.48						
	0.352	5.67	2.27	7.57						
	0.402	5.43	2.23	7.65						
	0.452	5.20	2.19	7.74						

WQM 7.0 D.O.Simulation

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	SWP Basin Stream 19G 413			Stream Name GEORGES CRE	-			
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)	
13.300	Fairchance Geor	PA0096342	1.500	CBOD5 20 R 40 P 219.79 240 H 4X 140 H 4X 140 H 4X 3.79 3.5 Rug 9-7, 0 Hax 3.5 Solved Oxygen		7.58	5	
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)	
10.400	Georges TWMA	PA0218391	0.160	CBOD5 Exist	ing (25 5 5 9	18		

Note-No need to rerun in UTHade, then take least stragent of LAT & EMPR mode limits or rerun in EMPR mode. The above some limits would result.

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Version 1.0b -

Toxics Management Spreadsheet Version 1.3 – Annual Design Flow 1.5 MGD



Toxics Management Spreadsheet Version 1.3, March 2021

Discharge Information

	ructions D	ischarge Stream													
Inst	ructions	ischarge Stream													
Fac	ility: Fair	chance-Georges JM	NPDES Permit No.: PA0096342 Outfall No.: 001												
Eva	luation Type:	Major Sewage /	Industr	ial Wa	aste		Wa	stewater	Descrip	tion: Sev	vage Eff	luent			
_															
					Discha	-		racterist							
De	sign Flow	Hardness (mg/l)*	DH (SU)*		P		al Mix Fa	actors (I			Com	plete Mi	x Times	(min)
	(MGD)*	maraness (mgn)	pint	,	AFC	:		CFC	THE	1	CRL	Q	7-10	0	2 _h
	1.5	129	1	7	1			1							
						0	If lef	t blank	0.5 lf le	ft blank	() if left blan	k	1 If let	t blank
	Discha	arge Pollutant	Units	Max	Discharge Conc	Tr Co		Stream Conc	Daily CV	Hourly CV	-	E FOS		Criteri a Mod	Chem Transl
-		ed Solids (PWS)	mg/L		760										
Group	Chloride (PW) Bromide	5)	mg/L		85.5 0.424										
ē	Sulfate (PWS	\ \	mg/L mg/L		48.3		+								
0	Fluoride (PWS		mg/L	\vdash	70.0									<u> </u>	
\vdash	Total Aluminum		µg/L		40		+								
	Total Antimony		µg/L		0.58										
	Total Arsenic		µg/L		0.64										
	Total Barium		µg/L		47	Ħ									
	Total Beryllium		µg/L		0.3										
	Total Boron		µg/L		173										
	Total Cadmium		µg/L	<	0.2										
	Total Chromiu		µg/L		0.4										
	Hexavalent Cl	hromium	µg/L	<	1										
	Total Cobalt		µg/L		1										
8	Total Copper Free Cyanide	µg/L		5		_									
Group	Total Cyanide		μg/L μg/L		8.7										
22	Dissolved Iron		µg/L		33										
	Total Iron	-	µg/L		50										
	Total Lead	Total Lead			0.38										
	Total Mangan	ese	μg/L μg/L		50										
	Total Mercury		µg/L	<	0.2										
	Total Nickel		µg/L		2										
		(Phenolics) (PWS)	µg/L	<	2										
	Total Seleniur	m	µg/L	<	2										
	Total Silver		µg/L	<	0.5										
	Total Thallium Total Zinc	1	µg/L	<	0.5										
	Total Zinc Total Molybde	201022	μg/L μg/L		2										
\vdash	Acrolein	envir (1	μg/L μg/L	<	2										
	Acrylamide		µg/L	-	-			-							
	Acrylonitrile		µg/L	<	5		-								
	Benzene		µg/L	<	0.5										
	Bromoform		µg/L	<	0.5										

					_	_			 	 			
	Carbon Tetrachloride	µg/L	<	0.23	T	Ť	Ť						
	Chlorobenzene	µg/L	<	0.5	Π	T							
	Chlorodibromomethane	µg/L	<	0.5		1							
						-		<u> </u>	<u> </u>				
	Chloroethane	µg/L	<	1			_						
	2-Chloroethyl Vinyl Ether	µg/L	<	5									
	Chloroform	µg/L		0.89	ĻĻ	4							
	Dichlorobromomethane	µg/L	<	0.5		4							
	1,1-Dichloroethane	µg/L	<	0.5	Ħ	≓	+						╞┼┼┼
					⊢⊹	┿	+						╟┼┼┼┼
	1,2-Dichloroethane	µg/L	<	0.5	H	⇒	+						
₽.	1,1-Dichloroethylene	µg/L	<	0.5	$ \rightarrow $								
Group	1,2-Dichloropropane	µg/L	<	0.5	H	7							
l O	1,3-Dichloropropylene	µg/L	<	0.47	Ħ	Ť	-						
	1,4-Dioxane	µg/L	<	3.1	Hì	÷	÷						
1 F					Ħ	Ŧ	÷						
	Ethylbenzene	µg/L	<	0.5		Ì		<u> </u>					
	Methyl Bromide	µg/L		0.51	Ť	Ì	Ť						
[Methyl Chloride	µg/L		0.69									
	Methylene Chloride	µg/L	<	1									
				0.5	H	+	+		<u> </u>				
	1,1,2,2-Tetrachloroethane	µg/L	<		⊢	4	+						
l	Tetrachloroethylene	µg/L	<	0.5									
	Toluene	µg/L	<	0.5	H	_							
	1,2-trans-Dichloroethylene	µg/L	<	0.5	H	-							
	1,1,1-Trichloroethane	µg/L	<	0.5	Ħ	+	+						
					H	+	-						
	1,1,2-Trichloroethane	µg/L	<	0.5	H	+	-						
l	Trichloroethylene	µg/L	<	0.5	E)								
	Vinyl Chloride	µg/L	<	0.5	F								
	2-Chlorophenol	µg/L	<	3.1	Tì	Ť							
	2,4-Dichlorophenol	µg/L	<	3.1	Ħ	Ť	Ŧ						
					T	Ĥ	Ŧ	1					
	2,4-Dimethylphenol	µg/L	<	3.1									
	4,6-Dinitro-o-Cresol	µg/L	<	6.3									
4	2,4-Dinitrophenol	µg/L	<	6.3	Ц	_							
Group	2-Nitrophenol	µg/L	<	3.1		_							
2	4-Nitrophenol	µg/L	<	3.1	H	=	+						
					+	+	+						
	p-Chloro-m-Cresol	µg/L	<	3.1	\vdash	╡							
	Pentachlorophenol	µg/L	<	6.3	\vdash	\rightarrow							╟─┼─┼─┼
[Phenol	µg/L	<	8.3	H	7							
	2,4,6-Trichlorophenol	µg/L	<	3.1	Hì	Ť	+						
\vdash			<	1.6	Ħ	ŧ	÷		<u> </u>				
	Acenaphthene	µg/L			Ħ	Ŧ	÷		<u> </u>				
	Acenaphthylene	µg/L	<	1.6	T	Ì	Ì						
	Anthracene	µg/L	<	1.6		Т		1					
	Benzidine	µg/L	<	4.2									
	Benzo(a)Anthracene	µg/L	<	1.6									
	5 /					_	+		<u> </u>				
	Benzo(a)Pyrene	µg/L	<	1.6	\square	_	_						
	3,4-Benzofluoranthene	µg/L	<	1.6									
[Benzo(ghi)Perylene	µg/L	<	1.6	H								
	Benzo(k)Fluoranthene	µg/L	<	1.6	H	-							
	Bis(2-Chloroethoxy)Methane	µg/L	<	3.1	H	+	-						
					H	-							
	Bis(2-Chloroethyl)Ether	µg/L	<	3.1	H	-	-						
	Bis(2-Chloroisopropyl)Ether	µg/L	<	3.1	H								
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	3.1	F	T							
	4-Bromophenyl Phenyl Ether	µg/L	<	3.1	\square	Ť							
	Butyl Benzyl Phthalate	µg/L	<	3.1	F	Ì							
					\square	-	+	<u> </u>					
	2-Chloronaphthalene	µg/L	<	3.1									
	4-Chlorophenyl Phenyl Ether	µg/L	<	3.1									
	Chrysene	µg/L	<	1.6	Ц	Ţ							
	Dibenzo(a,h)Anthrancene	µg/L	<	1.6	Ħ	-	-						
			<		Þ	-	+						
	1,2-Dichlorobenzene	µg/L		1	\vdash	-	-						
l I	1,3-Dichlorobenzene	µg/L	<	1			_						
5	1,4-Dichlorobenzene	µg/L	<	1									╟╌┼╌╀╴┦
<u>e</u>	3,3-Dichlorobenzidine	µg/L	<	3.1	H								
6		µg/L	<	3.1	H	+							
	Diethyl Phthalate			0.1		_	_						
5	Diethyl Phthalate		-	2.4									
Ø	Dimethyl Phthalate	µg/L	<	3.1	╞┤		+						
	Dimethyl Phthalate Di-n-Butyl Phthalate		< <	3.1				-					
	Dimethyl Phthalate	µg/L											

Discharge Information

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Page 2

	2,6-Dinitrotoluene	ual	<	3.1				_				
		µg/L	<	3.1	H	┽	+	+	 	 		
	Di-n-Octyl Phthalate	µg/L			╞╡	+	+	-	 	 	 	
	1,2-Diphenylhydrazine	µg/L	<	3.1	Ħ	7		-	 	 	 	
	Fluoranthene	µg/L	<	1.6					 		 	
	Fluorene	µg/L	<	1.6	Ц	4	4	-	 			
	Hexachlorobenzene	µg/L	<	3.1	⊨	╡	4	-	 		 	
	Hexachlorobutadiene	µg/L	<	0.5	Ħ			_				
	Hexachlorocyclopentadiene	µg/L	<	3.1								
	Hexachloroethane	µg/L	<	3.1	_							
	Indeno(1,2,3-cd)Pyrene	µg/L	<	1.6				_				
	Isophorone	µg/L	<	3.1				_				
	Naphthalene	µg/L	<	1.6	Tî	T						
	Nitrobenzene	µg/L	<	3.1		I						
	n-Nitrosodimethylamine	µg/L	<	3.1	Ħ	4		-				
	n-Nitrosodi-n-Propylamine	µg/L	<	3.1	Ħ	=	=		 			
	n-Nitrosodiphenylamine	µg/L	<	3.1	H	1			 	 	 	
	Phenanthrene	µg/L	<	1.6		1			 		 	
- H	Pyrene	µg/L	<	1.6	Ħ	-	-	-				
	ryrene 1,2,4-Trichlorobenzene		<	0.43	H	-	-	-				
4	Aldrin	µg/L	<	0.45	H	-	-	-	 			
		µg/L			F							
	alpha-BHC	µg/L	<		F.	Ļ		-				
	beta-BHC	µg/L	<		H	_	_	-				
	gamma-BHC	µg/L	<		H	-		-				
	delta BHC	µg/L	<		Þ							
	Chlordane	µg/L	<									
	4,4-DDT	µg/L	<					_				
	4,4-DDE	µg/L	<					_				
	4,4-DDD	µg/L	<		H							
	Dieldrin	µg/L	۷			Ī						
	alpha-Endosulfan	µg/L	<					_				
	beta-Endosulfan	µg/L	<		H	-		_				
2	Endosulfan Sulfate	µg/L	<		Ħ	7	=					
eroup	Endrin	µg/L	<		H							
ξ I	Endrin Aldehyde	µg/L	<			7			 			
1	Heptachlor	µg/L	<		H	4		-	 	 	 	
- 1	Heptachlor Epoxide	µg/L	<		H	+	+		 			╟─┼─┼─┤
	PCB-1016	µg/L	<		Ħ	Ť	Ħ	-	 			
	PCB-1221		<			3		_	 	 	 	
	PCB-1221	μg/L μg/L	<		⊢	+	4	-	 		 	
					\vdash	+	-	+	 	 		
	PCB-1242	µg/L	<		Ħ	7	+	-	 		 	
	PCB-1248	µg/L	<					_	 	 		
. L	PCB-1254	µg/L	<			_			 			
	PCB-1260	µg/L	<					_				
	PCBs, Total	µg/L	<		H	-		-				
	Toxaphene	µg/L	<									
	2,3,7,8-TCDD	ng/L	<									
	Gross Alpha	pCi/L			Ц			_				
- [Total Beta	pCi/L	<		H			_				
	Radium 226/228	pCi/L	<		Fi							
2 I	Total Strontium	µg/L	<									
2	Total Uranium	µg/L	<		H			-				
	Osmotic Pressure	mOs/kg			Ħ	=	=	-				
+					H							
					Ħ			-				
					Ħ	-	-	-				
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Toxics Management Spreadsheet Version 1.3, March 2021

Stream / Surface Water Information

Fairchance-Georges JMSA, NPDES Permit No. PA0096342, Outfall 001

Instructions Discharge Stream

Receiving	Surface	Water N	lame:

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi ²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	041340	13.3	991	14.5			Yes
End of Reach 1	041340	10.02	940	35.22			Yes

Statewide Criteria
O Great Lakes Criteria
ORSANCO Criteria

Q 7-10

Location	RMI	LFY	Flow	(cfs)	W/D	Width	Depth	Velocit	Time	Tributa	ary	Stream	m	Analys	sis
Location	rsiwii	(cfs/mi ²)*	Stream	Tributary	Ratio	(ft)	(ft)	y (fps)	(days)	Hardness	pН	Hardness*	pH*	Hardness	pН
Point of Discharge	13.3	0.008			20							100	7		
End of Reach 1	10.02	0.008			20										

No. Reaches to Model: 1

Qn

Location	RMI	LFY	Flow	(cfs)	W/D	Width	Depth	Velocit	Time	Tributa	ary	Stream	m	Analys	sis
Location	TSWI1	(cfs/mi ²)	Stream	Tributary	Ratio	(ft)	(ft)	y (fps)	(days)	Hardness	pН	Hardness	pН	Hardness	pН
Point of Discharge	13.3														
End of Reach 1	10.02														

Stream	/ Surface	Water	Information

7/7/2021

NPDES Permit No. PA0096342

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Model Results

Fairchance-Georges JMSA, NPDES Permit No. PA0096342, Outfall 001

1	Instructions	Results	RETURN TO INPUTS	SAVE AS PDF	PRINT	O All	Inputs	O Results	🔿 Limits	

Hydrodynamics

Q 7-10

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Time (days)	Complete Mix Time (min)
13.3	0.12		0.12	2.321	0.003	0.593	11.853	20.	0.184	1.09	0.018
10.02	0.28		0.282					20.000			

Qh

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Time (days)	Complete Mix Time (min)
13.3	1.13		1.13	2.321	0.003	0.691	11.853	17.159	0.223	0.897	0.663
10.02	2.456		2.46								

Wasteload Allocations

Pollutants	Conc	Stream	Trib Conc	Fate	WQC	WQ Obj	WLA (µg/L)	Comments
Poliutants	(up/L)	CV	(µg/L)	Coef	(µg/L)	(µg/L)	WEA (pg/E)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	787	
Total Antimony	0	0		0	1,100	1,100	1,155	
Total Arsenic	0	0		0	340	340	357	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	22,050	
Total Boron	0	0		0	8,100	8,100	8,505	
Total Cadmium	0	0		0	2.552	2.73	2.87	Chem Translator of 0.934 applied
Total Chromium (III)	0	0		0	695.729	2,202	2,312	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	17.1	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	99.7	
Total Copper	0	0		0	16.911	17.6	18.5	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	23.1	

Model Results

7/7/2021

Dissolved Iron	0	0	0	N/A	N/A	N/A	
Total Iron	0	0	0	N/A	N/A	N/A	
Total Lead	0	0	0	84,135	111	117	Chem Translator of 0.755 applied
Total Manganese	0	0	0	N/A	N/A	N/A	
Total Mercury	0	0	0	1,400	1.65	1.73	Chem Translator of 0.85 applied
Total Nickel	0	0	0	575.533	577	606	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0	0	N/A	N/A	N/A	
Total Selenium	0	0	0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0	0	4.893	5.76	6.04	Chem Translator of 0.85 applied
Total Thallium	0	0	0	65	65.0	68.2	
Total Zinc	ő	ō	0	144.078	147	155	Chem Translator of 0.978 applied
Acrolein	0	0	0	3	3.0	3.15	
Acrylonitrile	0	ō	0	650	650	682	
Benzene	0	0	0	640	640	672	
Bromoform	0	ō	ō	1.800	1.800	1,890	
Carbon Tetrachloride	0	ŏ	ō	2,800	2.800	2,940	
Chlorobenzene	0	ō	0	1.200	1.200	1.260	
Chlorodibromomethane	0	ŏ	0	1,200 N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	ŏ	0	18,000	18,000	18,900	
Chloroform	0	ŏ	0	1,900	1,900	1,995	
Dichlorobromomethane	0	ō	0	N/A	N/A	N/A	
1.2-Dichloroethane	0	ŏ	0	15.000	15.000	15,750	
1,1-Dichloroethylene	0	ŏ	0	7.500	7.500	7.875	
1,2-Dichloropropane	0	ŏ	0	11.000	11.000	11.550	
1,3-Dichloropropylene	0	ŏ	0	310	310	325	
Ethylbenzene	0	0	0	2,900	2,900	325	
Methyl Bromide	0	0	0	2,800	2,800	577	
Methyl Chloride	0	0	0	28.000	28.000	29,400	
Methylene Chloride	0	0	0	12.000	12,000	12.600	
1,1,2,2-Tetrachloroethane	0	0	0	1,000	12,000	1,050	
Tetrachloroethylene	0	0	0	700	700	735	
-	0	0		1,700	1.700	1,785	
Toluene 1,2-trans-Dichloroethylene	0	0	0	6,800	6.800	7,140	
1,2-trans-Dichloroethylene	0	0	0	3,000	3.000	3,150	
	-	0	-				
1,1,2-Trichloroethane	0	0	0	3,400	3,400	3,570	
Trichloroethylene	0	0	0	2,300	2,300 N/A	2,415 N/A	
Vinyl Chloride	0	0	0	N/A 560	560	588	
2-Chlorophenol	-	-					
2,4-Dichlorophenol	0	0	0	1,700	1,700	1,785	
2,4-Dimethylphenol	0	0	0	660	660 80.0	693 84.0	
4,6-Dinitro-o-Cresol	0	-	0	80			
2,4-Dinitrophenol	0	0	0	660	660	693	
2-Nitrophenol	0	0	0	8,000	8,000	8,400	
4-Nitrophenol	0	0	0	2,300	2,300	2,415	
p-Chloro-m-Cresol	0	0	0	160	160	168	
Pentachlorophenol	0	0	0	8.723	8.72	9.16	
Phenol	0	0	0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0	0	460	460	483	

Model Results

7/7/2021

Acenaphthene	0	0		0	83	83.0	87.1	
Anthracene	0	0		ō	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	315	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.52	
	0	0		0	0.5 N/A	N/A	0.52 N/A	
Benzo(a)Pyrene 3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
-		0		0	N/A	N/A	N/A N/A	
Benzo(k)Fluoranthene	0	_		-	30.000	30.000		
Bis(2-Chloroethyl)Ether	0	0		0			31,500	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	4,725	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	283	
Butyl Benzyl Phthalate	0	0		0	140	140	147	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	861	
1,3-Dichlorobenzene	0	0		0	350	350	367	
1,4-Dichlorobenzene	0	0		0	730	730	766	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	4,200	
Dimethyl Phthalate	0	0		0	2,500	2,500	2,625	
Di-n-Butyl Phthalate	0	0		0	110	110	115	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	1,680	
2,6-Dinitrotoluene	0	0		0	990	990	1,039	
1,2-Diphenylhydrazine	0	0		0	15	15.0	15.7	
Fluoranthene	0	0		0	200	200	210	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	10.5	
Hexachlorocyclopentadiene	0	0		0	5	5.0	5.25	
Hexachloroethane	0	0		0	60	60.0	63.0	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10.000	10.000	10,500	
Naphthalene	0	0		0	140	140	147	
Nitrobenzene	0	0		0	4.000	4.000	4,200	
n-Nitrosodimethylamine	0	ō		0	17,000	17,000	17,850	
n-Nitrosodi-n-Propylamine	0	ō		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	ō		0	300	300	315	
Phenanthrene	0	0		0	5	5.0	5.25	
Pyrene	0	0		ō	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	136	
1,2,4-1101000612616	v	v		v	130	130	130	
✓ CFC cc		018	PMF:	1	Ana	alysis Hardne	ss (mg/l):	127.62 Analysis pH: 7.00
Pollutants	Conc	Stream	Trib Conc	Fate	WQC	WQ Obj	WLA (µg/L)	Comments
Poliutants	(up/L)	CV	(µg/L)	Coef	(µg/L)	(µg/L)	WEA (pg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	

Model Results

7/7/2021

Chloride (PWS)	0	0	0	N/A	N/A	N/A	
Sulfate (PWS)	0	0	0	N/A	N/A	N/A	
Total Aluminum	0	0	0	N/A	N/A	N/A	
Total Antimony	0	0	0	220	220	231	
Total Arsenic	0	0	0	150	150	157	Chem Translator of 1 applied
Total Barium	0	0	0	4,100	4,100	4,305	
Total Boron	0	0	0	1,600	1,600	1,680	
Total Cadmium	0	0	0	0.291	0.32	0.34	Chem Translator of 0.899 applied
Total Chromium (III)	0	0	0	90.500	105	110	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0	0	10	10.4	10.9	Chem Translator of 0.962 applied
Total Cobalt	0	0	0	19	19.0	19.9	
Total Copper	0	0	0	11.031	11.5	12.1	Chem Translator of 0.96 applied
Free Cyanide	0	0	0	5.2	5.2	5.46	
Dissolved Iron	0	0	0	N/A	N/A	N/A	
Total Iron	0	0	0	1,500	1,500	1,575	WQC = 30 day average; PMF = 1
Total Lead	0	0	0	3.279	4.34	4.56	Chem Translator of 0.755 applied
Total Manganese	0	0	0	N/A	N/A	N/A	
Total Mercury	0	0	0	0.770	0.91	0.95	Chem Translator of 0.85 applied
Total Nickel	0	0	0	63.924	64.1	67.3	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0	0	N/A	N/A	N/A	
Total Selenium	0	0	0	4.600	4.99	5.24	Chem Translator of 0.922 applied
Total Silver	0	0	0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0	0	13	13.0	13.6	
Total Zinc	0	0	0	145.257	147	155	Chem Translator of 0.986 applied
Acrolein	0	0	0	3	3.0	3.15	
Acrylonitrile	0	0	0	130	130	136	
Benzene	0	0	0	130	130	136	
Bromoform	0	0	0	370	370	388	
Carbon Tetrachloride	0	0	0	560	560	588	
Chlorobenzene	0	0	0	240	240	252	
Chlorodibromomethane	0	0	0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0	0	3,500	3,500	3,675	
Chloroform	0	0	0	390	390	409	
Dichlorobromomethane	0	0	0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0	0	3,100	3,100	3,255	
1,1-Dichloroethylene	0	0	0	1,500	1,500	1,575	
1,2-Dichloropropane	0	0	0	2,200	2,200	2,310	
1,3-Dichloropropylene	0	0	0	61	61.0	64.0	
Ethylbenzene	0	0	0	580	580	609	
Methyl Bromide	0	0	0	110	110	115	
Methyl Chloride	0	0	0	5,500	5,500	5,775	
Methylene Chloride	0	0	0	2,400	2,400	2,520	
1,1,2,2-Tetrachloroethane	0	0	0	210	210	220	
Tetrachloroethylene	0	0	0	140	140	147	
Toluene	0	0	0	330	330	346	

Model Results

7/7/2021

1,2-trans-Dichloroethylene	0	0				0	1,400	1,400	1,470	
1,1,1-Trichloroethane	0	0		++		0	610	610	640	
1,1,2-Trichloroethane	0	0				0	680	680	714	
Trichloroethylene	0	0	╞┼┼╴	++	+	0	450	450	472	
Vinyl Chloride	0	0				0	N/A	N/A	N/A	
2-Chlorophenol	0	0		++		0	110	110	115	
2,4-Dichlorophenol	0	0	╞┼┼┼	++	+	0	340	340	357	
2,4-Dimethylphenol	0	0		İİ	Ì	0	130	130	136	
4,6-Dinitro-o-Cresol	0	0		++		0	16	16.0	16.8	
2,4-Dinitrophenol	0	0		++	++	0	130	130	136	
2-Nitrophenol	0	0		11		0	1,600	1,600	1,680	
4-Nitrophenol	0	0		++		0	470	470	493	
p-Chloro-m-Cresol	0	0		┿	+	0	500	500	525	
Pentachlorophenol	0	0				0	6.693	6.69	7.03	
Phenol	0	0		++	+	0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0				0	91	91.0	95.5	
Acenaphthene	0	0				0	17	17.0	17.8	
Anthracene	0	0		++		0	N/A	N/A	N/A	
Benzidine	0	0		++	+	0	59	59.0	61.9	
Benzo(a)Anthracene	0	0				0	0.1	0.1	0.1	
Benzo(a)Pyrene	0	0		++	-	0	N/A	N/A	N/A	
3.4-Benzofluoranthene	0	0				0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0				0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		++	+	0	6,000	6,000	6,300	
Bis(2-Chloroisopropyl)Ether	0	0				0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0				0	910	910	955	
4-Bromophenyl Phenyl Ether	0	0	╞┼┼╴	++	+	0	54	54.0	56.7	
Butyl Benzyl Phthalate	0	0				0	35	35.0	36.7	
2-Chloronaphthalene	0	0				0	N/A	N/A	N/A	
Chrysene	0	0	╞┼┼	++	-	0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0				0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		++		0	160	160	168	
1,3-Dichlorobenzene	0	0	H+		t	0	69	69.0	72.4	
1,4-Dichlorobenzene	0	0				0	150	150	157	
3,3-Dichlorobenzidine	0	0			-	0	N/A	N/A	N/A	
Diethyl Phthalate	0	0	H+			0	800	800	840	
Dimethyl Phthalate	0	0				0	500	500	525	
Di-n-Butyl Phthalate	0	0				0	21	21.0	22.0	
2,4-Dinitrotoluene	0	0	H+			0	320	320	336	
2,6-Dinitrotoluene	0	0				0	200	200	210	
1,2-Diphenylhydrazine	0	0	H		-	0	3	3.0	3.15	
Fluoranthene	0	0				0	40	40.0	42.0	
Fluorene	0	0				0	N/A	N/A	N/A	
Hexachlorobenzene	0	0	H		+	0	N/A	N/A	N/A	
Hexachlorobutadiene				_					2.1	

Model Results

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Hexachlorocyclopentadiene	0	0		0	1	1.0	1.05	
Hexachlorocyclopentadiene	0	0		0	12	12.0	1.05	
	-	-		-	12 N/A	12.0 N/A	12.0 N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0				
Isophorone	0	0		0	2,100	2,100	2,205	
Naphthalene	0	0		0	43	43.0	45.1	
Nitrobenzene	0	0		0	810	810	850	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	3,570	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	61.9	
Phenanthrene	0	0		0	1	1.0	1.05	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	27.3	
<i>⊡</i> THH CC ²	T (min): 0.	018	PMF: Trib Conc	1 Fate	Ana	Ilysis Hardne		N/A Analysis pH: N/A
Pollutants	Conc	Stream CV	(µg/L)	Fate Coef	(µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	5.88	
Total Arsenic	0	0		0	10	10.0	10.5	
Total Barium	0	0		0	2,400	2,400	2,520	
Total Boron	0	0		0	3,100	3,100	3,255	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	4.2	
Dissolved Iron	0	0		0	300	300	315	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,050	
Total Mercury	0	0		0	0.050	0.05	0.052	
Total Nickel	0	0		0	610	610	640	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.25	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	3.15	
Acrylonitrile	0	0		0	N/A	N/A	N/A	

Model Results

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Descriptions	0	0	<u> </u>	N/A	NI/A	N/A	
Bromoform	0	0	0		N/A		
Carbon Tetrachloride	-	0	0	N/A	N/A	N/A	
Chlorobenzene	0	0	0	100	100.0	105	
Chlorodibromomethane	0	0	0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0	0	N/A	N/A	N/A	
Chloroform	0	0	0	N/A	N/A	N/A	
Dichlorobromomethane	0	0	0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0	0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0	0	33	33.0	34.6	
1,2-Dichloropropane	0	0	0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0	0	N/A	N/A	N/A	
Ethylbenzene	0	0	0	68	68.0	71.4	
Methyl Bromide	0	0	0	100	100.0	105	
Methyl Chloride	0	0	0	N/A	N/A	N/A	
Methylene Chloride	0	0	0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0	0	N/A	N/A	N/A	
Tetrachloroethylene	0	0	0	N/A	N/A	N/A	
Toluene	0	0	0	57	57.0	59.8	
1,2-trans-Dichloroethylene	0	0	0	100	100.0	105	
1,1,1-Trichloroethane	0	0	0	10,000	10,000	10,500	
1,1,2-Trichloroethane	0	0	0	N/A	N/A	N/A	
Trichloroethylene	0	0	0	N/A	N/A	N/A	
Vinyl Chloride	0	0	0	N/A	N/A	N/A	
2-Chlorophenol	0	0	0	30	30.0	31.5	
2,4-Dichlorophenol	0	0	0	10	10.0	10.5	
2,4-Dimethylphenol	0	0	0	100	100.0	105	
4,6-Dinitro-o-Cresol	0	0	0	2	2.0	2.1	
2,4-Dinitrophenol	0	0	0	10	10.0	10.5	
2-Nitrophenol	0	0	0	N/A	N/A	N/A	
4-Nitrophenol	0	0	0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0	0	N/A	N/A	N/A	
Pentachlorophenol	0	0	0	N/A	N/A	N/A	
Phenol	0	0	0	4,000	4,000	4,200	
2,4,6-Trichlorophenol	0	0	0	N/A	N/A	N/A	
Acenaphthene	0	0	0	70	70.0	73.5	
Anthracene	0	0	0	300	300	315	
Benzidine	0	0	0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0	0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0	0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0	0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0	0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0	0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0	0	200	200	210	
Bis(2-Ethylhexyl)Phthalate	0	0	0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0	0	N/A	N/A	N/A	

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Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.1	
2-Chloronaphthalene	0	0		0	800	800	840	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	1,050	
1,3-Dichlorobenzene	0	0		0	7	7.0	7.35	
1,4-Dichlorobenzene	0	0		0	300	300	315	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	630	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,100	
Di-n-Butyl Phthalate	0	0		0	20	20.0	21.0	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	21.0	
Fluorene	0	0		0	50	50.0	52.5	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	4.2	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	35.7	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	10.5	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	21.0	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.073	
☑ CRL CC	T (min): 0.0	863	PMF:	1		alysis Hardne	ess (mg/l):	N/A Analysis pH: N/A
Pollutants	Conc	Stream	Trib Conc	Fate	WQC	WQ Obj	WLA (µg/L)	Comments
	(un/L)	CV	(µg/L)	Coef	(µg/L)	(µg/L)		
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	

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Hexavalent Chromium	0	0	0	N/A	N/A	N/A	
Total Cobalt	0	0	0	N/A	N/A	N/A	
Total Copper	0	0	0	N/A	N/A	N/A	
Free Cyanide	0	0	0	N/A	N/A	N/A	
Dissolved Iron	0	0	0	N/A	N/A N/A	N/A	
Total Iron	0	0	0	N/A	N/A	N/A	
		-	0				
Total Lead	0	0	0	N/A N/A	N/A N/A	N/A N/A	
Total Manganese	_	-					
Total Mercury	0	0	0	N/A	N/A	N/A	
Total Nickel	0	0	0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0	0	N/A	N/A	N/A	
Total Selenium	0	0	0	N/A	N/A	N/A	
Total Silver	0	0	0	N/A	N/A	N/A	
Total Thallium	0	0	0	N/A	N/A	N/A	
Total Zinc	0	0	0	N/A	N/A	N/A	
Acrolein	0	0	0	N/A	N/A	N/A	
Acrylonitrile	0	0	0	0.06	0.06	0.089	
Benzene	0	0	0	0.58	0.58	0.86	
Bromoform	0	0	0	7	7.0	10.4	
Carbon Tetrachloride	0	0	0	0.4	0.4	0.59	
Chlorobenzene	0	0	0	N/A	N/A	N/A	
Chlorodibromomethane	0	0	0	0.8	0.8	1.19	
2-Chloroethyl Vinyl Ether	0	0	0	N/A	N/A	N/A	
Chloroform	0	0	0	5.7	5.7	8.48	
Dichlorobromomethane	0	0	0	0.95	0.95	1.41	
1,2-Dichloroethane	0	0	0	9.9	9.9	14.7	
1,1-Dichloroethylene	0	0	0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0	0	0.9	0.9	1.34	
1,3-Dichloropropylene	0	0	0	0.27	0.27	0.4	
Ethylbenzene	0	0	0	N/A	N/A	N/A	
Methyl Bromide	0	0	0	N/A	N/A	N/A	
Methyl Chloride	0	0	0	N/A	N/A	N/A	
Methylene Chloride	0	0	0	20	20.0	29.7	
1,1,2,2-Tetrachloroethane	0	0	0	0.2	0.2	0.3	
Tetrachloroethylene	0	0	0	10	10.0	14.9	
Toluene	0	0	0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0	0	N/A	N/A	N/A	
1.1.1-Trichloroethane	0	0	0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0	0	0.55	0.55	0.82	
Trichloroethylene	0	0	0	0.6	0.6	0.89	
Vinyl Chloride	0	0	0	0.02	0.02	0.03	
2-Chlorophenol	0	0	0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0	0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0	0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0	0	N/A	N/A	N/A	
ite brinne e eresel	-	~	~				I

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2.4 Disitrashasal	0	0	0	N/A	N/A	N/A	
2,4-Dinitrophenol	_	-	-				
2-Nitrophenol	0	0	0	N/A	N/A	N/A	
4-Nitrophenol	0	0	0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0	0	N/A	N/A	N/A	
Pentachlorophenol	0	0	0	0.030	0.03	0.045	
Phenol	0	0	0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0	0	1.5	1.5	2.23	
Acenaphthene	0	0	0	N/A	N/A	N/A	
Anthracene	0	0	0	N/A	N/A	N/A	
Benzidine	0	0	0	0.0001	0.0001	0.0001	
Benzo(a)Anthracene	0	0	0	0.001	0.001	0.001	
Benzo(a)Pyrene	0	0	0	0.0001	0.0001	0.0001	
3,4-Benzofluoranthene	0	0	0	0.001	0.001	0.001	
Benzo(k)Fluoranthene	0	0	0	0.01	0.01	0.015	
Bis(2-Chloroethyl)Ether	0	0	0	0.03	0.03	0.045	
Bis(2-Chloroisopropyl)Ether	0	0	0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0	0	0.32	0.32	0.48	
4-Bromophenyl Phenyl Ether	0	0	0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0	0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0	0	N/A	N/A	N/A	
Chrysene	0	0	0	0.12	0.12	0.18	
Dibenzo(a,h)Anthrancene	0	0	0	0.0001	0.0001	0.0001	
1,2-Dichlorobenzene	0	0	0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0	0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0	0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0	0	0.05	0.05	0.074	
Diethyl Phthalate	0	0	0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0	0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0	0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0	0	0.05	0.05	0.074	
2,6-Dinitrotoluene	0	0	0	0.05	0.05	0.074	
1,2-Diphenylhydrazine	0	0	0	0.03	0.03	0.045	
Fluoranthene	0	0	0	N/A	N/A	N/A	
Fluorene	0	0	0	N/A	N/A	N/A	
Hexachlorobenzene	0	0	0	0.00008	0.00008	0.0001	
Hexachlorobutadiene	0	0	0	0.01	0.01	0.015	
Hexachlorocyclopentadiene	0	0	0	N/A	N/A	N/A	
Hexachloroethane	0	0	0	0.1	0.1	0.15	
Indeno(1,2,3-cd)Pyrene	0	0	0	0.001	0.001	0.001	
Isophorone	0	0	0	N/A	N/A	N/A	
Naphthalene	0	0	0	N/A	N/A	N/A	
Nitrobenzene	0	0	0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0	0	0.0007	0.0007	0.001	
n-Nitrosodi-n-Propylamine	0	0	0	0.005	0.005	0.007	
n-Nitrosodiphenylamine	0	0	0	3.3	3.3	4.91	
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Phenanthrene	0	0	0	N/A	N/A	N/A	
Pyrene	0	0	0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0	0	N/A	N/A	N/A	

Recommended WQBELs & Monitoring Requirements

No. Samples/Month: 4

	Mass	Limits		Concentra	tion Limits		I		
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Boron	Report	Report	Report	Report	Report	µg/L	1,680	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	12.1	CFC	Discharge Conc > 10% WQBEL (no RP)
Free Cyanide	0.053	0.082	4.2	6.55	10.5	µg/L	4.2	THH	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	315	тнн	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	1.84	1.94	147	155	155	µg/L	147	AFC	Discharge Conc ≥ 50% WQBEL (RP)

Other Pollutants without Limits or Monitoring

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	5.88	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	10.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	2,520	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Cadmium	0.34	µg/L	Discharge Conc < TQL
Total Chromium (III)	110	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	10.9	µg/L	Discharge Conc < TQL
Total Cobalt	19.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Iron	1,575	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	4.56	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	1,050	µg/L	Discharge Conc ≤ 10% WQBEL

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Total Mercury	0.052	µg/L	Discharge Conc < TQL
Total Nickel	67.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	5.24	µg/L	Discharge Conc < TQL
Total Silver	5.76	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	0.25	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.089	µg/L	Discharge Conc < TQL
Benzene	0.86	µg/L	Discharge Conc < TQL
Bromoform	10.4	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	0.59	µg/L	Discharge Conc < TQL
Chlorobenzene	105	µg/L	Discharge Conc < TQL
Chlorodibromomethane	1.19	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	3,675	µg/L	Discharge Conc < TQL
Chloroform	8.48	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	1.41	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	14.7	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	34.6	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	1.34	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	0.4	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	71.4	µg/L	Discharge Conc < TQL
Methyl Bromide	105	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	5,775	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	29.7	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	0.3	µg/L	Discharge Conc < TQL
Tetrachloroethylene	14.9	µg/L	Discharge Conc < TQL
Toluene	59.8	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	105	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	640	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	0.82	µg/L	Discharge Conc < TQL
Trichloroethylene	0.89	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.03	µg/L	Discharge Conc < TQL
2-Chlorophenol	31.5	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	10.5	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	105	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	2.1	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	10.5	µg/L	Discharge Conc < TQL
2-Nitrophenol	1,680	µg/L	Discharge Conc < TQL
4-Nitrophenol	493	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.045	µg/L	Discharge Conc < TQL

Model Results

NPDES Permit No. PA0096342

Phenol	4,200	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	2.23	µg/L	Discharge Conc < TQL
Acenaphthene	17.8	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	315	µg/L	Discharge Conc < TQL
Benzidine	0.0001	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.001	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0001	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.001	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.015	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.045	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	210	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	0.48	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	56.7	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.1	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	840	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.18	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0001	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	168	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	7.35	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	157	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	0.074	µg/L	Discharge Conc < TQL
Diethyl Phthalate	630	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	525	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	21.0	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.074	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.074	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.045	µg/L	Discharge Conc < TQL
Fluoranthene	21.0	µg/L	Discharge Conc < TQL
Fluorene	52.5	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0001	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.015	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.05	µg/L	Discharge Conc < TQL
Hexachloroethane	0.15	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.001	µg/L	Discharge Conc < TQL
Isophorone	35.7	µg/L	Discharge Conc < TQL
Naphthalene	45.1	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	10.5	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.001	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.007	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	4.91	µg/L	Discharge Conc < TQL

Model Results

7/7/2021

Phenanthrene	1.05	µg/L	Discharge Conc < TQL
Pyrene	21.0	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.073	µg/L	Discharge Conc < TQL

7/7/2021

PMF - Annual Average Design Flow 1.5 MGD

Applicant:	Fairchance-Georges JMSA
Name of plant:	Fairchance-Georges STP
Permit Number:	PA0096342
Municipality:	Georges TWP
County:	Fayette
Receiving stream:	Georges Creek

The following program will calulate partial mix factors for acute and chronic conditions:

calculated fields

net stream flow (Qs cfs)=	0.116
discharge flow (Qd mgd)=	1.5
velocity (fps)=	0.18
width (feet) =	16.27
depth (feet) =	0.813
slope (ft/ft) =	0.003

or

complete mix time (min) =

0.02

FOR ACUTE CONDITIONS: IF COMPLETE MIX TIME < 15 MINUTES THEN PMF = 1, IF > 15 MINUTES CALCULATE PMFa

PMFa =

1.000 100.00 %

FOR CHRONIC CONDITIONS: IF COMPLETE MIX TIME < 720 MINUTES THEN PMF = 1, IF > 720 MINUTES CALCULATE PMFc

PMFc =	or	1.000 100.00 %		
IWCc=[Qd * 1.547] / [(Q	s*PMF	c) + (Qd * 1.547)] =	0.9524	
Target IWCc=IWCc/1=		0.952		95.24 %
IWCa=[Qd * 1.547] / [(Q	s*PMF	a)+(Qd*1.547)] =	0.9524	
Target IWCa=IWCa/0.3=		1.000 or		100.00 %
WET tests should pass i than the target IWCa (ac		•		as LC50 are greater

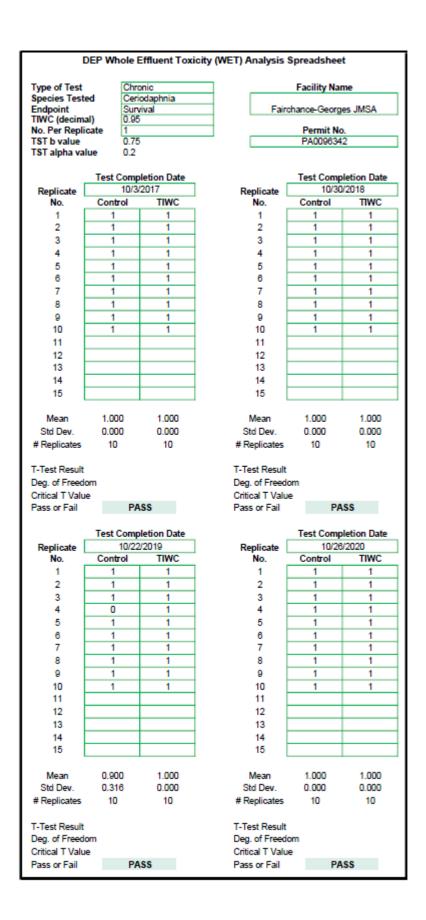
Program written by David Ponchione on April 8, 1999

Program run by : W. Mitchell on July 7, 2021

For Department use only

WET Summary - Annual Average Design Flow 1.5 MGD

I	DEP Whole E	Effluent Toxicit	y (WET) Analysis S	preadshee	t	
Type of Test	Chro	mie	-	Facility Na	me	
Species Test		odaphnia				
Endpoint		roduction	Fairch	Fairchance-Georges JMSA		
TIWC (decim				_		
No. Per Repli				Permit No		
TST b value TST alpha va	0.75 lue 0.2			PA009634	2	
i o i alpria va	iue 0.2					
	Test Com	letion Date		Test Com	letion Date	
Deplicate	Test Completion Date Replicate 10/3/2017		Replicate		/2018	
No.	Control	TIWC	No.	Control	TIWC	
1	31	23	1	24	32	
2	33	28	2	22	26	
3	33	32	3	9	18	
4	30	32	4	10	29	
5	31	27	5	23	27	
6	30	30	6	28	34	
7	27	33	7	23	37	
8	27	29	8	23	39	
8	27		8		39	
9 10	24	30 22	10	22	34	
10	21		10	44	30	
12 13			12			
14			14			
15			15			
Maria	29.300	28.600	Mean	21.000	31,100	
Mean						
Std Dev.	2.946	3.718	Std Dev.	6.446	6.226	
# Replicates	10	10	# Replicates	10	10	
T-Test Result		442	T-Test Result		577	
Deg. of Freed		5	Deg. of Freedo		6	
Critical T Valu		662	Critical T Value		647	
Pass or Fail	PA	SS	Pass or Fail	PA	SS	
	T	Life Data		T	Life Data	
		letion Date	• • • • •		letion Date	
Replicate No.	Control	/2019 TIWC	Replicate No.	Control	/2020 TIWC	
			_			
1	37	38	1	34	32	
2	35	34	2	34	41	
3	36	36	3	3	7	
4	6	38	4	37	35	
5	37	40	5	35	39	
6	34	41	6	41	38	
7		07	_	0.4		
-	37	37	7	31	35	
8	37 32	38	8	35	37	
9	37 32 29	38 44	8 9	35 32	37 40	
9 10	37 32	38	8 9 10	35	37	
9 10 11	37 32 29	38 44	8 9 10 11	35 32	37 40	
9 10 11 12	37 32 29	38 44	8 9 10 11 12	35 32	37 40	
9 10 11 12 13	37 32 29	38 44	8 9 10 11 12 13	35 32	37 40	
9 10 11 12 13 14	37 32 29	38 44	8 9 10 11 12 13 14	35 32	37 40	
9 10 11 12 13	37 32 29	38 44	8 9 10 11 12 13	35 32	37 40	
9 10 11 12 13 14	37 32 29	38 44	8 9 10 11 12 13 14	35 32	37 40	
9 10 11 12 13 14	37 32 29	38 44	8 9 10 11 12 13 14	35 32	37 40	
9 10 11 12 13 14 15	37 32 29 4	38 44 39	8 9 10 11 12 13 14 15	35 32 36	37 40 34	
9 10 11 12 13 14 15 Mean	37 32 29 4 	38 44 39 	8 9 10 11 12 13 14 15 Mean	35 32 36 31.800	37 40 34 33.800	
9 10 11 12 13 14 15 Mean Std Dev. # Replicates	37 32 29 4 	38 44 39 38.500 2.759 10	8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates	35 32 36 31.800 10.486 10	37 40 34 33.800 9.830 10	
9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	37 32 29 4 	38 44 39 38.500 2.759 10 918	8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	35 32 36 31.800 10.486 10 2.4	37 40 34 34 33.800 9.830 10 995	
9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result Deg. of Freed	37 32 29 4 28.700 12.755 10 5.3 om 1	38 44 39 38.500 2.759 10 918 5	8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result Deg. of Freedor	35 32 36 31.800 10.486 10 2.4 m 1	37 40 34 34 33.800 9.830 10 995 6	
9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	37 32 29 4 28.700 12.755 10 5.3 iom 1 µe 0.8	38 44 39 38.500 2.759 10 918	8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	35 32 36 31.800 10.486 10 2.4 m 1 0.8	37 40 34 34 33.800 9.830 10 995	



DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet									
DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet									
Type of Test				Facility Na	me				
Species Test Endpoint		ephales /ival	Fair	chance-Georg	ies JMSA				
TIWC (decim		5	_						
No. Per Replicate 10 TST b value 0.75			Permit No. PA0096342						
TST alpha va				17400004	-				
	Test Completion Date Replicate 10/3/2017			Test Completion Date 10/30/2018					
Replicate No.	Control	TIWC	Replicate No.	Control	TIWC				
1	0.9	1	1	1	1				
2	0.9	0.8	2	1	1				
3	1	1	3	1	1				
4	0.9	1	4	1	1				
5			5						
7			7						
8			8						
9			9						
10			10						
11			11						
12 13			12 13						
13			13		<u> </u>				
15			15						
Mean	0.925	0.950	Mean	1.000	1.000				
Std Dev.	0.050	0.100	Std Dev.	0.000	0.000				
# Replicates	4	4	# Replicates	4	4				
T-Test Result 8.7263 Deg. of Freedom 4			T-Test Result						
I - Test Result Deg. of Freed			T-Test Result Deg. of Freed	om					
	iom 4								
Deg. of Freed	iom 4 ue 0.7	4	Deg. of Freed	e	ISS				
Deg. of Freed Critical T Valu	lom 4 ue 0.7 PA	4 407 ASS	Deg. of Freed Critical T Valu	e PA					
Deg. of Freed Critical T Valu Pass or Fail	lom 0.7 ue 0.7 PA	4 407 ASS pletion Date	Deg. of Freed Critical T Valu Pass or Fail	e PA Test Comp	oletion Date				
Deg. of Freed Critical T Valu	lom 0.7 ue 0.7 PA	4 407 ASS	Deg. of Freed Critical T Valu	e PA Test Comp					
Deg. of Freed Critical T Valu Pass or Fail Replicate	lom 4 ue 0.7 PA Test Comp 10/22	4 407 ISS Vetion Date V2019	Deg. of Freed Critical T Valu Pass or Fail Replicate	e PA Test Comp 10/27	Detion Date				
Deg. of Freed Critical T Valu Pass or Fail Replicate No.	iom 0.7 PA Test Comp 10/22 Control	4 407 ISS Detion Date 22019 TIWC	Deg. of Freed Critical T Valu Pass or Fail Replicate No.	e PA Test Comp 10/27 Control	oletion Date 7/2020 TIWC				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3	e PA Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4	lom 0.7 PA Test Comp 10/22 Control 1	4 407 ASS 2/2019 TIWC 0.7 1	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4	e PA Test Comp 10/27 Control 1 1	0letion Date 7/2020 TIWC 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5	e Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4	e Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6	e Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9	e Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10	e Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11	e Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 12	e Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 12 13	e Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12	Jom 0.7 PA Test Comp 10/22 Control 1 1	4 407 ASS 22019 TIWC 0.7 1 0.8	Deg. of Freed Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 12	e Test Comp 10/27 Control 1 1 1	0letion Date 7/2020 TIWC 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Jom 0.7 PA Test Comp 10/22 Control 1 1 1 1 1	4 407 ASS Jetion Date 2/2019 TIWC 0.7 1 0.8 0.8 0.8	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	e PA Test Comp 10/27 Control 1 1 1 0.9	Oletion Date 7/2020 TIWC 0.9 0.9 0.9 1				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean	Jom	4 407 ASS Detion Date 2/2019 TIWC 0.7 1 0.8 0.8 0.8 0.8 0.8	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean	e PA Test Comp 10/27 Control 1 1 1 1 0.9	0letion Date 7/2020 7/WC 0.9 0.9 1 1 0.9 0.9 1 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev.	Jom	4 407 ASS Detion Date 2/2019 TIWC 0.7 1 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.825 0.128	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev.	e PA Test Comp 10/27 Control 1 1 1 1 0.9	0.925 0.925 0.925 0.920 0.9 0.920 0.925 0.050				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean	Jom	4 407 ASS Detion Date 2/2019 TIWC 0.7 1 0.8 0.8 0.8 0.8 0.8	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean	e PA Test Comp 10/27 Control 1 1 1 1 0.9	0letion Date 7/2020 7/WC 0.9 0.9 1 1 0.9 0.9 1 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates	Jom 4 Jue 0.7 PA Test Comp 10/22 Control 1 1 1 1 1 1 1 1 1 1 1 1 1	4 407 407 455 1010 1010 0.7 1 0.8 0.8 0.8 0.8 0.825 0.126 4	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 15 Mean Std Dev. # Replicates	e PA Test Comp 10/27 Control 1 1 1 0.9	0.925 0.925 0.925 0.925 0.925 0.050 4				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev.	lom	4 407 ASS Detion Date 2/2019 TIWC 0.7 1 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.825 0.128	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev.	e PA Test Comp 10/27 Control 1 1 1 0.9 0.9 0.9 0.975 0.050 4 13.2	0.925 0.925 0.925 0.920 0.9 0.920 0.925 0.050				
Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	lom	4 407 407 455 100 100 100 0.7 1 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	Deg. of Freed Critical T Valu Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	e PA Test Comp 10/27 Control 1 1 1 1 0.9 0.975 0.050 4 13.2 om 13.2 om 13.2 om 13.2 om 0.7	0.925 0.925 0.925 0.925 0.050 0.925				

		ala Effluent Tax	isity (MET) Analysis	Enroadchoo	4			
DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet Type of Test Chronic Facility Name								
Species Test		Pimephales		Facility Name				
Endpoint		Growth	Fair	Fairchance-Georges JMSA				
	TIWC (decimal)							
		10		Permit No				
TST b value TST alpha value		0.75 0.25		PA0096342				
Test Completion Date				Test Completion Date				
Replicate	1	10/3/2017	Replicate	10/30/2018				
No.	Contro	DWIT Ic	No.	Control	TIWC			
1	0.397	0.469	1	0.309	0.269			
2	0.384	0.431	2	0.3	0.274			
3	0.387	0.501	3	0.205	0.238			
4	0.379	0.445	4	0.249	0.309			
5			5					
6			6					
7			7					
8			8					
9			9					
10			10					
11			11					
12			12					
13			13					
14			14					
15			15					
Mean	0.387		Mean	0.266	0.273			
Std Dev.	0.008		Std Dev.	0.048	0.029			
# Replicates	4	4	# Replicates	4	4			
T-Test Result		10.9974	T-Test Result	2.1	488			
				0.1	400			
Deg. of Freedom 3		Dog. of Erood	0.00	5				
Critical T Valu		-	Deg. of Freed		5			
Critical T Valu Pass or Fail		0.7649	Critical T Valu	e 0.7	267			
Critical T Valu Pass or Fail		-	-	e 0.7	-			
	le	0.7649 PASS	Critical T Valu	e 0.7 PA	267 \\$\$			
Pass or Fail	Test C	0.7649 PASS ompletion Date	Critical T Valu Pass or Fail	e 0.7 PA Test Comp	267 ASS Detion Date			
	Test C	0.7649 PASS ompletion Date 0/22/2019	Critical T Valu	e 0.7 PA Test Comp	267 \\$\$			
Pass or Fail Replicate	Test C	0.7649 PASS ompletion Date 0/22/2019 ol TIWC	Critical T Valu Pass or Fail Replicate	e 0.7 PA Test Comp 10/27	267 ASS Dietion Date 7/2020			
Pass or Fail Replicate No.	Test Contro	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229	Critical T Valu Pass or Fail Replicate No.	e 0.7 PA Test Comp 10/27 Control	267 265 SS Dietion Date 7/2020 TIWC			
Pass or Fail Replicate No. 1	Test C 1 Contro 0.264	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28	Critical T Valu Pass or Fail Replicate No. 1	e 0.7 P# Test Comp 10/27 Control 0.315	287 ISS oletion Date 7/2020 TIWC 0.361			
Pass or Fail Replicate No. 1 2	Test C 1 Contro 0.264 0.264	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail Replicate No. 1 2	e 0.7 PA Test Comp 10/27 Control 0.315 0.334	267 SS 2010 Date 7/2020 TIWC 0.361 0.333			
Pass or Fail Replicate No. 1 2 3	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail Replicate No. 1 2 3	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS 2010 Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS 2010 Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4 5	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS 2010 Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4 5 6	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS 2010 Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6 7	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS Deletion Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS Deletion Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS 2010 Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 11	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS 2010 Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 12 13	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS 2010 Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 11 12 13 14	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS 2010 Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13	Test C 1 Contro 0.264 0.264 0.265	0.7649 PASS ompletion Date 0/22/2019 ol TIWC 0.229 0.28 0.28 0.318	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 12 13	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406	267 SS 2010 Date 7/2020 TIWC 0.361 0.333 0.392			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	rest C 1 Contro 0.264 0.265 0.289	0.7849 PASS ompletion Date 0/22/2019 0 TIWC 0.229 0.28 0.318 0.311 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 11 12 13 14 15	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406 0.343	287 ASS Deletion Date 7/2020 TIWC 0.361 0.333 0.392 0.42 0.42			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean	Pe Test C 1 Contro 0.264 0.265 0.289	0.7849 PASS ompletion Date 0/22/2019 0.229 0.28 0.28 0.318 0.311	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 11 12 13 14 15 Mean	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406 0.343	0.377			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev.	Pe Test C 1 Contro 0.264 0.265 0.289 0.289 0.289 0.289	0.7849 PASS ompletion Date 0/22/2019 0 TIWC 0.229 0.28 0.28 0.318 0.311	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev.	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406 0.343	0.377 0.038			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean	Pe Test C 1 Contro 0.264 0.265 0.289	0.7849 PASS ompletion Date 0/22/2019 0.229 0.28 0.28 0.318 0.311	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 11 12 13 14 15 Mean	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406 0.343	0.377			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates	Pe Test C 1 Contro 0.264 0.265 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.281	0.7849 PASS ompletion Date 0/22/2019 0 TIWC 0.229 0.28 0.28 0.318 0.311 0 0.311 0 0.285 0.041 4	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 11 12 13 14 15 Mean Std Dev. # Replicates	e 0.7 PA Test Comp 0.315 0.334 0.406 0.343 0.343 0.350 0.039 4	267 SS SS Deletion Date 7/2020 TIWC 0.361 0.333 0.392 0.43 0.42 0.42 0.44 0.42 0.42 0.43 0.42 0.43 0.42 0.42 0.43 0.42 0.42 0.43 0.42 0.43 0.42 0.43 0.442 0.43 0.442 0.444			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	Pe Test C 1 Contro 0.264 0.265 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.281	0.7849 PASS ompletion Date 0/22/2019 0.229 0.28 0.28 0.318 0.311 0.311 0.311 0.311 0.245 0.285 0.041 4 3.9279	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	e 0.7 PA Test Comp 0.315 0.334 0.406 0.343 0.406 0.343 0.350 0.039 4 4.7	287 ASS Detion Date 7/2020 TIWC 0.381 0.333 0.392 0.44 0.44 0.			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result Deg. of Freed	Pe Test C 1 Contro 0.264 0.265 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.281 0.284 0.264 0.2744 0.274 0.27400000000000000000000000000000000000	0.7849 PASS ompletion Date 0/22/2019 0.229 0.28 0.28 0.318 0.311 0.311 0.311 0.311 0.311 0.28 0.285 0.041 4 3.9279 3	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result Deg. of Freed	e 0.7 PA Test Comp 0.315 0.334 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.406 0.407 0.407 0.407 0.407 0.407 0.407 0.407 0.407 0.406 0.407 0.407 0.407 0.407 0.407 0.406 0.443 0.406 0.443 0.406 0.443 0.406 0.443 0.446 0.447	0.377 0.038 0.377 0.386 0.377 0.387 0.42			
Pass or Fail Replicate No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	Pe Test C 1 Contro 0.264 0.265 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.289 0.281 0.284 0.264 0.2744 0.274 0.27400000000000000000000000000000000000	0.7849 PASS ompletion Date 0/22/2019 0.229 0.28 0.28 0.318 0.311 0.311 0.311 0.311 0.245 0.285 0.041 4 3.9279	Critical T Valu Pass or Fail No. 1 2 3 4 5 6 7 8 9 10 11 11 12 13 14 15 Mean Std Dev. # Replicates T-Test Result	e 0.7 PA Test Comp 10/27 Control 0.315 0.334 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.343 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.344 0.406 0.345 0.344 0.406 0.344 0.406 0.345 0.039 4 4 0.039 0.407 0.039 0.039 0.039 0.039 0.039 0.039 0.039 0.039 0.039 0.039 0.039 0.039 0.000 0.039 0.0000 0.00000 0.0000 0.000000 0.0000000 0.00000 0.00000000	287 ASS Detion Date 7/2020 TIWC 0.381 0.333 0.392 0.44 0.44 0.			

WET Commence of Englished an							
WET Summary and Evaluation							
Facility Name Fairchance-Georges JMSA							
Permit No.	PA0096342	eorges owicia					
Design Flow (MGD)	1.5						
Q ₇₋₁₀ Flow (cfs)	0.116						
PMF _a	1						
PMFe							
PMFc	1						
			Test Result	s (Pass/Fail)			
	/	Test Date	Test Date	Test Date	Test Date		
Species	Endpoint	10/3/17	10/30/18	10/22/19	10/26/20		
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS		
				s (Pass/Fail)			
	1 1	Test Date	Test Date	Test Date	Test Date		
Species	Endpoint	10/3/17	10/30/18	10/22/19	10/26/20		
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS		
			Test Dessit	(Dece / Ee 11)			
	/	Test Data		s (Pass/Fail)	Test Data		
Constant Inc.		Test Date 10/3/17	Test Date 10/30/18	Test Date 10/22/19	Test Date 10/27/20		
Species	Endpoint						
Pimephales	Survival	PASS	PASS	PASS	PASS		
			Teet Decult	s (Pass/Fail)			
	/	Test Date	Test Result	Test Date	Test Date		
Species	Endpoint	10/3/17	10/30/18	10/22/19	10/27/20		
Pimephales	Growth	PASS	PASS	PASS	PASS		
Fillipliaica	Glowin	FA33	FA33	FA33	PASS		
Reasonable Potential	I? NO						
Permit Recommenda	tions						
Test Type	Chronic						
TIWC	95	% Effluent					
Dilution Series	24, 48,	95, 98, 100	% Effluent				
Dilution Series 24, 48, 95, 98, 100 % Effluent Permit Limit None							
Permit Limit							
Permit Limit Species							