pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0002372**
Facility Type	**Industrial**	APS ID	**1030100**
Major / Minor	**Major**	Authorization ID	**1339067**

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

Applicant and Facility Information

Applicant Name	**International Waxes Inc.**	Facility Name	**International Waxes Plant**
Applicant Address	45 Route 446	Facility Address	Valley Plant 45 Route 446
	Smethport, PA 16749-5413		Smethport, PA 16749
Applicant Contact	Daniel Goldsmith	Facility Contact	Daniel Goldsmith
Applicant Phone	(814) 887-4056	Facility Phone	(814) 887-4056
Applicant E Mail	dgoldsmith@igiwax.com	Facility E Mail	
Client ID	242244	Site ID	264504
Municipality	Keating Township	County	McKean
SIC Code	2999	NAIC Code	**324199**
SIC Description	Mfg - Petroleum And Coal Products, NEC	NAIC Description	All Other Petroleum & Coal Products Mfg
Date Application Received	December 24, 2020	EPA Waived?	No
Date Application Accepted	February 23, 2021	If No, Reason	Major Facility
Purpose of Application	MPDES renewal		

Summary of Review

No current open violations. *9/21/2023 CWY*

Proposed are aluminum and copper limitations based on daily maximums.

Public Participation

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

Approve	Deny	Signatures	Date
X		William H. Mentzer William H. Mentzer, P.E. Environmental Engineering Specialist	June 22, 2023
X		Chad .W. Yurisic Chad W. Yurisic, P.E. Environmental Engineer Manager	9/21/2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.069
Latitude DP	41º 51' 23.55"	Longitude DP	-78º 26' 31.20"
Latitude NHD	41º 51' 23.43"	Longitude NHD	-78º 26' 31.79"
Quad Name	Smethport	Quad Code	0418
Wastewater Description:	Noncontact Cooling Water (NCCW) and storm water		

Receiving Waters	Potato Creek	Stream Code	57625
NHD Com ID	112369381	RMI	6.62
Drainage Area	167.9	Yield (cfs/mi^2)	0.08
Q_{7-10} Flow (cfs)	7.42	Q_{7-10} Basis	Potato Creek
Elevation (ft)	1441.75	Slope (ft/ft)	0.00056
Watershed No.	16-C	Chapter 93 Class.	TSF
Existing Use	**statewide**	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	The outfall is at Potato Creek node RMI (NHD) 0.05 and above Cole Creek		
	0.069-MGD is the current and anticipated discharge. 1.0-MGD is the South Pond design flow.		

Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		WQN 862 and Blue Eye Run

Nearest Downstream Public Water Supply Intake		State of New York	
PWS Waters	Allegheny River	Flow at Intake (cfs)	102.12
PWS RMI	264.32	Distance from Outfall (mi)	19.925

Changes Since Last Permit Issuance: none

Other Comments: none

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.712
Latitude DP	41º 51' 26.55"	Longitude DP	-78º 26' 27.22"
Latitude NHD	41º 51' 26.60"	Longitude NHD	-78º 26' 27.25"
Quad Name	Smethport	Quad Code	0418
Wastewater Description:	Outfall 101, non-contact cooling and storm water		

Receiving Waters	Potato Creek	Stream Code	57625
NHD Com ID	112369321	RMI	6.51
Drainage Area	204.98	Yield (cfs/mi^2)	0.08
Q_{7-10} Flow (cfs)	9.114	Q_{7-10} Basis	Potato Creek
Elevation (ft)	1441.44	Slope (ft/ft)	0.00056
Watershed No.	16-C	Chapter 93 Class.	WWF
Existing Use	**statewide**	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	The outfall is at Potato Creek node RMI (NHD) 0.89 and below Cole Creek		
	Only Outfall 101 is a process modelling concern.		
	Potato Creek has a stream classification change at Cole Creek to WWF...		
	0.712-MGD is the current and anticipated discharge. 6.7-MGD is North Pond design discharge,		

Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		WQN 862 and Blue Eye Run

Nearest Downstream Public Water Supply Intake		State of New York	
PWS Waters	Allegheny River	Flow at Intake (cfs)	102.12
PWS RMI	264.32	Distance from Outfall (mi)	19.17

Changes Since Last Permit Issuance: none

Other Comments: none

Discharge, Receiving Waters and Water Supply Information

Outfall No.	101	Design Flow (MGD)	0.576
Latitude DP	41º 51' 28.31"	Longitude DP	-78º 26' 31.55"
Latitude NHD	41º 51' 26.42"	Longitude NHD	-78º 26' 27.56"
Quad Name	Smethport	Quad Code	0418
Wastewater	Lubrication production (process water), domestic and other miscellaneous waste & storm water		

Receiving Waters	Potato Creek through Outfall 001	Stream Code	NA
NHD Com ID	112369321	RMI	NA
Drainage Area	204.98	Yield (cfs/mi^2)	NA
Q_{7-10} Flow (cfs)	NA	Q_{7-10} Basis	NA
Elevation (ft)	1441.44	Slope (ft/ft)	NA
Watershed No.	16-C	Chapter 93 Class.	WWF
Existing Use	**NA**	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	Internal monitoring point prior to final polishing by heat removal and cooling water dilution.		
	0.576-MGD is the effluent design, current and anticipated discharge.		
	0.72-MGD is the treatment facility influent design flow.		

Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		WQN 862 and Blue Eye Run

Nearest Downstream Public Water Supply Intake		State of New York	
PWS Waters	Allegheny River	Flow at Intake (cfs)	102.12
PWS RMI	264.32	Distance from Outfall (mi)	19.17

Changes Since Last Permit Issuance: none

Other Comments: none

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	NA
Latitude DP	41º 51' 29.44"	Longitude DP	-78º 26' 44.27"
Latitude NHD	41º 51' 30.16"	Longitude NHD	-78º 26' 46.73"
Quad Name	Smethport	Quad Code	0418
Wastewater Description:	Stormwater		

Receiving Waters	Cole Creek	Stream Code	57625
NHD Com ID	112369323	RMI	0.25
Drainage Area	36.8	Yield (cfs/mi^2)	0.08
Q_{7-10} Flow (cfs)	2.94	Q_{7-10} Basis	Potato Creek
Elevation (ft)	1446,68	Slope (ft/ft)	0.00177
Watershed No.	16-C	Chapter 93 Class.	CWF
Existing Use	**statewide**	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	The outfall is at Cole Creek node RMI (NHD) 0.25 above its confluence with Potato Creek.		

Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		WQN 862 and Blue Eye Run

Nearest Downstream Public Water Supply Intake		State of New York	
PWS Waters	Allegheny River	Flow at Intake (cfs)	102.12
PWS RMI	264.32	Distance from Outfall (mi)	19.43

Changes Since Last Permit Issuance: none
Other Comments: none

Treatment Facility Summary

Treatment Facility Name: International Waxes Plant

WQM Permit No.	Issuance Date
4271201	December 1, 1971
4271201 T3	
4277201	February 28, 1978
4277201 T3	

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Other Processes (Industrial Waste)	Temperature Control (Cooling)	No Disinfection	0.576

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
_0.576	638	Not Overloaded		Off-site

Changes Since Last Permit Issuance: None

Other Comments: Two stage oil removal, equalization, and biological treatment (built for petroleum refinery operations)

WQM application files do not contain the original facility designs nor can the facility descriptions be verified.

WQM permit 4277201 is for gravity and DAF oil treatment followed by aeration and clarification. Facility reworking may have changed the DAF and aeration system. The 0.576-MGD design flow is a refinery discharge design average flow including storm water, process, and other wastes. The influent design average flow is 0.072-MGD. Both influent and effluent maximum flow is 1.008-MGD. The average design load was 638-PPD at 133-mg/L with a maximum 2520-PPD BOD5 load. Storm water was included as it was not separately collected and equalized for treatment. Higher waste flows were considered to be storm water related and used to adjust the refinery permit requirements for storm water treatment.

WQM permit 4271201 is for the North and South Spray Ponds. Treatment is limited to evaporative cooling. Phenol destruction may have been permitted but known to be used only at the Bradford Refinery where it was replaced as it could not provide permit compliance. No organic load should be associated with this permit. Design (maximum) Discharge is 6.7-MGD at the North Pond and 1.0-MGD at the South Pond.

The EPA end-of-pipe treatment is equalization, two stage oil removal, and biological treatment. Storm water and process wastes are to be separately equalized with independent flow measurement prior to treatment so that a storm water allowance can be calculated (petroleum refinery operations).

The first NPDES permit was issued to Quaker State Refining by the EPA on February 28, 1975 for a topping facility with lube processing. The NPDES permit was re-issued in 1985. These permits were production (petroleum refinery with topping and lube production) based with mass limitations.

In 1990 the facility was transferred from Quaker State Refining to Petrowax Pa. At this time the facility quit crude oil topping and started processing reduced Oklahoma crude into lubrication oils for this facility and the Emlenton Refinery. With this change the technology requirements changed from the refinery promulgated best available treatment (BAT) to lube processing best professional treatment (BPJ).

The BPJ requirements were derived from the Quaker State Refining Emlenton facility effluent requirements. This facility was originally a topping refinery with lube processing but by the time the Commonwealth reviewed the NPDES application production was limited to lube processing. Since then the Emlenton Refinery has been, transferred to new owner/operators, shutdown, and dismantled. During the Emlenton Refinery NPDES application review, the EPA objected to applying the refining guidelines directly and recommended using the development document concentrations and factors to develop the NPDES permit requirements. This BPJ development predates the Department's BPJ procedures but indirectly incorporates most BPJ procedures through the EPA Petroleum Refining Point Source Category review dated April 1974. End-of-pipe treatment is the same as for refineries – equalization, two stage oil removal and biological treatment.

The Organic Chemicals and Synthetic Fabrics Category does not cover SIC code 2999 listed industries but does cover the NAICS Code 324199 equivalent. Also, none of the sector parts address lubrication oils and greases. Thus, the existing BPJ basis remains.

Operation		Current	Design	Application					
		MGD	MGD	MGD	hrs/d	d/wk	d/yr	m/yr	Waste Source/Comments
101	1			0.143	24	7	365	12	Steam stripping wax distillates vacuum distil rerun condensate
	2			0.036	24	7	365	12	Hydrocarbon contact propane extraction condensate
	3			0.071	24	7	365	12	Wax & soft wax steam stripping MEK deoiler condensate
	4			0.116	24	7	365	12	filter house wet scrubber hydrocarbon contact bauxite filter condensate
	5			0.045	24	7	7365	12	hydrocarbon contact filter house air washer slurry blowdown water and condensate
	6			0.004	*	*		*	naphtha recovery process rerun unit filter wash
	7			0.098	24	7	365	12	process unit drains
				0.0599	24	7	365	12	Tankage steam condensate-minor error source 900-gallons missing in Outfall 101 total
				0.004	24	7	365	12	sanitary wastes
	Total	0.677	0.566	0.576	24	7	365	12	720 000 square feet storm water drainage (5,049MGD with a 4" storm event)
	Total			0.559	24	7	365	12	March 25, 2015 application
001				0.033	24	7	365	12	MEK Cooling
				0.003	24	7	365	12	Filterhouse cooling
				0.027	24	7	*	*	PDR cooling
				0.007	24	7	365	12	Rerun unit cooling
				0.058	*	*	365	*	Vacuum distillation
				0.008	24	7	365	12	boiler blowdown and NCCW
	Total	1.334		0.136	24	7	365	12	with 180 000 square feet storm water drainage (3.366-MGD with a 4" storm event)
	Total			0.128					March 25, 2015 application
001	Total	2.011	3.229	0.712					
001	Total			0.352	24	7	365	12	March 25, 2015 application
002		0.129		0.069	24	7	365	12	vacuum distillation and storm water
002	Total	0.129	0.436	0.069	24	7	365	12	with 5 000 square feet storm water drainage
002	Total			0.128	24	7	365	12	March 25, 2015 application
003									Storm water drainage

*** varies**

Storm water contribution to Outfalls 101 and 001 is significant. The industrial waste component of Outfall 001 is 0.713-MGD. Adding a storm water contribution to 0.712-MGD approximates the 1.334-MGD DMR reported discharge. Tankage stream condensate is reported as 0.059 and 0.0599-MGD. This not a significant error.

2019 annual production	**146 000 000 pounds**
2019 Annual average production	**400 000 pounds daily**
2019 Maximum monthly production	**15 500 000 pounds in June**

2019 annual production	**25 768- barrels**
2019 Annual average production	**70.60 barrels daily**
2019 Maximum monthly production	**2 419 barrels in June**

The permit requirements are BPJ based on oil refinery development documents and discharge volume consequently production data was not used to set effluent requirements:

Notes

This is a reasonable production based Best Professional Judgment permit. Reasonable production for this site is defined as the current production as reported by the permittee and is expected to continue.

Industrial waste design is for the anticipated daily maximum production and over states production and generates relaxed effluent requirements and should not be used to calculate NPDES permit requirements.

Treatment design was for an average 0.576-MGD and a maximum 1.00-MGD discharge and an average 120-PPD and a maximum 242-PPD BOD5.The North Pond design flow was 6.7-MGD while the South Pond design flow was for 1.0-MGD. The pond discharges should be daily maximums

The effluent requirements were developed for the lubrication production facilities at the Quaker State Emlenton refinery after the refinery quit refining crude petroleum. During the NPDES permit drafting Larry Liu, an EPA petroleum refining expert recommended using the Petroleum Oil Refining Point Source Development Document effluent concentrations to determine NPDES technology-based requirements.

By using the development document effluent requirements and the EPA's recommended end-of-pipe treatment independent feasibility cost analysis is avoided.

As long as the Quaker State Farmers Valley facility was processing crude oil EPA's Petroleum effluent guidelines were used to set technology requirements. Once the facility quit processing Pennsylvania Crude , shut down its topping units and started processing reduced Oklahoma crude petroleum the facility was no longer operating as a refinery and the EPA Petroleum Refinery Guidelines were no longer appropriate. As both the Farmers Valley and Emlenton facilities were not operating as refineries and had similar waste treatment facilities the same BPJ requirements were applied to both,

Grab samples for Oil and Grease have been retained. Previously 24-hour composite samples were required. The 24-composite sample technique was not well understood and for clarification was replaced by a daily grab sample.

Oil and grease composite sampling is done according to the volatile organics composite sample but with a different final step. In the laboratory volatile organic grab samples are mixed and a single analysis done. For oil and grease the grab samples are individually a analyzed and the results averaged.

Outfall	Part	Source	Design	2010	2015	2021
101	1	Steam stripping condensate		0.143	0.135	0.143
	2	Propane Extraction Condensate		0.034	0.034	0.036
	3	MEK desalter condensate		0.069	0.068	0.071
	4	Bauxite filtering condensate		0.116	0.115	0.116
	5	Boiler House air washer condensate and blow down		0.045	0.045	0.045
	6	Rerun filter wash		0.004	0.004	0.004
	7	Process Unit Drains		0.098	0.098	0.098
	8					
	9	Tankage		0.055	`0.056	0.0599
		Sanitary		0.002	0.004	0.004
		Total	0.72	0.566	0.559	0.576
001	1					
	2	MEK NCCW		1.775	0.113	0.033
	3	Filterhouse NCCW		0.061	0.008	0.003
	4	PDR NCCW		0.826	0.086	0.027
	5	Rerun NCCW		0.168	0.020	0.007
	6	Vacuum Distillation NCCW		0.393	0.117	0.058
`	7	Boiler blowdown		0.006	0.008	0.008
\		Total		3.229	0.352	0.136
		Total Outfall 001 (with Outfall 101)	6.7	3.795	0.911	0.713
002	1					
	2	Vacuum Distillation NCCW		0.393	0.018	0.069
	8	Total Vacuum Distillation & Storm water	1.0	0.436	0.128	0.128
003						

Compliance History	
Summary of Inspections:	The last known inspection was by Don Hanna on May 19, 2011. Facility in decent shape. Some confusion on 24-hour oil and grease monitoring. E-DMR reporting expected.

Other Comments: No recent inspections filed. Correspondence file has a Consent Assessment of Civil Penalty documentation dated August 11, 2021 resolving a November 1, 2017 Notice of Violation (NOV). The NOV was a result of September 14 and 28, 2017 inspections and a reported Potato Creek fish kill. The NOV cited: fire-retardant discharge, wax spills, North Spray pond low freeboard, settling tank missing bricks, bauxite storm water contamination, no aeration in the either spray pond, unstable North Pond banks, North Spray Pond wax discharge, un-useable wax tank, leaking salt tank, wax in new main line drain excavation, broken cooling line to south side #2 pump station, weeds obstructing the south side pump station #2, could not fine Outfall 003, Outfall 002 obstructed by weeds and could not be located, aeration basins had large wax balls, temperature meter was not calibrated and reading incorrectly, laboratory biffer out-of-date.

Compliance History

DMR Data for Outfall 001 (from April 1, 2022 to March 31, 2023)

Parameter	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22
Flow (MGD) Average Monthly	1.601	1.405	1.482	1.349	1.343	1.308	1.467	1.216	1.292	1.113	1.186	1.098
Flow (MGD) Daily Maximum	1.850	1.580	1.580	1.580	2.430	1.850	1.850	1.850	3.430	1.850	1.580	1.330
pH (S.U.) Minimum	6.92	6.91	6.89	6.75	6.85	6.82	6.77	7.01	6.70	6.92	6.75	6.63
pH (S.U.) Maximum	7.17	7.19	7.27	7.31	7.22	7.12	7.56	7.52	7.52	7.56	7.28	7.31
Temperature (ºF) Daily Average	88.90	84.07	83.03	77.74	87.27	89.35	87.17	89.81	92.32	88.20	87.48	88.87

DMR and application median 7.07 SU

DMR Data for Outfall 002 (from April 1, 2022 to March 31, 2023)

Parameter	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22
Flow (MGD) Average Monthly	0.078	0.112	0.042	0.070	0.138	0.173	0.171	0.173	0.293	0.085	0.110	0.089
Flow (MGD) Daily Maximum	0.270	0.350	0.26	0.130	0.240	0.340	0.420	0.360	0.430	0.110	0.170	0.130
pH (S.U.) Minimum	7.03	6.97	6.94	6.84	6.89	6.96	6.92	6.98	6.75	7.07	6.82	6.86
pH (S.U.) Maximum	7.60	7.38	7.61	7.61	7.32	7.24	7.76	7.84	7.70	7.68	7.42	7.33
Temperature (ºF) Daily Average	57.94	54.86	49.39	55.32	58.40	61.58	69.10	70.58	71.19	70.40	66.14	59.67
TOC (mg/L) Daily Maximum	2.03	2.92	2.52	2.43	2.31	2.63	5.21	2.55	2.66	2.32	2.45	2.55

DMR and application median 7.6 SU.

DMR Data for Outfall 101 (from April 1, 2022 to March 31, 2023)

Parameter	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22
Flow (MGD) Average Monthly	0.713	0.687	0.755	0.640	0.777	0.689	0.683	0.675	0.670	0.556	0.561	0.599
Flow (MGD) Daily Maximum	0.770	0.770	0.850	0.780	0.920	0.840	1.060	0.770	0.780	0.660	0.700	1.340
pH (S.U.) Minimum	6.40	6.80	6.8	6.94	6.40	6.80	6.60	6.80	6.80	6.90	6.60	6.90
pH (S.U.) Maximum	7.80	7.63	7.51	7.60	7.57	7.80	8.00	7.80	7.80	8.00	7.60	7.49
BOD5 (mg/L) Average Monthly	3.14	3.00	3.00	4.24	4.03	5.80	3.18	3.00	3.00	3.00	3.35	3.00
BOD5 (mg/L) Daily Maximum	3.60	3.00	3.00	9.20	7.10	13.40	3.90	3.00	3.00	3.00	4.40	3.00
COD (mg/L) Average Monthly	15.68	12.73	10.40	11.44	14.98	15.40	11.86	11.73	10.23	11.62	12.25	13.03
COD (mg/L) Daily Maximum	19.90	15.20	11.10	12.80	24.60	29.90	17.90	13.20	10.90	14.60	14.60	19.40
TSS (mg/L) Average Monthly	3.60	3.50	3.00	3.00	4.25	3.00	3.40	3.25	3.50	4.40	3.50	3.00
TSS (mg/L) Daily Maximum	6.00	4.00	3.00	3.00	6.00	3.00	5.00	4.00	5.00	9.00	5.00	3.00
Oil and Grease (mg/L) Average Monthly	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Oil and Grease (mg/L) Daily Maximum	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Ammonia (mg/L) Average Monthly	0.47	0.52	0.11	0.69	0.19	0.23	0.21	0.33	0.38	0.35	1.28	0.41
Ammonia (mg/L) Daily Maximum	0.68	0.85	0.13	2.20	0.24	0.31	0.36	0.54	0.61	0.61	4.08	0.45

DMR and application median 7.20 SU.

Compliance History

Effluent Violations for Outfall 002, from: May 1, 2022 To: March 31, 2023

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TOC	09/30/22	Daily Max	5.21	mg/L	5	mg/L

Other Comments:

The water supply is local wells that should be checked for TOC concentrations as they may be contaminated through refinery best management practices.

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 0.436
Latitude 41° 51’ 23.54” **Longitude** 78° 26’ 31.19”

Wastewater Description: non-contact cooling water and storm water

Technology-Based Limitations

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

Parameter	Limit	SBC	Federal Regulation				State Regulation
	(mg/l)		Minimum	Mean	Maximum	Maximum	
Flow	Report	NA	Report	NA			
Temperature	110˚F	NA	NA	110	NA		NA
pH	6 to 9 SU	NA	6 SU			9 SU	6 to 9 SU
Total Organic Carbon	5				5	10	NA

Water Quality-Based Limitations

Comments: The non-contact cooling water and storm water should be not contaminated. TOC is a federal non-contact cooling water daily maximum requirement with a 10-mg/L instantaneous maximum (refinery technology based),

The permitted discharge is 0.436-MGD. Reported discharge is 0.069-MGD. Maximum monthly DMR discharge is 0.293-MGD in March 2023. Estimated stream flow is 7.42-cfs (4.80-MGD). The total stream to waste flow is 12:1 at 0.436-MGD, 17.4 at 0.293-MGD and 70.5:1 at 0.0690-MGD.

No temperature model was run as the maximum reported temperature was 71.2ºF which is less than the safety based regulated temperature. That was previously determined to be more stringent than the water-quality based requirements.

At the 0.436-MGD design flow 0.0405-mg/L AML, 0.0632-mg/L MDL, and 0.101-mg/L I Max hexavalent chromium based WQBEL. Because the sample results for hexavalent chromium are below the detection limit, no monitoring will be required. A 0.031-mg/L AML, 0.048-mg/L MDL and a 0.076-mg/L I Max copper WQBEL was calculated. *Because the discharge concentration for Copper exceeds 10% of the calculated WQBEL, monitoring will be included in this permit. 9/21/2023 CWY*

Anti-Backsliding

The discharge is complying with its requirements.

Outfall No. 101 **Design Flow (MGD)** 0.566
Latitude 41° 51’ 28.31” **Longitude** 78° 26’ 31.55”

Wastewater Description: Lubrication production, miscellaneous wastes, and storm water

Technology-Based Limitations

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

Parameter	Limit	SBC	Federal Regulation				State Regulation
	(mg/l)		Minimum	Mean	Maximum	Maximum	Minimum
Ph	6 to 9 SU		6 SU			9 SU	6 to 9 SU
5-day BOD	25.5			25.5	48.0	25.5	
COD	128			128	248	320	
TSS	21.0			21.0	33	52.50	
Oil and Grease	8			8.0	15.0	20.0	
Ammonia	10.5			10.5		10.5	

The miscellaneous wastes include septic tank discharges, laboratory glassware cleaning, protective equipment rinse water and other un-named minor sources.

Independent of the discharge flow and as a stream discharge without downstream dilution aluminum, hexavalent chromium, copper, and zinc monitoring is recommended. With cooling water dilution no water-quality limitations are necessary. *Because the discharge concentrations for Aluminum, Hexavalent chromium, Copper, and Zinc exceed 10% of the calculated WQBELs, monitoring for these parameters will be included in this permit. 9/21/2023 CWY*

Anti-Backsliding

The discharge is complying with its requirements.

Outfall No.	001	**Design Flow (MGD)**	3.229
Latitude	41° 51’ 26.55”	**Longitude**	78° 26’ 27.21”

Wastewater Description: Outfall 101, non-contact cooling water and storm water

Technology-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
Flow	Report	NA	Report	NA
Temperature	110˚F	NA	NA	NA
pH	6 to 9 SU	NA	6 to 9 SU	6 to 9 SU

Water Quality-Based Limitations

Comments: The temperature limit is safety based. PH is from the minimum the Commonwealth’s minimum industrial waste requirements and the federal refinery subcategory guidance. Note that this facility is a former refinery for which the storm water requirements have been retained.

The permitted discharge is 3.229-MGD. Reported discharge is 0.069-MGD. Monthly maximum DMR discharge is 1.601MGD in March 2023. Annual average discharge is 1.321667-MGD. Estimated stream flow is 9.114-cfs (5,89-MGD). The total stream to waste flow is 1:1 at 3.229-MGD, 4.7:1 at 1.601-MGD, and 9.3:1 at 0.713-MGD.

No temperature model was run as the maximum reported temperature was 92.3ºF which is less than the safety based permitted temperature. That was previously determined to be more stringent than the water-quality based requirements.

Aluminum limitations and hexavalent chromium, copper, dissolved iron, and zinc monitoring are recommended at any discharge volume greater than 0.713-MGD.

The application 0.712 (0.713)-MGD waste flow is the facility industrial waste flow as the DMR waste flows are higher and include storm water flows.

Aluminum at 0.54-mg/L (previous application 0.39-mg/L maximum) appears to increase with treatment with a 1.629-mg/L (33%) AFC WQBEL controlling at Outfall 101 and 1.401-mg/L(39%) AFC WQBEL controlling at Outfall 001. With a 0.713-MGD discharge monitoring is recommended. As aluminum-based settling aids are reported aluminum control is recommended. *Because the discharge concentration for Aluminum exceeds 10% of the calculated WQBEL, monitoring will be added to this permit. 9/21/2023 CWY*

Hexavalent chromium at less than 0.005-mg/L (previous application ND) in the process raw waste and at Outfalls 101 and 001. Based on being constantly less than detection no regulation is proposed. (Chromium is a refinery point source parameter based on petroleum refinery chromate use. Chromate use was discontinued during guideline development resulting in annual monitoring being implemented.)

Total copper effluent at 0.003-mg/L (previous application 0.013-mg/L maximum) is approximately Hems reported surface water concentration, near the antidegradation 0.0045-mg/L average ambient concentration, 11% of the 0.027-mg/L Outfall 101 WQBEL and 12% of the Outfall 001 0.025-mg/LWQBEL. With a 0.713-MGD discharge monitoring is recommended. *Because the discharge concentration for Copper exceeds 10% of the calculated WQBEL, monitoring will be added to this permit.*

Zinc at less than 0.025-mg/L(previous application 0.019-mg/L maximum) at Outfalls 101 and 001. Based on zinc being constantly less than detection no regulation is proposed.

Anti-Backsliding

The discharge is complying with its requirements.

Outfall No.	003	**Design Flow (MGD)**	NA
Latitude	41° 51’ 29.44”	**Longitude**	78° 26’ 44.27”

Outfall 003 is a non-contaminated storm water only discharge whose requirements have been relocated. See the Storm water conditions for requirements.

Anti-Backsliding

The discharge is complying with its requirements.

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **International Waxes** NPDES Permit No.: **PA0002372** Outfall No.: **101**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.566	59.8	7.2						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		315.33									
	Chloride (PWS)	mg/L											
	Bromide	mg/L		0.38									
	Sulfate (PWS)	mg/L		15.7									
	Fluoride (PWS)	mg/L	<	0.5									
Group 2	Total Aluminum	µg/L		470									
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L		20									
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L	<	5									
	Hexavalent Chromium	µg/L	<	5									
	Total Cobalt	µg/L											
	Total Copper	mg/L		0.003									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L		390									
	Total Iron	µg/L		110									
	Total Lead	µg/L											
	Total Manganese	µg/L		40									
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L		10									
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L	<	0.025									
	Total Molybdenum	µg/L		20									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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

	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

International Waxes, NPDES Permit No. PA0002372, Outfall 101

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Potato Creek**

No. Reaches to Model: 1

- (•) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	057625	6.52	1441.14	204.98			Yes
End of Reach 1	057625	0	1438.48	224			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	6.52	0.08										100	7		
End of Reach 1	0	0.08													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	6.52														
End of Reach 1	0														

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Toxics Management Spreadsheet
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Model Results

International Waxes, NPDES Permit No. PA0002372, Outfall 101

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.128 Analysis Hardness (mg/l): 88.135 Analysis pH: 7.05

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	2,541	
Total Barium	0	0		0	21,000	21,000	71,151	
Total Chromium (III)	0	0		0	513.774	1,626	5,509	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	55.2	Chem Translator of 0.982 applied
Total Copper	0	0		0	11.931	12.4	42.1	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	105.288	108	365	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 720 PMF: 0.883 Analysis Hardness (mg/l): 97.709 Analysis pH: 7.01

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	4,100	4,100	71,937	
Total Chromium (III)	0	0		0	72.721	84.6	1,484	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	182	Chem Translator of 0.962 applied
Total Copper	0	0		0	8.780	9.15	160	Chem Translator of 0.96 applied

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	29,592	WQC = 30 day average; PMF = 1
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	115.842	117	2,061	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 720 PMF: 0.883 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	2,400	2,400	42,110	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	5,264	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	17,546	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	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 Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	Report	Report	Report	Report	Report	µg/L	1,629	AFC	Discharge Conc > 10% WQBEL (no RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	35.4	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	mg/L	0.027	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.23	AFC	Discharge Conc > 10% WQBEL (no 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
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Barium	42,110	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	1,484	µg/L	Discharge Conc ≤ 10% WQBEL
Dissolved Iron	5,264	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	29,592	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	17,546	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Molybdenum	N/A	N/A	No WQS

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **International Waxes** NPDES Permit No.: **PA0002372** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
3.229	63	7.2						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		330									
	Chloride (PWS)	mg/L											
	Bromide	mg/L		0.52									
	Sulfate (PWS)	mg/L		15.9									
	Fluoride (PWS)	mg/L	<	0.5									
Group 2	Total Aluminum	µg/L		540									
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L		20									
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L	<	5									
	Hexavalent Chromium	µg/L	<	5									
	Total Cobalt	µg/L											
	Total Copper	mg/L		0.004									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L		390									
	Total Iron	µg/L		110									
	Total Lead	µg/L											
	Total Manganese	µg/L		60									
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L		10									
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L	<	0.025									
	Total Molybdenum	µg/L		20									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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

	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

International Waxes, NPDES Permit No. PA0002372, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Potato Creek**

No. Reaches to Model: 1

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	057625	6.52	1441.14	204.98			Yes
End of Reach 1	057625	0	1438.48	224			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	6.52	0.08										100	7		
End of Reach 1	0	0.08													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	6.52														
End of Reach 1	0														

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Toxics Management Spreadsheet
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Model Results

International Waxes, NPDES Permit No. PA0002372, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.148 Analysis Hardness (mg/l): 75.112 Analysis pH: 7.12

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	1,115	
Total Barium	0	0		0	21,000	21,000	31,220	
Total Chromium (III)	0	0		0	450.716	1,426	2,120	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	24.2	Chem Translator of 0.982 applied
Total Copper	0	0		0	10.263	10.7	15.9	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	91.949	94.0	140	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): 91.361 Analysis pH: 7.04

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	4,100	4,100	17,559	
Total Chromium (III)	0	0		0	68.828	80.0	343	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	44.5	Chem Translator of 0.962 applied
Total Copper	0	0		0	8.290	8.64	37.0	Chem Translator of 0.96 applied

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	6,424	WQC = 30 day average; PMF = 1
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	109.432	111	475	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	2,400	2,400	10,279	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	1,285	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	4,283	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	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 Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		Concentration Limits						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	20.2	30.0	750	1,115	1,115	µg/L	750	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	16.3	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	mg/L	0.011	AFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	1,285	THH	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.094	AFC	Discharge Conc > 10% WQBEL (no 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
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Barium	10,279	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	343	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	6,424	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	4,283	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Molybdenum	N/A	N/A	No WQS

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **International Waxes** NPDES Permit No.: **PA0002372** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Process wastes and cooling water**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.713	63	7.1						

	Discharge Pollutant	Units		Max Discharge Conc	0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Stream CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteria Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		330									
	Chloride (PWS)	mg/L											
	Bromide	mg/L		0.52									
	Sulfate (PWS)	mg/L		15.9									
	Fluoride (PWS)	mg/L	<	0.5									
Group 2	Total Aluminum	µg/L		540									
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L		20									
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L	<	5									
	Hexavalent Chromium	µg/L	<	5									
	Total Cobalt	µg/L											
	Total Copper	mg/L		0.004									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L		390									
	Total Iron	µg/L		110									
	Total Lead	µg/L											
	Total Manganese	µg/L		60									
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L		10									
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L	<	0.025									
	Total Molybdenum	µg/L		20									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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

	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											
	Other (TYPE HERE)												

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

International Waxes, NPDES Permit No. PA0002372, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Potato Creek**

No. Reaches to Model: 1

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	057625	6.52	1441.14	204.98			Yes
End of Reach 1	057625	0	1438.48	224			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	6.52	0.08										100	7		
End of Reach 1	0	0.08													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	6.52														
End of Reach 1	0														

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Toxics Management Spreadsheet
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Model Results

International Waxes, NPDES Permit No. PA0002372, Outfall 001

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

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ ***AFC*** CCT (min): 15 PMF: 0.129 Analysis Hardness (mg/l): 87.3 Analysis pH: 7.03

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	2,185	
Total Barium	0	0		0	21,000	21,000	61,182	
Total Chromium (III)	0	0		0	509.783	1,613	4,700	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	47.5	Chem Translator of 0.982 applied
Total Copper	0	0		0	11.825	12.3	35.9	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	104.442	107	311	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 720 PMF: 0.892 Analysis Hardness (mg/l): 97.405 Analysis pH: 7.01

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	4,100	4,100	58,452	
Total Chromium (III)	0	0		0	72.535	84.3	1,202	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	148	Chem Translator of 0.962 applied
Total Copper	0	0		0	8.757	9.12	130	Chem Translator of 0.96 applied

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	23,800	WQC = 30 day average; PMF = 1
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	115.536	117	1,671	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 720 PMF: 0.892 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	2,400	2,400	34,216	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	4,277	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	14,256	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	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 Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		Concentration Limits						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	Report	Report	Report	Report	Report	µg/L	1,401	AFC	Discharge Conc > 10% WQBEL (no RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	30.4	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	mg/L	0.023	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.2	AFC	Discharge Conc > 10% WQBEL (no 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
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Barium	34,216	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	1,202	µg/L	Discharge Conc ≤ 10% WQBEL
Dissolved Iron	4,277	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	23,800	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	14,256	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Molybdenum	N/A	N/A	No WQS

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **International Waxes** NPDES Permit No.: **PA0002372** Outfall No.: **002**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **cooling water**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.069	63	7.6						

	Discharge Pollutant	Units		Max Discharge Conc	0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Strea m CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteri a Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		68									
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L	<										
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L	<	5									
	Hexavalent Chromium	µg/L	<	5									
	Total Cobalt	µg/L											
	Total Copper	mg/L		0.022									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L	<	150									
	Total Iron	µg/L											
	Total Lead	µg/L											
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L	<	0.025									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

Discharge Information 6/5/2023 Page 1

SupplierChemical Test Est

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

	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											
	Other (TYPE HERE)												

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

International Waxes, NPDES Permit No. PA0002372, Outfall 002

Instructions | Discharge | Stream

Receiving Surface Water Name: **Potato Creek**

No. Reaches to Model: 1

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	057625	6.62	1441.71	167.9			Yes
End of Reach 1	057625	0	1438.48	224			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	6.62	0.08										100	7		
End of Reach 1	0	0.08													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	6.62														
End of Reach 1	0														

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Toxics Management Spreadsheet
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Model Results

International Waxes, NPDES Permit No. PA0002372, Outfall 002

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

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ ***AFC*** CCT (min): 15 PMF: 0.140 Analysis Hardness (mg/l): 98.01 Analysis pH: 7.02

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	560.462	1,774	32,982	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	303	Chem Translator of 0.982 applied
Total Copper	0	0		0	13.187	13.7	255	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	115.202	118	2,190	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 720 PMF: 0.969 Analysis Hardness (mg/l): 99.699 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	73.932	86.0	10,566	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	1,278	Chem Translator of 0.962 applied
Total Copper	0	0		0	8.933	9.3	1,144	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	117.838	120	14,689	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 720 PMF: 0.969 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	36,873	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): ##### PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		Concentration Limits						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	mg/L	0.16	AFC	Discharge Conc > 10% WQBEL (no 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
Total Chromium (III)	10,566	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	194	µg/L	Discharge Conc ≤ 10% WQBEL
Dissolved Iron	36,873	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	1.4	mg/L	Discharge Conc ≤ 10% WQBEL

Name		Use	Species	Acute mg/L	Test Eff hrs	Chrn mg/L	HH mg/L	Outfall	Use PPD	Disch mg/L	Scning Crit mg/L	WQ Limit mg/L	mg/L` Comments
NOVUS	**CE2694**	**flocculant**	**Ceriodaphia**	**0.4**	**48**			**001**	**60**	**~0**	**0.2**	**2.8**	**Acceptable 2.8>0**
			Fathead Minnow	**3.2**	**96**					**1.6**	**22.1**		**Acceptable 22.1>0**
			Daphnis magna	**0.34**	**48**					**0.17**	**2.3**		**Acceptable 2.3>0**
Listed				**0.015**		**0.0017**						**0.02**	**Acceptable 0.02>0**
Petroleum Distillates CAS 64742-47-8													
UNIVAR	Diammonium phosphate*	nutrient	Fathead Minnow	36	48			001	44.45	0.3	18	2.3	Acceptable 18>0.3
Not listed with chemical additives and not used as an additive. Used as microbial feed and required for biological waste treatment of industrial waste.													
GE Water	Cortrol IS105	oxygen scavenger	Daphnia magna	203	48				35	0.95	102	1410	Acceptable 102>0.95
Now by Veolia WTS listed for boiler treatment			Rainbow Trout	58	96					26	360		Acceptable 26>0.95
Listed				13.61		1.51						20.8	Acceptable 20.8>0.95
Critical aquatic use is chronic at 1.5`-mg/L													
SUEZ	**Depositrol BL6507**	**deposit control**	**Fathead minnow**	**8600**	**96**			**001**	**84**	**(9.9857)**	**4300**	**33810**	**Acceptable 4300>9.9**
Now by Veolia WTS			**Daphnia magna**	**2900**	**48**					**8.8****	**2450**	**33810**	**Acceptable 2460>9.99**
Listed for Chronic aquatic life at 12.394-mg/L						**12.4**						**170**	**Acceptable 12.4>9.98**
Listed					111.54	12.394						**170**	**Acceptable 170>8.8**
Phosphonic acid, (1-hydoxyethyldene)bis- CAS 2809-21-4 2.5-10%													
Suez	Spectrus OX909*	biocide	Bluegill Sunfish	3.8	96			001	120	0.32	1.9	26.2	Acceptable 1.9>0.32
			Rainbow Trout	3	96								
Listed				0.188		0.021						0.28	Acceptable 0.3~0.3
Now by Veolia WTS chronic critical use at 0.021-mg/L. Acceptable because of data precision and rounding.													
SUEZ	Solus AP24*	boiler water	Daphnia magna	3674	48			001	51	1.07	1634	22550	Acceptable 1634>1.07
			Fathead minnow	> 5000	96						2500	34500	Acceptable 25000>1.07
Listed				229.63		25.51	21.88					300	Acceptable 300< 1.06
Now by Veolia WTS Human Health controlling at 21.88-mg/L													
GE Water	Gengard GN8141*	corrosion inhibitor	Daphnia magna	386	48			001	20	0.32	193	2665	Acceptable 193>0.32
			Rainbow trout	65	96						37	510	Acceptable 37>0,32
Listed				4.06		0.45	46.6					6.2	Acceptable 6.2>0.32
Now by Veolia WTS chronic aquatic life controlling at 0.45-mg/L													
GE Water	Klaraid CDP1314*	coagulant	Daphnia magna	5.5	48			001	60	0	2.6	35.9	No discharge
			Fathead minnow	14.2	96						7.1	100	No discharge
Listed				0.21		0.024						0.33	No discharge
Now by Veolia WTS chronic aquatic life controlling at 0.024-mg/L													

Name		Use	Species	Acute Test Eff	Chrn	HH	Outfall	Use	Disch	Scning Crit	WQ Limit	
				mg/L hrs	mg/L	mg/L		PPD	mg/L	mg/L	mg/L	Comments
SUEZ	**NOVUS CE7091**	**flocculant**	**fish**	**10-100 96**			**001**	**60**	**0***	**5**	**70**	**No discharge**
Not listed												Not listed
GE Water	Novus Polyfloc CE2694	flocculant	Ceriodaphia	0.4 48			001	250	0	0.2	2.8	No discharge
			Fathead minnow	3.2 96						1.6	22.1	No discharge
Listed				0.015	0.0017	0.09					0.02	No discharge
Controlling criteria is chronic Aquatic life at is 0.0017-mg/LDaphnia magna												
SUEZ	Steamate FM1000	steam condensate	flathead minnow	67 96			001	35	0	34	470	No discharge
Controlling criteria is chronic Aquatic life at is 0.29-mg/L			Daphnia magna	155 48						78	1075	No discharge
Listed				2.58	0.29						4.0	No discharge
GE Water	Steamate NA702	condensate return	fathead minnow	758 96			001	35	0	379	5230	No discharge
			Daphnia magna	319 96						159	2195	No discharge
Listed				12.27	1.36	3.69					18.8	No discharge
Controlling criteria is chronic Aquatic life at is 1.36-mg/L												
UNIVAR	Sodium Hypochlorite		rainbow trout	0.06 96			001	35	0	0.011	0.15	Acceptable 0.011>0
			Fathead minnow	5.9 96								
Listed				0.01	0.0011	0.21					0.02	Acceptable 0.02>0
Promulgated criteria controlling.												
SUEZ	Bioplus 2950	Wastewater treatment					101	42		3.8		No criteria

Use is in the wastewater treatment plant and Bioplus should not be classified as an additive. It replaces diammonium phosphate, Monitoring is through phosphorus and nitrogen.

() data taken from application PentoxSD print out.
Default Safety factor 0.5
*Continued use included in the March 25, 2015 dated renewal.
** Submitted as a revision

Bioplus 2950 and Diammonium phosphate are microbial foods used to maintain biological treatment. The microbial food design requirements are established during the treatment facility design with the NPDES program monitoring verifying design adequacy.

SUEZ NOVUS **CE7091 is not listed.**

Reference: Bureau of Clean Water at 717-787-5017 or RA-EPNPDES_Permits@pa.gov.

Influent and Effluent Data

Parameter	Units	MDL	Infl Ave	#	001 Ave	#	002 Ave	002 Max	#	101 Ave	101 Max	#
BOD	mg/L	mg/L	10	1						5.33	8	52
COD	mg/L		18	1	< 5	1	14		1	9	9	52
Hardness	mg/L		51	1	63.1	1	49.8		1	59.8	63	3
TSS	mg/L		5	1	< 3	1	16		1	4.33	7	52
TDS	mg/L		240	1	142	1	68		1	315.33	330	3
Ammonia as N	mg/L		< 0.4	1						1.51	2.20	52
Nitrite-Nitrate-N	mg/L		1,02	1						0.49	0.96	3
TKN	mg/L		1.42	1						1.99	250	3
Phosphorus as P	mg/L		<0.15	1	< 0.15	1	< 0.15		1	< 0.15	< 0.15	3
Temperature – winter max					96.2	213	79.4		213			
Temperature - winter					96.2		53.64					
Temperature – summer max					93.5	153	71.16		153	72.9	74.3	3
Temperature – summer					104	153	84					
pH min	SU		7.71	1	6.14	366	6.14		366	6.2		3
pH max	SU		7.71		8.40	366	8.38			7.45		
Color	PCU	5	< 5	1						< 5	< 5	3
Fecal Coliform	#/100	1	< 1000	1						93.67	130	3
Fluoride	mg/L	0.0005	< 0.5	1						ND	ND	3
Oil and Grease	mg/L	0.005	7	1	7	1	6		1	6.11	13	32
Bromide	mg/L	0.0001	0.12	1	0.14	1	0.111		1	0.38	0.52	3
TRC	mg/L	0.00003	< 0.03	1	0.03	1	< 0.03		1	0.03	0.03	3
Sulfate	mg/L	0.005	15.2	1						15.7	15.9	3
Sulfide	mgL	0.00005	< 0.05	1						ND	ND	3
Sulfite	mg/L	0.002	< 1.0	1						ND	ND	3
Surfactants	mg/L	0.0001	< 0.1	1	< 0.1	1	< 0.1		1	ND	ND	3
Total Aluminum	mg/L	0.0001	0.403	1						0.47	0.54	3
Total Barium	mg/L	0.000005	0.014	1						0.02	0.02	3
Total Boron	mg/L	0.0001	< 0.1							ND	ND	3
Total Cobalt	mg/L	0.0001	< 0.002	1						ND	ND	3
Total Iron	mg/L	0.0001	0.198	1						0.11	0.13	3
Dissolved Iron	mg/L	0.0001	0.075	1	0.091	1	< 0.15		1	0.39	0.39	3
Total Manganese	mg/L	0.0001	0.030	1						0.04	0.06	3
Total Organic Carbon	mg/L	0.001	7.94	1			1.83	0.98	52	2.52	3.16	3
Magnesium	mg/L	0.0001	4.31	1	5.43	1	4.22		1	4.89	5.24	3
Molybdenum	mg/L	0.0001	0.015	1						0.02	0.02	3
Total Tin	mg/L	0.0001	< 0.25	1						ND	ND	3
Total Titanium	mg/L	0.0001	< 0.025	1						ND	ND	3
Total Antimony	mg/L	0.000006	< 0.025	1						ND	ND	3
Total Arsenic	mg/L	0.000001	< 0.005	1						ND	ND	3
Total Beryllium	mg/L	0.000001	< 0.002	1						ND	ND	3
Total Cadmium	mg/L	0.000001	< 0.002	1						ND	ND	3
Total Chromium	mg/L	0.000005	< 0.007	1	< 0.005	1	< 0.005		1	ND	ND	3
Hexavalent Chromium	mg/L	0.000005	< 0.05	1	0.005	1	< 0.05		1	ND	ND	3
Total Copper	mg/L	0.000001	0.009	1	0.005	1	0.022		1	0.003	0.004	3
Total Lead	mg/L	0.0000005	< 0.002	1						ND	ND	3
Total Mercury	mg/L	0.00000002	< 0.0002	1						ND	ND	3
Total Nickel	Mg/L	0.000005	< 0.005	1						ND	ND	3
Total Selenium	mg/L	0.000005	< 0.008	1						ND	ND	3
Total Silver	mg/L	0.000001	< 0.002	1						ND	ND	3
Total Thallium	mg/L	0.000005	< 0.005	1						ND	ND	3
Total Zinc	mg/L	0.00001	< 0.025	1	< 0.025	1	< 0.025		1	ND	ND	3
Total Cyanide	mg/L	0.000005	< 0.005	1						ND	ND	3
Total Phenols	mg/L	0.000005	0.021	1						0.01	0.01	3

No organic priority pollutants were reported above detection. The MDL may be low by a factor of 1000**.**

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Recorded
Temperature (deg F)	XXX	XXX	XXX	110	XXX	XXX	1/day	I-S
Aluminum, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 001 prior to mixing with other waste waters

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 002, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	grab
Temperature (deg F)	XXX	XXX	XXX	110	XXX	XXX	1/day	I-S
Total Organic Carbon (TOC)	XXX	XXX	XXX	XXX	5.0	10.0	1/week	24-Hr Composite
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 002 prior to mixing with other waste waters

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 003, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		

See Storm Water condition

Compliance Sampling Location: Outfall 003 prior to mixing with other waste waters

Other Comments: See Storm water conditions

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 101, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6,0 Inst Min	XXX	XXX	9.0	Continuous	Recorded
Biochemical Oxygen Demand (BOD5)	XXX	XXX	XXX	25.5	48,0	65.0	1/week	24-Hr Composite
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	128.0	248.0	250.0	1/week	24-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	21.0	33.0	52.5	1/week	24-Hr Composite
Oil and Grease	XXX	XXX	XXX	8.0	15.0	XXX	1/week	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	10.5	23	26.5	1/week	24-Hr Composite
Aluminum, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Hexavalent Chromium	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Zinc, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 101 prior to mixing with other waste waters.