Pennsylvania Department of Environmental Protection

SOUTHWEST REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0040274**
Facility Type	**Industrial**	APS ID	**935334**
Major / Minor	**Major**	Authorization ID	**1172899**

NPDES PERMIT FACT SHEET ADDENDUM

Applicant and Facility Information

Applicant Name	**ATI Flat Rolled Products Holdings LLC**	Facility Name	**Vandergrift Facility**
Applicant Address	100 River Road	Facility Address	130 Lincoln Avenue
	Brackenridge, PA 15014-1537		Vandergrift, PA 15690-1249
Applicant Contact	Deborah Calderazzo	Facility Contact	Deborah Calderazzo
Applicant Phone	(724) 226-5947	Facility Phone	(724) 226-5947
Client ID	332685	Site ID	192917
SIC Code	3316	Municipality	Vandergrift Borough
SIC Description	Manufacturing - Cold Finishing of Steel Shapes	County	Westmoreland
Date Published in PA Bulletin	October 12, 2024	EPA Waived?	No
Comment Period End Date	November 10, 2024	If No, Reason	Major Facility

Purpose of Application: Application for a renewal of an NPDES permit for discharge of treated Industrial

Internal Review and Recommendations

On September 30, 2024, the Draft NPDES permit PA00040274 for the ATI Flat Rolled Products Holding LLC - Vandergrift Facility was sent via electronic mail to Deborah Calderazzo. Public notice of the Draft permit was published in the PA Bulletin on October 12, 2024. The 30-day public comment period expired on November 10, 2024.

The Department approved an extension for public comments to November 26, 2024. On November 26, 2024, Deborah Calderazzo submitted ATI Flat Rolled Products Holding LLC - Vandergrift Facility comments via electronic mail regarding Draft NPDES Permit PA0004074.

General Statement

During our telephone conversation on November 21, 2024, we discussed that the Department recently met with EPA and that the proposed mass loading limits in the current Draft Permit will be revised as a result of that meeting. As such, ATI will not be commenting on the specific proposed mass loading limitations since they will be changing. ATI also appreciates the opportunity to review the revisions that will be made prior to permit issuance.

ATI Comment 1

Sample types are missing for Oil and Grease, Total Nitrogen and Total Phosphorus on Page 7 for Outfall 008.

Department Response to Comment 1

The 2nd Draft Permit, Part A.I.E, omitted the sample type for oil and grease, total nitrogen, and total phosphorus for Outfall 008. The sample type was updated to Grab for oil and grease, total nitrogen and total phosphorus.

Three (3) changes were completed pertaining to this comment, the sample type was updated to Grab for oil and grease, total nitrogen and total phosphorus.

Approve	Return	Deny	Signatures	Date
X			Curtis Holes, P.E. / Environmental Engineer	March 10, 2025
X			Michael E. Fifth, P.E. / Environmental Engineer Manager	March 10, 2025

Internal Review and Recommendations

ATI Comment 2
Parts A.I.B. and A.I.C. - The Department proposes new monitoring and permit limitations for Iron, Aluminum and Manganese at Internal Monitoring Point (IMP) 107 and at Internal Monitoring Point 207.

As you know, wastewaters through IMP 107 are non-contact cooling waters (NCCW). The source water is primarily from the Kiskiminetas River. Although we were able to only collect and analyze a couple samples from the Kiskiminetas River at this time, elevated concentrations of Aluminum (≈0.4 mg/l), Iron (≈0.8 mg/l) and Manganese (≈0.3 mg/l) were present in the Kiskiminetas River water. These concentrations are significant when comparing them to the proposed permit limitations. ATI appreciates the opportunity to conduct a Feasibility Study to compare influent and effluent monitoring results, as indicated in Section C.VI.C of the Draft Permit. As indicated in the Draft Permit, the Feasibility Study will be a minimum 1-year study. Therefore, ATI requests that the Compliance Schedule in Part C.VI.A. be modified to allow for the Feasibility Study to be conducted and results reviewed.

Furthermore, the proposed compliance schedule states that Construction shall commence within eighteen (18) months of the PED and Construction completed within 24 months of the PED. The Feasibility Study will take more than one (1) year to complete to account for seasonal variability and additional time for Department review. Based on the results of the Study, a Construction Plan may not even be required. Should a new WWTP be required to treat the River Water, one cannot be designed, equipment acquired with unknown lead times, permitted, if required, and installed within two (2) years or more.

ATI respectfully suggests the following changes to the Compliance Schedule in Section C.VI.A.:

Feasibility Study

1. Feasibility Study Commencement: Permit Effective Date (PED)
2. Submittal of the Feasibility Study to PA DEP: Within Eighteen (18) Months of the PED.

Upon Completion of Department Review of the Feasibility Study, should the Department agree that the Feasibility Study shows that influent and effluent concentrations of aluminum, iron, and manganese are or nearly the same, and that the permittee does not contribute to the instream impairment of these TMDL metals, no additional measures are required, and ATI shall continue to monitor and report for Aluminum, Iron and Manganese and the TMDL Permit limitations in Part A.I.C will not become effective since the effluent is not contributing to the instream impairment.

Should the Feasibility Study show that effluent concentrations are contributing to the instream impairment of these TMDL metals, ATI shall:

1. Submit an Effluent Compliance Plan and Construction Schedule:
   Within Six (6) months of Final Determination of the Feasibility Plan

2. Commence Compliance Plan:
   Within Thirty (30) days of Department Approval of the Effluent Compliance Plan and Construction Schedule

3. Compliance Plan Progress Reports:
   Once every three (3) months following submittal of the Effluent Compliance Plan and Construction Schedule

4. Compliance with Effluent Limitations:
   Final Date included in the PA DEP Approved Effluent Compliance Plan and Construction Schedule.

Department's Response to ATI Comment 2
The 2nd Draft Permit Part C.VI.A, Compliance Schedule, has been revised to extend the feasibility study completion from 6 months to 12 months to reflect the minimum of 1 year study requirement in 2nd Draft Permit Part C.VI.C. This change then changes the remaining compliance items, with the ultimate compliance with effluent limitations held to within 36 months of the PED. The updated compliance schedule is below for reference.

1. Feasibility study completion Within 12 Months of the permit effective date (PED)

2. Final plan completion Within 18 months of the PED

3. Start construction Within 20 months of the PED

Internal Review and Recommendations

4. Construction progress report(s) Once every three months following commencement of construction

5. End construction Within 30 months of the PED

6. Compliance with effluent limitations Within 36 months of the PED

Please note that during the feasibility study, the facility should also begin to develop a plan to achieve final effluent limitation compliance as each sample data set is completed and reviewed. Comparing the influent concentrations vs the effluent concentrations and if data indicates that the industrial process activities are adding to the concentrations of a/all parameter(s), then evaluations of the industrial process to mitigate the concentrations or treatment options should begin to streamline the process of achieving Final Effluent Limitations Compliance as-soon-as possible per 40 CFR §122.47 Schedule of Compliance.

One (1) change to the 2nd Draft Permit was completed pertaining to this comment, the 2nd Draft Permit Part C.VI.A, Compliance Schedule with the ultimate compliance of final effluent limitations held to within 36 months of the PED.

ATI Comment 3
Part A.I.C., Page 4, Proposed Permit Limitations for Aluminum, Iron, and Manganese. Should the Feasibility Study show that effluent concentrations are contributing to the instream impairment of these TMDL metals, the statement in Part A.I.C.1., needs to be revised to reflect the PA DEP approved Effluent Compliance Plan and Construction Schedule.

1. The permittee is authorized to discharge during the period from the **Construction Completion Date identified in the PA DEP approved Effluent Compliance Plan and Construction Schedule through Permit Expiration Date**

Department's Response to ATI Comment 3
As discussed in the Department's Response to ATI Comment 2 above, although the first Compliance Item timeline was revised from 6 month from PED to 12 months from PED, this change should not change the ability for the final effluent limitations to be achieved within 36 months of PED. Multi-tasking through the Compliance Schedule will streamline the process of achieving final effluent limitations as-soon-as possible per 40 CFR §122.47 Schedule of Compliance.

No change to the 2nd Draft Permit were completed pertaining to this comment.

ATI Comment 4
Part A.I.D. - The Draft permit proposes average monthly and daily maximum concentration permit limitations of five (5) mg/l for Oil and Grease at IMP 207. We understand the Department's stated reasons, however, applying the detection limit as an average monthly limit is extremely unreasonable and unfair. Also, the Department originally proposed this stringent limit based on the proposed mass loading permit limits. Since those limits will be revised, there may be no basis for this overly stringent permit limitation.

Our WWTP effluent exceeds BAT, is extremely well operated and we strive very hard to exceed regulatory expectations and take pride in the fact that we historically have very few non-compliance issues. Over the past ten (10) years, we exceeded Oil and Grease detection limits (5 mg/l) only twenty-five (25) times. All other sample results achieved less than detectable limits. That is incredible operational performance. However, according to the new proposed permit limitations, that would potentially result in twenty-five (25) average monthly concentration permit violations. This is UNACCEPTABLE. It is unreasonable to expect to be in 100% compliance with a permit limitation based on the detection limit.

As you know, the existing concentration standards for Oil and Grease for average monthly is 15 mg/l and daily maximum is 30 mg/l. Additionally, the Iron and Steel Development Document standard for pickling is a monthly average of 10 mg/l and a daily maximum daily of 30 mg/l for Oil and Grease.

Accordingly, ATI respectfully requests that the proposed five (5) mg/l Oil and Grease average monthly permit limitation be revised to at least ten (10) mg/l.

Department's Response to ATI Comment 4
When developing effluent limitations, both Technology-Based and Water Quality-Based effluent limits are developed for a discharge. 25 Pa Code 95.2(2)(ii) states "*At no time contain more than 15 milligrams of oil per liter as a daily average value nor more than 30 milligrams of oil per liter at any time, or whatever lesser amount the Department may specify for a given discharge*

Internal Review and Recommendations

or type of discharge as being necessary for the proper protection of the public interest or to meet any requirements based upon the State Act or the Federal Act, as defined in § 92.1". The Vandergrift Facility's industrial activities are subject to two (2) Federal ELGs (40 CFR 420 and 471), which are mass-based limits per production throughput. The Federal ELGs establish the minimum effluent limitations based on the performance standards of treatment technologies. Facility discharges are also evaluated on a Water Quality Bases. The final effluent limitations are the most stringent of the Technology and Water Quality based limits. The ELG effluent limitations for oil & grease are the most stringent effluent limitations evaluated for the Vandergrift Facility industrial activities and are imposed.

The ELG effluent Limitations, including oil & grease, have been revised and are discussed in the Department's Response to EPA's Comment 2 below.

No change to the 2nd Draft Permit was completed pertaining to this comment.

EPA Comments:

On September 29, 2022, Jennifer Fulton submitted EPA's comments via electronic mail in response to publication of Draft NPDES Permit PA0040274 for the ATI Flat Rolled Products Holdings LLC – Vandergrift Facility.

General Statement

This is a major permit that discharges to the Kiskiminetas River and is affected by the Kiskiminetas-Conemaugh River Watersheds TMDL. EPA has chosen to perform a limited review of the revised draft permit based on the wasteload allocation (WLA) requirements of the approved TMDL, as well as the technology-based requirements of the Iron and Steel Manufacturing (40 CFR Part 420) and Nonferrous Metals Forming and Metals Powder (40 CFR Part 471) ELGs. Thank you for your discussions with EPA on November 13 and 14, 2024. EPA has completed its review and offers the following comments:

EPA Comment 1
The fact sheet discusses the consideration of AMD parameters at IMP 107 and whether the discharge is adding iron, aluminum, or manganese to the receiving water concentrations withdrawn at the intake. In addition to the optional study documenting influent and effluent concentrations, PADEP may want to consider requiring the facility to demonstrate that the pollutants are not present (or the extent to which they are present) in other wastewaters also discharging through IMP 107.

Department Response to EPA Comment 1
The 2nd Draft Permit Condition Part C.V.A for the Schedule of Compliance for Water Quality-Based Effluent Limitations has been updated to include both IMPs 107 and 207 to be evaluate to determine what if any contribution the industrial activities of those IMPs has on the AMD parameters.

One (1) change to the 2nd Draft Permit pertaining to this comment was completed, IMP 207 was included to the Schedule of Compliance for Water Quality-Based Effluent Limitations.

EPA Comment 2
As discussed during the 11/13/24 and 11/14/24 calls, PADEP calculated TBELs for the wastestream subject to the Titanium Forming subcategory (40 CFR 471, Subpart F) but did not impose the mass-based limits in the permit. PADEP instead imposed the development document concentrations for these pollutants to ensure compliance with the ELG. This creates several concerns. 40 CFR 471, Subpart F does not authorize concentration-based effluent limits to be imposed in lieu of the mass-based limits, and solely imposing the development document concentrations doesn't take into consideration the production at the facility. Additionally, there are multiple wastestreams that are being comingled in the treatment system which include dilution flows. For these reasons, the development document concentrations are not appropriate to apply in the permit and do not ensure compliance with the ELG. EPA and PADEP discussed a few options to consider for developing TBELs for this permit, but in any scenario the mass based TBELs must be imposed in the permit (in Part A or Part C of the permit, depending on how PADEP moves forward):

a. PADEP could consider using the Combined Wastestream Formula to develop alternate mass-based limits for the comingled wastewaters. PADEP could also consider determining and applying the equivalent concentrations for the mass-based limits. EPA sent information on the combined wastestream formula via email to PADEP on November 15, 2024.

Internal Review and Recommendations

b. PADEP could consider developing mass limits based on a flow-weighted average approach. We understand that PADEP is going to consider its options and will likely need to reach out to the permittee again before determining how it will address the TBELs in the permit.

Department Response to EPA Comment 2
The waste streams of the Iron & Steel and Titanium activities are conducted on the same production lines and are combined prior to treatment. To account for this the Combined Waste Formula (CWF): Alternative Mass Limit Formula was used to calculate an Alternative Mass-Based Limit for the titanium pollutants that intermingle with the Iron & Steel activity contributions.

Iron & Steel and Titanium ELG parameters only have one parameter (TSS) that overlaps and is a parameter of concern for both ELGs. The remaining Titanium ELG parameters (Cyanide, Lead, Zinc, Ammonia, Fluoride, and Oil & Grease) have been adjusted from the 2nd Draft Permit using the CWF - Alternative Mass Limit Formula to account for the Iron & Steel industrial activities contribution to these concentrations in the wastewater. The ELG calculations are contained in Attachment A and the CWF calculations are in Attachment B.

Below are the sample calculations using the CWF – Alternative Mass Limit Formula for calculating O&G average monthly mass and concentration effluent limitations.

CWF: Alternative Mass Limit Formula

$$M_T = \sum_{i=1}^{N} M_i \times \left(\frac{(F_T - F_D)}{\sum_{i=1}^{N} F_i} \right)$$

Solving for Titanium Alternative Mass Limit:

Where:

$\mathbf{M_T}$ = Titanium CWF Alternative Mass Limit
$\mathbf{M_i}$ = Titanium Categorical Mass Limit for Regulated Stream "i" multiplied by appropriate measure of production, **12.832 lbs./day**

$\mathbf{F_i}$ = Titanium Average Daily Flow for Regulated Stream "i", **0.45 MGD**

$\mathbf{F_T}$ = Average Daily Flow through combined treatment facility (Total Flow)

$\mathbf{F_T}$ = I&S Flow + Titanium Flow + Unregulated Flow + Dilute Flow

$\mathbf{F_T}$ = (0.504 MGD) + (0.45 MGD) + (0.22 MGD) + 0.028 MGD) = **1.202 MGD**

$\mathbf{F_D}$ = Average Daily Flow of "Dilute" Streams **0.028 MGD**

Sample Calculations for O&G Average Monthly

O&G M_T (lbs/day) = (12.832 lbs./day) * [(1.202 MGD)/ 0.45 MGD]

O&G M_T = 33.477 lbs./day

Sample Calculation for O&G Cumulative Average Monthly

O&G Cumulative Limit = O&G M_T + I&S Average Monthly

O&G Cumulative Limit = 33.477 lbs./day + 8.76 lbs./day

O&G Cumulative Limit = 42.24 lbs./day

O&G Cumulative Average Monthly Concentration-Bass Limits
= (I&S Average Monthly Concentration) + (CWF Titanium Average Monthly Concentration)
= (I&S Mass Limit lbs/day) / (Flow MGD * 8.34) +(CWF Mass Limit lbs./day) / (Flow MGD * 8.34)
= [(8.76 lbs/day) / (0.504 MGD * 8.34)] +[(33.48lbs/day) / ((0.504 + 0.45 + 0.22 MGD) * 8.34)]

Internal Review and Recommendations

O&G I&S Average Monthly Concentration Limit mg/L = 5.5 mg/L

The revised Mass-Based Limitation is the addition of the calculated Iron & Steel Limit and the CWF Alternative Mass Limit. A summary of the 2nd Draft Permit and Revised Mass-Based Limitations are presented in Table 1 below.

Table 1. Revised Mass-Based Limitations – IMP 207

Pollutant	2nd Draft Mass-Based Limits (lbs./day)		Revised Mass-Based Limits (lbs./day)	
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Cyanide	Report	Report	0.339	0.811
Lead	Report	Report	0.555	1.172
Zinc	Report	Report	1.699	4.072
Ammonia	Report	Report	163.029	371.276
Fluoride	Report	Report	73.540	165.957
O&G	21.50	47.60	42.237	81.988
TSS	527.00	1220.00	527.407	1224.388
Chromium	6.39	16.00	6.392	16.002
Nickel	4.80	14.30	4.803	14.390
pH	Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0	

The Concentration-Based Limitations were calculated for the Iron & Steel and the CWF Titanium and added together for the revised Concentration-Based Limitations. A summary of the 2nd Draft Permit and Revised Concentration-Based Limitations are presented in Table 2 below.

Table 2. Concentration-Based Limitations Summary – IMP 207

Pollutant	2nd Draft Concentration-Based Limits (mg/L)		Revised Concentration-Based Limits (mg/L)	
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Cyanide	0.12	0.29	0.035	0.083
Lead	0.20	0.42	0.057	0.120
Zinc	0.61	1.46	0.174	0.416
Ammonia	58.60	133.30	16.651	37.920
Fluoride	26.40	59.50	7.511	16.950
O&G	5.00	20.00	5.503	8.661
TSS	19.50	41.00	126.067	292.540
Chromium	0.40	1.00	1.521	3.807
Nickel	0.30	0.90	1.143	3.424
pH	Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0	

The Department's Technology-Based Control Requirements for Water Treatment Plant Wastes identifies BTA treatability standards for Total Suspended Solids applicable to Industrial Wastewater Discharges of 30 $^{mg}/_{L}$ Monthly Average and 60 $^{mg}/_{L}$ as Best Practical Judgment (BPJ). These limits are achievable using basic sedimentation treatment technology.

Internal Review and Recommendations

The Permit Writers' Manual discusses the imposition of TBELs having the potential to exceed WQBELs. The excerpt from Chapter 6.2 reads:

> *"By developing TBELs for a pollutant, the permit writer has already determined that there will be some type of final limitations for that pollutant in the permit and must then determine whether more stringent limitations than the applicable TBELs are needed to prevent an excursion above water quality standards in the receiving water (see Exhibit 6-1 above). A permit writer can determine whether the TBELs are sufficiently protective by either proceeding to calculate WQBELs as described in section 6.4 below and comparing them to the TBELs or by assuming that the maximum daily TBEL calculated is the maximum discharge concentration in the water quality assessments described in section 6.3 below."*

The discharge concentrations at IMP 207 were evaluated and determined to have no reasonable potential to exceed water quality criteria therefore, no WQBEL's were recommended by the initial TMS model runs. Since some of the calculated TBELs from the ELG were higher than the governing WQBEL, the proposed TBELs were also evaluated for reasonable potential to exceed water quality criteria. This evaluation is necessary to ensure that the Department is not approving a discharge concentration that would result in a water quality violation. Accordingly, the TBELs from the ELG were analyzed for water quality concerns at IMP 207.

The TMS recommendations are based on the evaluation of the potential water quality impact from the ELG TBELs. The EPA's Technology-based standards, established by the ELG, ensure that industrial facilities with similar characteristics will, at minimum, meet similar effluent guidelines or pretreatment standards representing the performance of the "best" pollution control technologies, regardless of their location or the nature of their receiving water or POTW into which they discharge. ELGs are not specifically designed to ensure that regulated discharges meet the water quality standards for the receiving water body. For this reason, while technology-based ELGs may meet or exceed water quality standards, the Clean Water Act also requires water quality-based effluent limitations as stringent as necessary to meet water quality standards. Permit effluent limitations must contribute to maintaining or achieving the water quality standard of the receiving waterbody.

To set up the WQBEL analysis at IMP 207, the maximum daily ELG effluent limits were entered into the TMS Model. The updated TMS Model results are contained in Attachment C. Table 3 below summarizes the TMS Model recommendations.

Table 3. TMS Model Recommendations for ELG TBELs

Parameter	TBEL ($\mu g/L$)		TMS WQBEL ($\mu g/L$)		Governing WQBEL ($\mu g/L$)
	AML	MDL	AML	MDL	
Total Chromium (III)	Report	Report	Report	Report	14,071
Total Lead	Report	Report	Report	Report	522
Total Nickel	Report	Report	Report	Report	8,519
Total Thallium	Report	Report	Report	Report	38.9

The TMS model recommended WQBELs for four (4) parameters (Total Chromium (III), Total Lead, Total Nickel, and Total Thallium). Three (3) of these WQBELs (Total Chromium (III), Total Lead, and Total Nickel) are less stringent than their respective ELG limits. The original TMS Model recommended Monitor and Report for Total Thallium and remains unchanged. The water quality reanalysis did not result in any additional effluent limits.

Nine (9) changes to the 2nd Draft Permit were completed pertaining to this comment, the ELG effluent limitations were revised to reflect the CWF – Alternative Mass Limit Formula and corresponding concentration-based limitations, Part A, Footnote 4 was removed from the permit along with Part C.V.A permit condition.

Due to the significant changes to the 2nd Draft Permit, redrafting the permit is recommended.

Attachment A – ELG Calculations

Attachment B – CWF Calculations

Attachment C – Revised TMS Model

Attachment A – ELG Calculations

No 90 Line

No 91 Line

Bright Anneal Line

No 90 Line

ATI - Vandergrift Facility ATI Flat Rolled Products Holdings, LLC
Federal ELG Calculations
PA0040274
Authorization 1172899
IMP 207

No. 90 Anneal and Pickle Line Operations

ELG 40 CFR 420.92(c)(3) Iron and Steel Manufacturing Combination Acid Pickling -Strip, sheet, and
NO. 90 Anneal and Pickle Line

Parameter	Production Year 2016	2017	2018	2019	2020
Total Annual Production (tons)	223,258	257,972	257,836	234,622	202,798
Max Monthly Production (tons)	25,508	**26,817**	25,838	24,083	25,709
Month of Max Productio	December	June	March	April	April
Avg Annual Production (tons/day)	656	760	784	767	728
Avg Production (hrs/day	16-24	16-24	16-24	16-24	16-24
Avg Production (days/month)	28	28	27	25	23
Avg Annual Water Usage (MGD)	0.446	0.555	0.520	0.545	0.506
Wastewater Flow (MGD)	0.405	**0.504**	0.473	0.496	0.460

Design Production Capacity (tons/day)	960		
5-yr Average Annual Production (tons)	235,297	Daily Max Production	957.75
5-yr Anticipated Annual Production (tons)	250,000		

ELG 40 CFR 420.92(c)(3) Iron and Steel Manufacturing Combination NO. 90 Anneal and Pickle Line

Pollutant	ELG - BPT Effluent Limitations (lbs/1,000 lb product)		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Average Daily Value for 30 consectutive days	Average Monthly	Max Daily	Average Monthly	Max Daily
TSS	0.438	0.188	360.114	838.989	85.67	199.60
O&G*	0.188	0.0626	119.910	360.114	28.53	85.67
Chromium	0.00626	0.0025	4.789	11.991	1.14	2.85
Nickel	0.00563	0.00188	3.601	10.784	0.86	2.57
pH	Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0	

* the limitations for oil and grease shall be applicable when acid picking wastewaters are treated with cold rolling wastewaters

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000 lbs production)] * [Daily Max Production]
TSS Max Daily (lbs/day) = (0.438 lbs/1,000 lbs production) * [((957.75 tons production/day) * (2,000 lbs/ton))
TSS Max Daily (lbs/day) = 838.989 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (838.989 lbs/day) / [(0.504 MGD) * (8.34)]
TSS Max Daily (mg/L) = 199.60 mg/L

ELG 40 CFR 471.63(m) Titanium Forming Surface Treatment Spent Baths (NSPS)
NO. 90 Anneal and Pickle Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	800
Max Monthly Production (tons)					80
Month of Max Production					
Avg Annual Production (tons/day)					80
Avg Production (hrs/day)					16-24
Avg Production (days/month)					1-4
Avg Annual Water Usage (MGD)					0.500
Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	960		
5-yr Average Annual Production (tons)	NA	Daily Max Production	80.00 tons/day
5-yr Anticipated Annual Production (tons)	640		

ELG 40 CFR 471.63(m) Titanium Forming Surface Treatment Spent
NO. 90 Anneal and Pickle Line

Pollutant	Limitations (lbs/1,000,000 off-lb		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
Cyanide	0.061	0.025	0.004	0.010	0.001	0.003
Lead	0.088	0.042	0.007	0.014	0.002	0.004
Zinc	0.304	0.127	0.020	0.049	0.005	0.013
Ammonia	27.7	12.2	1.952	4.432	0.520	1.181
Fluoride	12.4	5.49	0.878	1.984	0.234	0.529
O&G	4.16	2.5	0.400	0.666	0.107	0.177
TSS	8.53	4.06	0.650	1.365	0.173	0.364
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]
TSS Max Daily (lbs/day) = (8.53 lbs/1,000,000 lbs production) * (80 tons production/day) * (2,000 lbs/ton)
TSS Max Daily (lbs/day) = 1.365 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (1.365 lbs/day) / [(0.45 MGD) * (8.34)]
TSS Max Daily (mg/L) = 0.364 mg/L

ELG 40 CFR 471.63(n) Titanium Forming Surface Treatment Rise(NSPS)
NO. 90 Anneal and Pickle Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	800
Max Monthly Production (tons)					80
Month of Max Production					
Avg Annual Production (tons/day)					80
Avg Production (hrs/day)					16-24
Avg Production (days/month)					1-4
Avg Annual Water Usage (MGD)					0.500
Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	960		
5-yr Average Annual Production (tons)	NA	Daily Max Production	80.00 tons/day
5-yr Anticipated Annual Production (tons)	640		

ELG 40 CFR 471.63(n) Titanium Forming Surface Treatment Rise(NSPS)
NO. 90 Anneal and Pickle Line

Pollutant	Limitations (lbs/1,000,000 off-lb titanium suface		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
Cyanide	0.847	0.351	0.056	0.136	0.015	0.036
Lead	1.23	0.584	0.093	0.197	0.025	0.052
Zinc	4.27	1.78	0.285	0.683	0.076	0.182
Ammonia	389	171	27.360	62.240	7.290	16.584
Fluoride	174	77.1	12.336	27.840	3.287	7.418
O&G	58.40	35.1	5.616	9.344	1.496	2.490
TSS	120.00	57.00	9.120	19.200	2.430	5.116
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]
TSS Max Daily (lbs/day) = (120.0 lbs/1,000,000 lbs production) * (80 tons production/day) * (2,000 lbs/ton)
TSS Max Daily (lbs/day) = 19.20 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (19.20 lbs/day) / [(0.45 MGD) * (8.34)]
TSS Max Daily (mg/L) = 5.116 mg/L

ELG 40 CFR 420.92(c)(6) Iron and Steel Manufacturing Combination Acid Pickling -Fume Scrubbers
NO. 90 Anneal and Pickle Line
(2 Scrubbers)

Pollutant	ELG - BPT Effluent Limitations (Kg/day) per each scrubber		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Average Daily Value for 30 consectutive days	Average Monthly	Max Daily	Average Monthly	Max Daily
TSS	5.720	2.45	10.803	25.221	2.570	6.000
O&G*	2.45	0.816	3.598	10.803	0.856	2.570
Chromium	0.0816	0.0327	0.144	0.360	0.034	0.086
Nickel	0.07350	0.0245	0.108	0.324	0.026	0.077
pH	Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0	

* the limitations for oil and grease shall be applicable when acid picking wastewaters are treated with cold rolling wastewaters

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (Kg/Day] * (mass unit conversion)*number of scrubbers
TSS Max Daily (lbs/day) = (5.720 kg/day) * (2.2046 lbs/Kg) * (2 Scrubbers)
TSS Max Daily (lbs/day) = 25.2 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (25.221 lbs/day) / [(0.504 MGD) * (8.34)]
TSS Max Daily (mg/L) = 6.0 mg/L

ELG 40 CFR 471.63(0) Titanium Forming Wet Air Pollutant Control Scrubber Blowdown (NSPS)
NO. 90 Anneal and Pickle Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	800
Max Monthly Production (tons)					80
Month of Max Production					
Avg Annual Production (tons/day)					80
Avg Production (hrs/day)					16-24
Avg Production (days/month)					1-4
Avg Annual Water Usage (MGD)					0.500
Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	960		
5-yr Average Annual Production (tons)	NA	Daily Max Production	80.00 tons/day
5-yr Anticipated Annual Production (tons)	640		

ELG 40 CFR 471.63(0) Titanium Forming Wet Air Pollutant Control Scrubber Blowdown (NSPS)
NO. 90 Anneal and Pickle Line

Pollutant	Limitations (lbs/1,000,000 off-lb		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
Cyanide	0.062	0.026	0.004	0.010	0.001	0.003
Lead	0.09	0.043	0.007	0.014	0.002	0.004
Zinc	0.313	0.131	0.021	0.050	0.006	0.013
Ammonia	28.5	12.3	1.968	4.560	0.524	1.215
Fluoride	12.8	5.65	0.904	2.048	0.241	0.546
O&G	4.28	2.57	0.411	0.685	0.110	0.182
TSS	8.78	4.18	0.669	1.405	0.178	0.374
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]

TSS Max Daily (lbs/day) = (8.78 lbs/1,000,000 lbs production) * (80 tons production/day) * (2,000 lbs/ton)

TSS Max Daily (lbs/day) = 1.405 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]

TSS Max Daily (mg/L) = (1.405 lbs/day) / [(0.45 MGD) * (8.34)]

TSS Max Daily (mg/L) = 0.374 mg/L

No 91 Line

No. 91 Anneal and Pickle Line Operations

ELG 40 CFR 420.94(c)(3) Iron and Steel Manufacturing Combination Acid Pickling -Strip, sheet, and NO. 91 Anneal and Pickle Line

Parameter	Production Year 2016	2017	2018	2019	2020
Total Annual Production (tons)	175,659	206,965	208,789	194,953	161,459
Max Monthly Production (tons)	20,046	**21,581**	20,481	20,026	20,708
Month of Max Production	June	September	September	October	January
Avg Annual Production (tons/day)	516	591	607	613	603
Avg Production (hrs/day)	16-24	16-24	16-24	16-24	16-24
Avg Production (days/month)	27	29	29	26	22
Avg Annual Water Usage (MGD)	0.446	0.555	0.520	0.545	0.506
Avg Annual Wastewater Flow (MGD)	0.405	**0.504**	0.473	0.496	0.460

Design Production Capacity (tons/day)	960		
5-yr Average Annual Production (tons)	189,565	Daily Max Production	**744.17 tons/day**
5-yr Anticipated Annual Production (tons)	200,000		

ELG 40 CFR 420.94(c)(3) Iron and Steel Manufacturing Combination Acid Pickling -Strip, sheet, and NO. 91 Anneal and Pickle Line

Pollutant	ELG - BPT Effluent Limitations (lbs/1,000 lb product)		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Average Daily Value for 30 consectutive days	Average Monthly	Max Daily	Average Monthly	Max Daily
TSS	0.0496	0.0213	31.702	73.822	7.54	17.56
O&G*	0.0213	0.0071	10.567	31.702	2.51	7.54
Chromium	0.000710	0.000284	0.423	1.057	0.10	0.25
Nickel	0.000638	0.000213	0.317	0.950	0.08	0.23
pH	Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0	

* the limitations for oil and grease shall be applicable when acid picking wastewaters are treated with cold rolling wastewaters

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]

TSS Max Daily (lbs/day) = (0.0496 lbs/1,000 lbs production) * (744.7 tons production/day) * (2,000 lbs/ton)

TSS Max Daily (lbs/day) = 73.822 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]

TSS Max Daily (mg/L) = (73.822 lbs/day) / [(0.504 MGD) * (8.34)]

TSS Max Daily (mg/L) = 17.56 mg/L

ELG 40 CFR 420.84(a)(4) Iron and Steel Manufacturing Salt Bath Descaling Oxidixing - Continuous NO. 91 Anneal and Pickle Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	175,659	206,965	208,789	194,953	164,459
Max Monthly Production (tons)	20,046	**21,581**	20,481	20,026	20,708
Month of Max Production	June	September	September	October	January
Avg Annual Production (tons/day)	516	591	607	613	603
Avg Production (hrs/day)	16-24	16-24	16-24	16-24	16-24
Avg Production (days/month)	27	29	29	26	22
Avg Annual Water Usage (MGD)	0.446	0.555	0.520	0.545	0.506
Avg Annual Wastewater Flow (MGD)	0.405	**0.504**	0.473	0.496	0.460

Design Production Capacity (tons/day)	**960**		
5-yr Average Annual Production (tons)	**190,165**	**Daily Max Production**	**744.17 tons/day**
5-yr Anticipated Annual Production (tons)	**201,000**		

ELG 40 CFR 420.84(a)(4) Iron and Steel Manufacturing Salt Bath Descaling Oxidixing - Continuous NO. 91 Anneal and Pickle Line

Pollutant	Limitations (lbs/1,000 lb product)		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
TSS	0.0964	0.0413	61.469	143.476	14.62369	34.13375
Chromium	0.00138	0.000551	0.820	2.054	0.19510	0.48864
Nickel	0.00124	0.000413	0.615	1.846	0.14624	0.43906
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000 off-lbs production)] * [Daily Max Production)]

TSS Max Daily (lbs/day) = (0.0964 lbs/1,000 lbs production) * (744.17 tons production/day) * (2,000 lbs/ton)

TSS Max Daily (lbs/day) = 143.476 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastew ater Flow (MGD) * Unit Conversion Constant 8.34]

TSS Max Daily (mg/L) = (143.476lbs/day) / [(0.504 MGD) * (8.34)]

TSS Max Daily (mg/L) = 34.134 mg/L

ELG 40 CFR 471.63(m) Titanium Forming Surface Treatment Spent Baths (NSPS)
NO. 91 Anneal and Pickle Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	550
Max Monthly Production (tons)					50
Month of Max Production					
Avg Annual Production (tons/day)					50
Avg Production (hrs/day)					16-24
Avg Production (days/month)					1-4
Avg Annual Water Usage (MGD)					0.500
Avg Annual Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	960		
5-yr Average Annual Production (tons)	NA	Daily Max Production	50.00 tons/day
5-yr Anticipated Annual Production (tons)	550		

ELG 40 CFR 471.63(m) Titanium Forming Surface Treatment Spent Baths (NSPS)
NO. 91 Anneal and Pickle Line

Pollutant	Limitations (lbs/1,000,000 off-lb titanium suface treated)		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
Cyanide	0.061	0.025	0.003	0.006	0.00067	0.00163
Lead	0.088	0.042	0.004	0.009	0.00112	0.00234
Zinc	0.304	0.127	0.013	0.030	0.00338	0.00810
Ammonia	27.7	12.2	1.220	2.770	0.32507	0.73808
Fluoride	12.4	5.49	0.549	1.240	0.14628	0.33040
O&G	4.16	2.5	0.250	0.416	0.06661	0.11084
TSS	8.53	4.06	0.406	0.853	0.10818	0.22728
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]
TSS Max Daily (lbs/day) = (8.53 lbs/1,000,000 lbs production) * (50.0 tons production/day) * (2,000 lbs/ton)
TSS Max Daily (lbs/day) = 0.853 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (0.853 lbs/day) / [(0.450 MGD) * (8.34)]
TSS Max Daily (mg/L) = 0.227 mg/L

ELG 40 CFR 471.63(n) Titanium Forming Surface Treatment Rise(NSPS)
NO. 91 Anneal and Pickle Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	550
Max Monthly Production (tons)					50
Month of Max Production					
Avg Annual Production (tons/day)					50
Avg Production (hrs/day)					16-24
Avg Production (days/month)					1-4
Avg Annual Water Usage (MGD)					0.500
Avg Annual Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	960		
5-yr Average Annual Production (tons)	NA	Daily Max Production	50.00 tons/day
5-yr Anticipated Annual Production (tons)	550		

ELG 40 CFR 471.63(n) Titanium Forming Surface Treatment Rise(NSPS)
NO. 91 Anneal and Pickle Line

Pollutant	ELG - NSPS Effluent Limitations (lbs/1,000,000 off-lb titanium suface treated)		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
Cyanide	0.847	0.351	0.035	0.085	0.009	0.023
Lead	1.23	0.584	0.058	0.123	0.016	0.033
Zinc	4.27	1.78	0.178	0.427	0.047	0.114
Ammonia	389	171	17.100	38.900	4.556	10.365
Fluoride	174	77.1	7.710	17.400	2.054	4.636
O&G	58.40	35.1	3.510	5.840	0.935	1.556
TSS	120.00	57.00	5.700	12.000	1.519	3.197
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]
TSS Max Daily (lbs/day) = (120.0 lbs/1,000,000 lbs production) * (50.0 tons production/day) * (2,000 lbs/ton)
TSS Max Daily (lbs/day) = 12.0 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (12.0 lbs/day) / [(0.450 MGD) * (8.34)]
TSS Max Daily (mg/L) = 3.197 mg/L

ELG 40 CFR 471.63(r) Titanium Forming Molten Salt Rinse (NSPS)
NO. 91 Anneal and Pickle Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	550
Max Monthly Production (tons)					50
Month of Max Production					
Avg Annual Production (tons/day)					50
Avg Production (hrs/day)					16-24
Avg Production (days/month)					1-4
Avg Annual Water Usage (MGD)					0.500
Avg Annual Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	960		
5-yr Average Annual Production (tons)	NA	Daily Max Production	50.00 tons/day
5-yr Anticipated Annual Production (tons)	550		

ELG 40 CFR 471.63(r) Titanium Forming Molten Salt Rinse (NSPS)
NO. 91 Anneal and Pickle Line

Pollutant	Limitations (lbs/1,000,000 off-lb titanium treated with molten salt)		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
Cyanide	0.277	0.115	0.012	0.028	0.00306	0.00738
Lead	0.401	0.191	0.019	0.040	0.00509	0.01068
Zinc	1.4	0.583	0.058	0.140	0.01553	0.03730
Ammonia	128	56	5.600	12.800	1.49214	3.41060
Fluoride	56.8	25.2	2.520	5.680	0.67146	1.51346
O&G	19.10	11.5	1.150	1.910	0.30642	0.50893
TSS	39.20	18.60	1.860	3.920	0.49560	1.04450
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]
TSS Max Daily (lbs/day) = (39.20 lbs/1,000,000 lbs production) * (50.0 tons production/day) * (2,000 lbs/ton)
TSS Max Daily (lbs/day) = 3.92 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (3.92 lbs/day) / [(0.450 MGD) * (8.34)]
TSS Max Daily (mg/L) = 1.0445 mg/L

ELG 40 CFR 420.94(c)(6) Iron and Steel Manufacturing Combination Acid Pickling -Fume Scrubbers (NSPS)
NO. 91 Anneal and Pickle Line
(3 scrubbers)

Pollutant	ELG - BPT Effluent Limitations (Kg/day) per each scrubber		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Average Daily Value for 30 consectutive days	Average Monthly	Max Daily	Average Monthly	Max Daily
TSS	5.720	2.45	16.204	37.831	3.8550	9.0002
O&G*	2.45	0.816	5.397	16.204	1.2839	3.8550
Chromium	0.0816	0.0327	0.216	0.540	0.0515	0.1284
Nickel	0.07350	0.0245	0.162	0.486	0.0385	0.1156
pH	Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0	

* the limitations for oil and grease shall be applicable when acid picking wastewaters are treated with cold rolling wastewaters

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (Kg/Day] * (mass unit conversion)*number of scrubbers
TSS Max Daily (lbs/day) = (5.720 kg/day) * (2.2046 lbs/Kg) * (3 Scrubbers)
TSS Max Daily (lbs/day) = 37.831 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (37.831 lbs/day) / [(0.504 MGD) * (8.34)]
TSS Max Daily (mg/L) = 9.0 mg/L

ELG 40 CFR 471.63(0) Titanium Forming Wet Air Pollutant Control Scrubber Blowdown (NSPS)
NO. 91 Anneal and Pickle Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	550
Max Monthly Production (tons)					50
Month of Max Production					
Avg Annual Production (tons/day)					50
Avg Production (hrs/day)					16-24
Avg Production (days/month)					1-4
Avg Annual Water Usage (MGD)					0.500
Avg Annual Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	960		
5-yr Average Annual Production (tons)	NA	Daily Max Production	50.00 tons/day
5-yr Anticipated Annual Production (tons)	550		

ELG 40 CFR 471.63(0) Titanium Forming Wet Air Pollutant Control Scrubber Blowdown (NSPS)
NO. 91 Anneal and Pickle Line

Pollutant	ELG - NSPS Effluent Limitations (lbs/1,000,000 off-lb		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
Cyanide	0.062	0.026	0.003	0.006	0.00069	0.00165
Lead	0.09	0.043	0.004	0.009	0.00115	0.00240
Zinc	0.313	0.131	0.013	0.031	0.00349	0.00834
Ammonia	28.5	12.3	1.230	2.850	0.32774	0.75939
Fluoride	12.8	5.65	0.565	1.280	0.15055	0.34106
O&G	4.28	2.57	0.257	0.428	0.06848	0.11404
TSS	8.78	4.18	0.418	0.878	0.11138	0.23395
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]
TSS Max Daily (lbs/day) = (8.78 lbs/1,000,000 lbs production) * (50.0 tons production/day) * (2,000 lbs/ton)
TSS Max Daily (lbs/day) = 0.878 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (0.878 lbs/day) / [(0.450 MGD) * (8.34)]
TSS Max Daily (mg/L) = 0.234 mg/L

Bright Anneal Line

Bright Anneal Line Operations

ELG 40 CFR 420.114(b) Iron and Steel Manufacturing Alkaline Degreasing - Continuous (NSPS)
Bright Anneal Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	43,000
Max Monthly Production (tons)					4,500
Month of Max Production					
Avg Annual Production (tons/day)					300
Avg Production (hrs/day)					8-16
Avg Production (days/month)					10-20
Avg Annual Water Usage (MGD)					0.500
Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	300		
5-yr Average Annual Production (tons)	NA	Daily Max Production	300.00 tons/day
5-yr Anticipated Annual Production (tons)	600		

ELG 40 CFR 420.114(b) Iron and Steel Manufacturing Alkaline Degreasing - Continuous (NSPS)
Bright Anneal Line

Pollutant	ELG - NSPS Effluent Limitations (lbs/1,000 lb product)		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
TSS	0.102	0.0438	26.28	61.20	7.002	16.307
O&G	0.0438	0.0146	8.76	26.28	2.334	7.002
pH	Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]
TSS Max Daily (lbs/day) = (0.102 lbs/1,000 lbs production) * (300.0 tons production/day) * (2,000 lbs/ton)
TSS Max Daily (lbs/day) = 61.2 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)]/[Avg Annual Wastewater Flow (MGD)*Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (61.2 lbs/day) / [(0.45 MGD) * (8.34)]
TSS Max Daily (mg/L) = 16.3 mg/L

ELG 40 CFR 471.63(p) Titanium - Alkaline Cleaning Spent Bath (NSPS)
Bright Anneal Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	5,500
Max Monthly Production (tons)					500
Month of Max Production					
Avg Annual Production (tons/day)					100
Avg Production (hrs/day)					8-16
Avg Production (days/month)					10-20
Avg Annual Water Usage (MGD)					0.500
Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	144		
5-yr Average Annual Production (tons)	NA	Daily Max Production	100.00 tons/day
5-yr Anticipated Annual Production (tons)	600		

ELG 40 CFR 471.63(p) Titanium - Alkaline Cleaning Spent Bath (NSPS)
Bright Anneal Line

Pollutant	Limitations (lbs/1,000,000 off-lb titanium alkaline		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
Cyanide	0.07	0.03	0.006	0.014	0.00160	0.00373
Lead	0.101	0.048	0.010	0.020	0.00256	0.00538
Zinc	0.351	0.147	0.029	0.070	0.00783	0.01871
Ammonia	32	14.1	2.820	6.400	0.75140	1.70530
Fluoride	14.3	6.34	1.268	2.860	0.33786	0.76206
O&G	4.80	2.88	0.576	0.960	0.15348	0.25580
TSS	9.84	4.68	0.936	1.968	0.24940	0.52438
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]
TSS Max Daily (lbs/day) = (9.84 lbs/1,000,000 lbs production) * (100.0 tons production/day) * (2,000 lbs/ton)
TSS Max Daily (lbs/day) = 1.968 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (1.968 lbs/day) / [(0.450 MGD) * (8.34)]
TSS Max Daily (mg/L) = 0.524 mg/L

ELG 40 CFR 471.63(q) Titanium - Alkaline Cleaning Rinse (NSPS)
Bright Anneal Line

Parameter	Production Year 2017	2018	2019	2020	2021-Future
Total Annual Production (tons)	NA	NA	NA	NA	5,500
Max Monthly Production (tons)					500
Month of Max Production					
Avg Annual Production (tons/day)					100
Avg Production (hrs/day)					8-16
Avg Production (days/month)					10-20
Avg Annual Water Usage (MGD)					0.500
Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	144		
5-yr Average Annual Production (tons)	NA	Daily Max Production	100.00 tons/day
5-yr Anticipated Annual Production (tons)	600		

ELG 40 CFR 471.63(q) Titanium - Alkaline Cleaning Rinse (NSPS)
Bright Anneal Line

Pollutant	ELG - NSPS Effluent Limitations (lbs/1,000,000 off-lb		Mass-Based Effluent Limtis (lbs./day)		Concentration-Based Effluent Limits (mg/L)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily	Average Monthly	Max Daily
Cyanide	0.08	0.033	0.007	0.016	0.00176	0.00426
Lead	0.116	0.055	0.011	0.023	0.00293	0.00618
Zinc	0.403	0.169	0.034	0.081	0.00901	0.02148
Ammonia	36.8	16.2	3.240	7.360	0.86331	1.96110
Fluoride	16.4	7.29	1.458	3.280	0.38849	0.87397
O&G	5.52	3.31	0.662	1.104	0.17639	0.29416
TSS	11.30	5.38	1.076	2.260	0.28670	0.60218
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Sample Calculations

Mass-Based Effluent Limit (lbs/day) = [ELG Max for any 1 day (lbs/1,000,000 off-lbs production)] * [Daily Max Production)]
TSS Max Daily (lbs/day) = (11.3 lbs/1,000,000 lbs production) * (100.0 tons production/day) * (2,000 lbs/ton)
TSS Max Daily (lbs/day) = 2.26 lbs/day

Cancentration-Based Effluent Limits (mg/L) = [Mass-Bassed Effluent Limits (lbs/day)] / [Avg Annual Wastewater Flow (MGD) * Unit Conversion Constant 8.34]
TSS Max Daily (mg/L) = (2.26 lbs/day) / [(0.450 MGD) * (8.34)]
TSS Max Daily (mg/L) = 0.602 mg/L

Attachment B – CWF Calculations

CWF Flowrates

CWF Calculations

CWF Flowrates

Combined Wastestream Formula Flowrates
Vandergrift Outfall 207
PA00402074

Wastewater Sources	Type	ELG	Disposal	I&S Flowrate (MGD)	Titanium Flowrate (MGD)
contact wastewater and waste pickle liquor	Regulated / Unregulated	I&S / Titanium	Treatment	0.504	0.45
acid purification units	Regulated / Unregulated	I&S / Titanium	Treatment	0.504	0.45
salt bath descaling	Regulated / Unregulated	I&S / Titanium	Treatment	0.504	0.45
caustic wastewater	Unregulated	None	Treatment	0.22	
fume scrubber blowdown	Regulated / Unregulated	I&S / Titanium	Treatment	0.504	0.45
boiler blowdown	Dilution	N/A	Treatment		
cooling tower blowdown	Dilution	N/A	Treatment	0.028	
air compressor condensate	Dilution	N/A	Treatment		
miscellaneous cooling water	Dilution	N/A	Treatment		
			Total Flow to Treatment	**1.202**	**MGD**

CWF Calculations

ATI - Vandergrift Facility ATI Flat Rolled Products Holdings, LLC
Federal ELG & CWF Calculations
PA0040274
Authorization 1172899
IMP 207

Pollutant	Iron & Steel Mass-Bass Limits (lbs./day) Average Monthly	Maximum Daily	Regulated Flow (MGD)	Titanium Mass-Bass Limits (lbs./day) Average Monthly	Maximum Daily	Regulated Flow (MGD)	CWF Mass-Bass Limits (lbs./day) Average Monthly	Maximum Daily	Cumulative Mass-Bass Limits (lbs./day) Average Monthly	Maximum Daily	Cumulative Concentration-Bass Limits (mg/L) Average Monthly	Maximum Daily
Cyanide	-	-	0.504	0.130	0.311	0.45	0.339	0.811	0.34	0.81	0.035	0.083
Lead	-	-	0.504	0.213	0.449	0.45	0.555	1.172	0.55	1.17	0.057	0.120
Zinc	-	-	0.504	0.651	1.561	0.45	1.699	4.072	1.70	4.07	0.174	0.416
Ammonia	-	-	0.504	62.490	142.312	0.45	163.029	371.276	163.03	371.28	16.651	37.920
Fluoride	-	-	0.504	28.188	63.612	0.45	73.540	165.957	73.54	165.96	7.511	16.950
O&G	8.760	26.280	0.504	12.832	21.353	0.45	33.477	55.708	42.24	81.99	5.503	8.661
TSS	506.572	1180.539	0.504	20.835	43.849	0.45	-	-	527.41	1224.39	126.067	292.540
Chromium	6.392	16.002	0.504	-	-	0.45	-	-	6.39	16.00	1.521	3.807
Nickel	4.803	14.390	0.504	-	-	0.45	-	-	4.80	14.39	1.143	3.424
pH	Within Range of 6.0 to 9.0		0.504	Within Range of 6.0 to 9.0		0.45	Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0	

Dilution Flow **0.028 MGD**
Unregulated Flow **0.220 MGD**

The waste streams of the Iron & Steel and Titanium activites are conducted on the same production line and are combined prior to treatement. To account for this the Combined Waste Formula (CWF) was used to account for Iron & Steel activites contributing to the Titanium parameters that are unaccounted for from the Iron & Steel ELGs.

CWF: Alternative Mass Limit Formula

$$M_T = \sum_{i=1}^{N} M_i \times \left(\frac{(F_T - F_D)}{\sum_{i=1}^{N} F_i} \right)$$

Solving for Titanium Alternative Mass Limit:

Where:

M_T = Titanium Alternative CWF Mass Limit

M_I = Titanium Categorical Mass Limit for Regulated Stream "i" multiplied by appropriate measure of production, **12.832 lbs./day**

F_I = Titanium Average Daily Flow for Regulated Stream "i", **0.45 MGD**

F_T = Average Daily Flow through combined treatment facility (Total Flow)

F_T = I&S Flow + Titanium Flow + Unregulated Flow + Dilute Flow

F_T = (0.504 MGD) + (0.45 MGD) + (0.22 MGD) + 0.28 MGD) = **1.202 MGD**

F_D = Average Daily Flow of "Dilute" Streams **0.28 MGD**

Sample Calculations for O&G Average Monthly

O&G M_T (lbs/day) = (12.832 lbs./day) * [(1.202 MGD)/ 0.45 MGD]

O&G M_T = 33.477 lbs./day

Sample Calculation for O&G Cumulative Average Monthly

O&G Cumulative Limit = O&G M_T + I&S Average Monthly

O&G Cumulative Limit = 33.477 lbs./day + 8.76 lbs./day

O&G Cumulative Limit = 42.24 lbs./day

O&G Cumulative Average Monthly Concentration-Bass Limits

O&G Cumulative Average Monthly Concentration Limit mg/L =(I&S Average Monthly Concentration) + (CWF Titanium Average Monthly Concentration)

O&G Cumulative Average Monthly Concentration Limit mg/L = (I&S Mass Limit lbs/day) / (Flow MGD * 8.34) +(CWF Mass Limit lbs./day) / (Flow MGD*8.34)

O&G I&S Average Monthly Concentration Limit mg/L = [(8.76 lbs/day) / (0.504 MGD * 8.34)] +[(33.48lbs/day) / ((0.504 + 0.45 + 0.22 MGD) * 8.34)]

O&G I&S Average Monthly Concentration Limit mg/L = 5.5 mg/L

Attachment C – Revised TMS Model

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: ATI Vandergrift NPDES Permit No.: PA0040274 Outfall No.: 207

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Industrial Wastewater

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
0.53	257	7						

					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		5500									
	Chloride (PWS)	mg/L		15									
	Bromide	mg/L		0.2									
	Sulfate (PWS)	mg/L		843									
	Fluoride (PWS)	mg/L		10									
Group 2	Total Aluminum	µg/L		160									
	Total Antimony	µg/L	<	2									
	Total Arsenic	µg/L		4.5									
	Total Barium	µg/L		20									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L		200									
	Total Cadmium	µg/L		0.5									
	Total Chromium (III)	µg/L		3800									
	Hexavalent Chromium	µg/L		5									
	Total Cobalt	µg/L	<	1									
	Total Copper	µg/L		6									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		83									
	Dissolved Iron	µg/L		80									
	Total Iron	µg/L		180									
	Total Lead	µg/L		120									
	Total Manganese	µg/L		30									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		3400									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L		6									
	Total Silver	µg/L	<	0.4									
	Total Thallium	µg/L		10									
	Total Zinc	µg/L		416									
	Total Molybdenum	µg/L		330									
	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<	2.5									
	Acrylonitrile	µg/L	<	5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L		16									

Group 3	Carbon Tetrachloride	µg/L	<	0.5										
	Chlorobenzene	µg/L	<	0.5										
	Chlorodibromomethane	µg/L	<	0.5										
	Chloroethane	µg/L	<	0.5										
	2-Chloroethyl Vinyl Ether	µg/L	<	5										
	Chloroform	µg/L	<	0.5										
	Dichlorobromomethane	µg/L	<	0.5										
	1,1-Dichloroethane	µg/L	<	0.5										
	1,2-Dichloroethane	µg/L	<	0.5										
	1,1-Dichloroethylene	µg/L	<	0.5										
	1,2-Dichloropropane	µg/L	<	0.5										
	1,3-Dichloropropylene	µg/L	<	0.5										
	1,4-Dioxane	µg/L	<	10										
	Ethylbenzene	µg/L	<	0.5										
	Methyl Bromide	µg/L	<	0.5										
	Methyl Chloride	µg/L	<	0.5										
	Methylene Chloride	µg/L	<	0.5										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5										
	Tetrachloroethylene	µg/L	<	0.5										
	Toluene	µg/L	<	0.5										
	1,2-trans-Dichloroethylene	µg/L	<	0.5										
	1,1,1-Trichloroethane	µg/L	<	0.5										
	1,1,2-Trichloroethane	µg/L	<	0.5										
	Trichloroethylene	µg/L	<	0.5										
	Vinyl Chloride	µg/L	<	0.5										
Group 4	2-Chlorophenol	µg/L	<	10										
	2,4-Dichlorophenol	µg/L	<	10										
	2,4-Dimethylphenol	µg/L	<	10										
	4,6-Dinitro-o-Cresol	µg/L	<	10										
	2,4-Dinitrophenol	µg/L	<	10										
	2-Nitrophenol	µg/L	<	10										
	4-Nitrophenol	µg/L	<	10										
	p-Chloro-m-Cresol	µg/L	<	10										
	Pentachlorophenol	µg/L	<	10										
	Phenol	µg/L	<	10										
	2,4,6-Trichlorophenol	µg/L	<	10										
Group 5	Acenaphthene	µg/L	<	2.5										
	Acenaphthylene	µg/L	<	2.5										
	Anthracene	µg/L	<	2.5										
	Benzidine	µg/L	<	50										
	Benzo(a)Anthracene	µg/L	<	2.5										
	Benzo(a)Pyrene	µg/L	<	2.5										
	3,4-Benzofluoranthene	µg/L	<	2.5										
	Benzo(ghi)Perylene	µg/L	<	2.5										
	Benzo(k)Fluoranthene	µg/L	<	2.5										
	Bis(2-Chloroethoxy)Methane	µg/L	<	5										
	Bis(2-Chloroethyl)Ether	µg/L	<	5										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	5										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	5										
	4-Bromophenyl Phenyl Ether	µg/L	<	5										
	Butyl Benzyl Phthalate	µg/L	<	5										
	2-Chloronaphthalene	µg/L	<	5										
	4-Chlorophenyl Phenyl Ether	µg/L	<	5										
	Chrysene	µg/L	<	2.5										
	Dibenzo(a,h)Anthrancene	µg/L	<	2.5										
	1,2-Dichlorobenzene	µg/L	<	0.5										
	1,3-Dichlorobenzene	µg/L	<	0.5										
	1,4-Dichlorobenzene	µg/L	<	0.5										
	3,3-Dichlorobenzidine	µg/L	<	5										
	Diethyl Phthalate	µg/L	<	5										
	Dimethyl Phthalate	µg/L	<	5										
	Di-n-Butyl Phthalate	µg/L	<	5										
	2,4-Dinitrotoluene	µg/L	<	5										

	2,6-Dinitrotoluene	µg/L	<	5									
	Di-n-Octyl Phthalate	µg/L	<	5									
	1,2-Diphenylhydrazine	µg/L	<	10									
	Fluoranthene	µg/L	<	2.5									
	Fluorene	µg/L	<	2.5									
	Hexachlorobenzene	µg/L	<	5									
	Hexachlorobutadiene	µg/L	<	1									
	Hexachlorocyclopentadiene	µg/L	<	5									
	Hexachloroethane	µg/L	<	5									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	2.5									
	Isophorone	µg/L	<	5									
	Naphthalene	µg/L	<	0.5									
	Nitrobenzene	µg/L	<	5									
	n-Nitrosodimethylamine	µg/L	<	5									
	n-Nitrosodi-n-Propylamine	µg/L	<	5									
	n-Nitrosodiphenylamine	µg/L	<	5									
	Phenanthrene	µg/L	<	2.5									
	Pyrene	µg/L	<	2.5									
	1,2,4-Trichlorobenzene	µg/L	<	0.5									
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 1.3, March 2021

Stream / Surface Water Information

ATI Vandergrift, NPDES Permit No. PA0040274, Outfall 207

Instructions | Discharge | *Stream*

Receiving Surface Water Name: Kiskiminetas River

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	042816	11.7	775	1530	0.0001		Yes
End of Reach 1	042816	11	774	1531	0.0001		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	11.7	0.1	132			200	15					100	7		
End of Reach 1	11	0.1	132			190	15								

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	11.7														
End of Reach 1	11														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

ATI Vandergrift, NPDES Permit No. PA0040274, Outfall 207

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | (●) All ( ) Inputs ( ) Results ( ) Limits

☑ ***Hydrodynamics***

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

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)	Travel Time (days)	Complete Mix Time (min)
11.7	132		132	0.82	0.0001	15.	200.	13.333	0.044	0.966	93.212
11	132		132								

Q_h

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)	Travel Time (days)	Complete Mix Time (min)
11.7	530.12		530.12	0.82	0.0001	27.598	200.	7.247	0.096	0.445	37.699
11	530.115		530.12								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.401 Analysis Hardness (mg/l): 102.39 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	
Chloride (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	49,187	
Total Antimony	0	0		0	1,100	1,100	72,141	
Total Arsenic	0	0		0	340	340	22,298	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	1,377,240	
Total Boron	0	0		0	8,100	8,100	531,221	
Total Cadmium	0	0		0	2.061	2.19	143	Chem Translator of 0.943 applied
Total Chromium (III)	0	0		0	580.910	1,838	120,563	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	1,069	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	6,230	
Total Copper	0	0		0	13.742	14.3	939	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 Lead	0	0		0	66.266	84.1	5,518	Chem Translator of 0.788 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	108	Chem Translator of 0.85 applied
Total Nickel	0	0		0	477.701	479	31,392	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	3.350	3.94	259	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	4,263	
Total Zinc	0	0		0	119.553	122	8,017	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	197	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	650	650	42,629	
Benzene	0	0		0	640	640	41,973	
Bromoform	0	0		0	1,800	1,800	118,049	
Carbon Tetrachloride	0	0		0	2,800	2,800	183,632	
Chlorobenzene	0	0		0	1,200	1,200	78,699	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	1,180,491	
Chloroform	0	0		0	1,900	1,900	124,607	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	983,743	
1,1-Dichloroethylene	0	0		0	7,500	7,500	491,871	
1,2-Dichloropropane	0	0		0	11,000	11,000	721,411	
1,3-Dichloropropylene	0	0		0	310	310	20,331	
Ethylbenzene	0	0		0	2,900	2,900	190,190	
Methyl Bromide	0	0		0	550	550	36,071	
Methyl Chloride	0	0		0	28,000	28,000	1,836,320	
Methylene Chloride	0	0		0	12,000	12,000	786,994	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	65,583	
Tetrachloroethylene	0	0		0	700	700	45,908	
Toluene	0	0		0	1,700	1,700	111,491	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	445,963	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	196,749	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	222,982	
Trichloroethylene	0	0		0	2,300	2,300	150,841	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	36,726	
2,4-Dichlorophenol	0	0		0	1,700	1,700	111,491	
2,4-Dimethylphenol	0	0		0	660	660	43,285	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	5,247	
2,4-Dinitrophenol	0	0		0	660	660	43,285	
2-Nitrophenol	0	0		0	8,000	8,000	524,663	
4-Nitrophenol	0	0		0	2,300	2,300	150,841	
p-Chloro-m-Cresol	0	0		0	160	160	10,493	
Pentachlorophenol	0	0		0	8.723	8.72	572	
Phenol	0	0		0	N/A	N/A	N/A	

2,4,6-Trichlorophenol	0	0		0	460	460	30,168	
Acenaphthene	0	0		0	83	83.0	5,443	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	19,675	
Benzo(a)Anthracene	0	0		0	0.5	0.5	32.8	
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	30,000	30,000	1,967,486	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	295,123	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	17,707	
Butyl Benzyl Phthalate	0	0		0	140	140	9,182	
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	53,778	
1,3-Dichlorobenzene	0	0		0	350	350	22,954	
1,4-Dichlorobenzene	0	0		0	730	730	47,875	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	262,331	
Dimethyl Phthalate	0	0		0	2,500	2,500	163,957	
Di-n-Butyl Phthalate	0	0		0	110	110	7,214	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	104,933	
2,6-Dinitrotoluene	0	0		0	990	990	64,927	
1,2-Diphenylhydrazine	0	0		0	15	15.0	984	
Fluoranthene	0	0		0	200	200	13,117	
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	656	
Hexachlorocyclopentadiene	0	0		0	5	5.0	328	
Hexachloroethane	0	0		0	60	60.0	3,935	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	655,829	
Naphthalene	0	0		0	140	140	9,182	
Nitrobenzene	0	0		0	4,000	4,000	262,331	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	1,114,909	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	19,675	
Phenanthrene	0	0		0	5	5.0	328	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	8,526	

☑ *CFC* CCT (min): 93.212 PMF: 1 Analysis Hardness (mg/l): 100.97 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	

Chloride (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 Antimony	0	0		0	220	220	35,639	
Total Arsenic	0	0		0	150	150	24,299	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	664,172	
Total Boron	0	0		0	1,600	1,600	259,189	
Total Cadmium	0	0		0	0.248	0.27	44.2	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.702	86.9	14,071	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	1,684	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	3,078	
Total Copper	0	0		0	9.030	9.41	1,524	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	242,990	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.543	3.22	522	Chem Translator of 0.79 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	147	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.433	52.6	8,519	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	808	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	2,106	
Total Zinc	0	0		0	119.108	121	19,569	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	486	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	130	130	21,059	
Benzene	0	0		0	130	130	21,059	
Bromoform	0	0		0	370	370	59,938	
Carbon Tetrachloride	0	0		0	560	560	90,716	
Chlorobenzene	0	0		0	240	240	38,878	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	566,976	
Chloroform	0	0		0	390	390	63,177	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	502,179	
1,1-Dichloroethylene	0	0		0	1,500	1,500	242,990	
1,2-Dichloropropane	0	0		0	2,200	2,200	356,385	
1,3-Dichloropropylene	0	0		0	61	61.0	9,882	
Ethylbenzene	0	0		0	580	580	93,956	
Methyl Bromide	0	0		0	110	110	17,819	
Methyl Chloride	0	0		0	5,500	5,500	890,963	
Methylene Chloride	0	0		0	2,400	2,400	388,784	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	34,019	
Tetrachloroethylene	0	0		0	140	140	22,679	

Toluene	0	0		0	330	330	53,458	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	226,791	
1,1,1-Trichloroethane	0	0		0	610	610	98,816	
1,1,2-Trichloroethane	0	0		0	680	680	110,155	
Trichloroethylene	0	0		0	450	450	72,897	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	17,819	
2,4-Dichlorophenol	0	0		0	340	340	55,078	
2,4-Dimethylphenol	0	0		0	130	130	21,059	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	2,592	
2,4-Dinitrophenol	0	0		0	130	130	21,059	
2-Nitrophenol	0	0		0	1,600	1,600	259,189	
4-Nitrophenol	0	0		0	470	470	76,137	
p-Chloro-m-Cresol	0	0		0	500	500	80,997	
Pentachlorophenol	0	0		0	6.693	6.69	1,084	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	14,741	
Acenaphthene	0	0		0	17	17.0	2,754	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	9,558	
Benzo(a)Anthracene	0	0		0	0.1	0.1	16.2	
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	971,960	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	147,414	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	8,748	
Butyl Benzyl Phthalate	0	0		0	35	35.0	5,670	
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	25,919	
1,3-Dichlorobenzene	0	0		0	69	69.0	11,178	
1,4-Dichlorobenzene	0	0		0	150	150	24,299	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	129,595	
Dimethyl Phthalate	0	0		0	500	500	80,997	
Di-n-Butyl Phthalate	0	0		0	21	21.0	3,402	
2,4-Dinitrotoluene	0	0		0	320	320	51,838	
2,6-Dinitrotoluene	0	0		0	200	200	32,399	
1,2-Diphenylhydrazine	0	0		0	3	3.0	486	
Fluoranthene	0	0		0	40	40.0	6,480	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	

Hexachlorobutadiene	0	0		0	2	2.0	324	
Hexachlorocyclopentadiene	0	0		0	1	1.0	162	
Hexachloroethane	0	0		0	12	12.0	1,944	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	340,186	
Naphthalene	0	0		0	43	43.0	6,966	
Nitrobenzene	0	0		0	810	810	131,215	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	550,777	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	9,558	
Phenanthrene	0	0		0	1	1.0	162	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	4,212	

☑ ***THH*** CCT (min): 93.212 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	
Chloride (PWS)	0	0		0	250,000	250,000	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 Antimony	0	0		0	5.6	5.6	907	
Total Arsenic	0	0		0	10	10.0	1,620	
Total Barium	0	0		0	2,400	2,400	388,784	
Total Boron	0	0		0	3,100	3,100	502,179	
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	
Dissolved Iron	0	0		0	300	300	48,598	
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	161,993	
Total Mercury	0	0		0	0.050	0.05	8.1	
Total Nickel	0	0		0	610	610	98,816	
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	38.9	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	486	
Acrylamide	0	0		0	N/A	N/A	N/A	

Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	16,199	
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	5,346	
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	11,016	
Methyl Bromide	0	0		0	100	100.0	16,199	
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	9,234	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	16,199	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	1,619,933	
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	4,860	
2,4-Dichlorophenol	0	0		0	10	10.0	1,620	
2,4-Dimethylphenol	0	0		0	100	100.0	16,199	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	324	
2,4-Dinitrophenol	0	0		0	10	10.0	1,620	
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	647,973	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	11,340	
Anthracene	0	0		0	300	300	48,598	
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	32,399	

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	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	16.2	
2-Chloronaphthalene	0	0		0	800	800	129,595	
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	161,993	
1,3-Dichlorobenzene	0	0		0	7	7.0	1,134	
1,4-Dichlorobenzene	0	0		0	300	300	48,598	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	97,196	
Dimethyl Phthalate	0	0		0	2,000	2,000	323,987	
Di-n-Butyl Phthalate	0	0		0	20	20.0	3,240	
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	3,240	
Fluorene	0	0		0	50	50.0	8,100	
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	648	
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	5,508	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	1,620	
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	3,240	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	11.3	

☑ *CRL* CCT (min): 37.699 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	
Chloride (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 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	
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	
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	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
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	
Acrylamide	0	0		0	0.07	0.07	45.3	
Acrylonitrile	0	0		0	0.06	0.06	38.9	
Benzene	0	0		0	0.58	0.58	376	
Bromoform	0	0		0	7	7.0	4,533	
Carbon Tetrachloride	0	0		0	0.4	0.4	259	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	518	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	3,691	
Dichlorobromomethane	0	0		0	0.95	0.95	615	
1,2-Dichloroethane	0	0		0	9.9	9.9	6,411	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	583	
1,3-Dichloropropylene	0	0		0	0.27	0.27	175	
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	12,951	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	130	
Tetrachloroethylene	0	0		0	10	10.0	6,476	
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	356	
Trichloroethylene	0	0		0	0.6	0.6	389	
Vinyl Chloride	0	0		0	0.02	0.02	13.0	
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	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
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	19.4	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	971	
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	0.065	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.65	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.065	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.65	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	6.48	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	19.4	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	207	
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	77.7	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.065	
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	32.4	
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	32.4	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	32.4	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	19.4	
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	0.052	
Hexachlorobutadiene	0	0		0	0.01	0.01	6.48	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	64.8	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.65	
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	0.45	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	3.24	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	2,137	
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		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Chromium (III)	Report	Report	Report	Report	Report	µg/L	14,071	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	522	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Nickel	Report	Report	Report	Report	Report	µg/L	8,519	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Thallium	Report	Report	Report	Report	Report	µg/L	38.9	THH	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
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
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	31,527	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	1,620	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	388,784	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	259,189	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	44.2	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	685	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	3,078	µg/L	Discharge Conc < TQL
Total Copper	602	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	48,598	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	242,990	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	161,993	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	8.1	µg/L	Discharge Conc < TQL

Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	808	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	166	µg/L	Discharge Conc < TQL
Total Zinc	5,139	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	126	µg/L	Discharge Conc < TQL
Acrylamide	45.3	µg/L	Discharge Conc ≤ 25% WQBEL
Acrylonitrile	38.9	µg/L	Discharge Conc < TQL
Benzene	376	µg/L	Discharge Conc < TQL
Bromoform	4,533	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	259	µg/L	Discharge Conc < TQL
Chlorobenzene	16,199	µg/L	Discharge Conc < TQL
Chlorodibromomethane	518	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	566,976	µg/L	Discharge Conc < TQL
Chloroform	3,691	µg/L	Discharge Conc < TQL
Dichlorobromomethane	615	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	6,411	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	5,346	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	583	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	175	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	11,016	µg/L	Discharge Conc < TQL
Methyl Bromide	16,199	µg/L	Discharge Conc < TQL
Methyl Chloride	890,963	µg/L	Discharge Conc < TQL
Methylene Chloride	12,951	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	130	µg/L	Discharge Conc < TQL
Tetrachloroethylene	6,476	µg/L	Discharge Conc < TQL
Toluene	9,234	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	16,199	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	98,816	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	356	µg/L	Discharge Conc < TQL
Trichloroethylene	389	µg/L	Discharge Conc < TQL
Vinyl Chloride	13.0	µg/L	Discharge Conc < TQL
2-Chlorophenol	4,860	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	1,620	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	16,199	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	324	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	1,620	µg/L	Discharge Conc < TQL
2-Nitrophenol	259,189	µg/L	Discharge Conc < TQL
4-Nitrophenol	76,137	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	6,726	µg/L	Discharge Conc < TQL
Pentachlorophenol	19.4	µg/L	Discharge Conc < TQL
Phenol	647,973	µg/L	Discharge Conc < TQL

2,4,6-Trichlorophenol	971	µg/L	Discharge Conc < TQL
Acenaphthene	2,754	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	48,598	µg/L	Discharge Conc < TQL
Benzidine	0.065	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.65	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.065	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.65	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	6.48	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	19.4	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	32,399	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	207	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	8,748	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	16.2	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	129,595	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	77.7	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.065	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	25,919	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	1,134	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	24,299	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	32.4	µg/L	Discharge Conc < TQL
Diethyl Phthalate	97,196	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	80,997	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	3,240	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	32.4	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	32.4	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	19.4	µg/L	Discharge Conc < TQL
Fluoranthene	3,240	µg/L	Discharge Conc < TQL
Fluorene	8,100	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.052	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	6.48	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachlorocyclopentadiene	162	µg/L	Discharge Conc < TQL
Hexachloroethane	64.8	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.65	µg/L	Discharge Conc < TQL
Isophorone	5,508	µg/L	Discharge Conc < TQL
Naphthalene	5,885	µg/L	Discharge Conc < TQL
Nitrobenzene	1,620	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.45	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	3.24	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	2,137	µg/L	Discharge Conc < TQL
Phenanthrene	162	µg/L	Discharge Conc < TQL

Pyrene	3,240	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	11.3	µg/L	Discharge Conc < TQL