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	Same as Applicant
Applicant Phone	(724) 226-5947	Facility Phone	Same as Applicant
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	November 13, 2021	EPA Waived?	No
Comment Period End Date	December 12, 2021	If No, Reason	Major Facility

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

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Notice of the Draft NPDES Permit was published in the Pennsylvania Bulletin on November 13, 2021. The Department received 8 comments during the comment period. One comment was from the United States Environmental Protection Agency (EPA) and 7 comments were from ATI Flat Rolled Products Holdings, LLC (ATI). The Department and ATI have had numerous discussions since the publication of the Draft Permit, and based on these discusses, there have been numerous changes to the site operations that change the limitations at IMP 207. Some specific changes include, the startup of the Bright Anneal Line, the removal of some proposed operations at the Bright Anneal Line, and the removal of the proposed Cleaning Line. Because of these changes, the Department has re-evaluated the limitation development for IMP 207, which is included in this fact sheet addendum. The comments and the Department's responses are summarized below. Due to comments made on the Draft Permit and due to operational changes at the site, there have been substantive changes made to the Draft Permit, so the Department determined that it is necessary to re-draft the permit before issuing a Final Permit.

Comments on the Draft Permit:

EPA's Comment 1:

This facility does not appear to be subject to the 316(b) requirements under 125.94 through 125.99 because it does not meet all three applicability criteria, specifically the design intake flow for the intake structure is below 2 mgd. However, PADEP is applying 316(b) requirements to this facility using Best Professional Judgement afforded by 125.90(b) which can provide some flexibility in how entrainment requirements are implemented in the permit which includes previously agreed upon template language. Based on this information, EPA offers the following comment on the draft permit and fact sheet:

a. The way the fact sheet is written, it appears the BTA for impingement and entrainment is based on the facility's existing operations; however, Part C Section IV.A of the permit includes a BTA determination for impingement and entrainment that is based on the facility's operation or proposed operation (underline added for emphasis). This seems to imply that

Approve	Deny	Signatures	Date
X		Adam Olesnanik, P.E. / Environmental Engineer	September 25, 2024
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	September 27, 2024

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a BTA standard has not been chosen for the cooling water intake structure which is inconsistent with both the fact sheet and the permit. Similarly, Part C Section IV.J of the permit requires the permittee to submit information "in support of developing the permittee's selection and justification for impingement and entrainment compliance" and to submit progress reports each year detailing the status of activities being conducted until BTA for impingement and entrainment is implemented (underline added for emphasis). The way the fact sheet and the permit are written, it is our understanding that the BTA for impingement and entrainment is based on existing operations and the purpose of the data collection in Part C.IV.J is to provide flexibility to the permittee to revise the previously established BTA based on new or updated information. If this is correct, EPA offers the following revisions to Part C.IV.J.1. and Part C.IV.J.4. for your consideration. If EPA's understanding is incorrect, please clarify the intent of Part C.IV.J.

1. Within 18-months of the permit effective date, the permittee will submit a source water baseline biological characterization in support of ~~developing~~ the permittee's selection and justification for impingement and entrainment compliance. The permittee may use surrogate data where appropriate data exists or collect sampling data to support the report. The permittee may optionally submit a study plan for DEP approval prior to collecting data.

4. The permittee shall submit a progress report by the anniversary of the effective date of the permit each year detailing the status of activities being conducted to document implementation of or any revisions necessary to meet the ~~until~~ BTA for impingement and entrainment. ~~is implemented~~.

Department's Response to EPA's Comment 1:

EPA's understanding on how the BTA is imposed is correct; however, the Department has changed the Cooling Water Intake Structure Part C condition due to comments from ATI. These changes have made EPA's comments irrelevant as they no longer apply to the changed condition. Because the condition has been changed, and due to other changes made to the Draft Permit, the permit is being drafted a second time.

ATI's Comment 1:

Section C – Numbering is incorrect in Section C. Item IV on Page 36 is duplicate and should be renumbered as Item VI. The second Item V on page 36 is also duplicate and should be renumbered as Item VII.

Department's Response to ATI's Comment 1:

The Part C Conditions Numbering on page 36 of the Draft permit was a typographic error. The part C condition numbering has been corrected per ATI's recommendations.

ATI's 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 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 limitations. Furthermore, we anticipate that these concentrations may potentially be greater during various seasonal conditions. Therefore, we are very concerned that ATI would be in violation of the proposed limits simply by utilizing the Kiskiminetas River water as NCCW. As such, ATI respectfully requests that the TMDL Permit limits for the NCCW discharge at IMP 107 be eliminated.

It is unfair and overly burdensome to expect ATI to treat NCCW River Water prior to discharge. If treatment would be required, a substantial network of collection and pumping systems would need to be designed and installed. The existing wastewater treatment plant does not have sufficient capacity to treat the volume of NCCW. Therefore, the WWTP would need to be significantly modified or a new WWTP system would need to be installed. This project would take several years and would cost multimillion dollars.

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Furthermore, the proposed compliance schedule in Section C.V. (renumbered C.VII. – see Comment 1) of the proposed Permit suggests that a feasibility study could be completed within six (6) months and construction completed within two (2) years of the Permit Effective Date. This timeline is an impossible schedule. Should a new WWTP be required to treat the River Water (which is unreasonable and unfair), one cannot be designed, permitted, and installed within two (2) years. First, the schedule does not provide a reasonable timeline to collect data to understand all potential seasonal impacts of the quality of the water withdrawn from the Kiskiminetas River. A proper study would take two (2) years or more. Then a feasibility study based on the date (analytical results, flow data, etc.) would need to be performed. Once a plan is developed, determination of a correct course of action, design, permitting and installation would take at least two (2) years or more.

ATI is not opposed to the permit limits for Iron, Manganese and Aluminum proposed at IMP 207. It is certainly very reasonable to expect ATI to properly treat and discharge ***contact wastewaters***. But it is very unfair to expect ATI to treat the Kiskiminetas River water, which would be necessary to ensure compliance if the Department imposes these TMDL permit limitations for the NCCW discharged through IMP 107.

An alternative solution would be to use City Water as the influent source water. However, that is also extremely unfair and puts ATI at an economic disadvantage to our competitors that are not required to purchase City Water. Furthermore, City Water would increase the chlorine impact to the Kiskiminetas River.

ATI respectfully requests that the permit limitations for Manganese, Iron and Aluminum are removed from IMP 107. Section C.V. (renumbered C.VII. – see Comment 1) would also need to be removed from the Permit.

Department's Response to ATI's Comment 2:

Appendix G of the TMDL specifically references IMP 107 and 207 of the NPDES Permit PA0040274 as requiring effluent limitations for aluminum, iron, and manganese. ATI may, in the future based on sampling data, request the removal of the aluminum, iron, and manganese limitations from IMP 107 if it can be shown that the discharge does not have a reasonable potential to exceed the proposed Final effluent limitations, or that the discharge concentration is equal to or similar to the influent concentration. However, at this time these limitations will remain in the Final Permit because, there has been no discharge data from IMP 107 indicating the expected concentrations of aluminum, iron, and manganese. The Department is proposing Interim monitoring requirements and a compliance schedule for these parameters for ATI to determine if they can achieve the final limits but to also determine if there is a reasonable potential for the discharges to exceed water quality criteria and for ATI to show that the discharge does not contribute to the impairment of the receiving waters. ATI's argument that the discharge concentrations for aluminum, iron, and manganese are driven by the use of river water used as part of the processes may have merit; however, without any data to show this, the limits must be imposed. If ATI determines that the discharges show no reasonable potential to exceed the effluent limits and that the discharge concentration of IMP 107 is consistent with the influent concentration, then ATI may submit an NPDES amendment application requesting the removal of these limitations. To aid in the justification that the NCCW that discharges via IMP 107 does not add to the existing load in the TMDL, ATI shall sample the influent water for Flow, Total Iron, Total Aluminum, and Total Manage at the same sample frequency as the discharge from IMP 107 during the interim monitoring period of the schedule of compliance. This influent data can then be used to compare the influent to the discharge. If the discharge and the influent have equal/similar concentrations of Total Iron, Total Aluminum, and Total Manganese, showing that the discharge from IMP 107 does not add to the existing load in the receiving waters, then the Department may re-evaluate the need to impose the TMDL load allocation/effluent limitations. The intake monitoring is discussed further below in the limitation development section for IMP 107 of this Fact Sheet Addendum. Additionally, the Department believes that the compliance schedule is reasonable and is standard for most facilities where TMDL or water quality limits are being imposed for the first time in this permit. The Department believes that the proposed Schedule of Compliance provides the permittee with enough time to determine if the final limits can be met and give the permittee enough time to develop and install treatment if the limits cannot be met. No changes were made to the Draft Permit due to this comment.

ATI's Comment 3:

Parts A.I.D., A.I.E, A.I.F. and A.I.G. - A new, minimum pH limit has been proposed for Internal Monitoring Point 207, which is more stringent than the regulatory limitations. Please note that we **CANNOT** comply with this minimum permit limit of 7.5 S.U. without installing a new post neutralization feed system, which is environmentally unnecessary since it will not have any benefit and only serves to add additional chemicals into the Kiskiminetas River.

As you know, our wastewater treatment plant exceeds BAT by employing sand filtration to polish the wastewater prior to discharge. To most effectively remove metals present in our contact wastewaters, the pH setpoint in our wastewater

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treatment plant is between approximately 8.8 and 9.2 S.U. As you may know, it is common for bacteria to grow in the sand filters. We properly clean and backwash the filters to minimize bacterial growth, but the bacteria present in the sand filters will routinely drop the pH of the wastewater, sometimes as much or more than two (2) standard units. Therefore, in order to ensure that a minimum pH of 7.5 S.U. is achieved at IMP 207, ATI would be required to install a new post neutralization feed system and add sodium hydroxide to the treated wastewater to raise the pH prior to discharge.

This minimum pH limit of 7.5 S.U. is more stringent than the regulatory limits of 6 to 9 S.U. and provides no environmental benefit and only adds more treatment chemicals into the process and to the Kiskiminetas River. The proposed minimum pH limit comes from the Non-Ferrous Metals ELGs. Our wastewater treatment plant is a FERROUS treatment plant. This proposed minimum pH limit is NOT APPLICABLE to a ferrous wastewater treatment plant and the treatment scheme required to optimally remove the pollutants from the wastewaters generated at the Vandergrift Facility.

Please be advised that ATI would have had **eighteen (18) permit violations** in the last three (3) years if this more stringent minimum pH limit would have been imposed. Therefore, we respectfully request that the previous, regulatory and Ferrous Iron and Steel pH limitations of 6.0 to 9.0 S.U. are maintained at Internal Monitoring Point 207.

Department's Response to ATI's Comment 3:

The Department acknowledges ATI's comment and understands ATI's concern regarding the proposed minimum pH limitation. The minimum pH limitation was derived from the Titanium Forming ELG. The regulatory pH limitations from the Titanium Forming ELG are always to be with the range of 7.5 and 10.0 S.U. Because ATI discharges wastewater associated with the Titanium Forming Category, these effluent standards are applicable to the discharge regardless of what type of treatment the facility has installed. However, because the majority of the operations conducted at the site are associated with the Iron and Steel Category and the pH required to treat the Iron and Steel wastewater may differ from the Titanium wastewater the pH will be limited based on the Iron and Steel ELG, to be between 6.0 and 9.0 S.U. The pH limitations at IMP 207 have been changed due to this comment and are now an instantaneous minimum of 6.0 S.U. and an instantaneous maximum of 9.0 S.U.

ATI's Comment 4:

Parts A.I.D., A.I.E, A.I.F. and A.I.G. - The Draft permit proposes weekly monitoring requirements for Thallium at IMP 207. We are unclear as to why the Department has proposed monitoring requirements for Thallium. However, as was the case with our Brackenridge NPDES Permit, we assume that Thallium is proposed at IMP 207 because a value of "non detect" using a quantitation limit (QL) that exceeds the Department's Target QL (2.0 ug/l) was reported in the Permit Application. At the Brackenridge Facility, the Department allowed ATI to collect additional samples for the parameter of Total Thallium using the Target QLs prior to issuing the Permit as final. Since the additional samples collected at Brackenridge indicated that Thallium was not a pollutant of concern, the monitoring requirements for Thallium were removed from the Draft Permit.

ATI would greatly appreciate the same opportunity for the Vandergrift Permit. We have already collected several samples at IMP 207 for Thallium. As we did for the Brackenridge Facility, we will collect a total of twelve (12) samples and analyze for Thallium at the Department's Target QL. Should those results demonstrate that Thallium is NOT a pollutant of concern at IMP 207, we will respectfully request that the Department remove those requirements associated with Thallium from the Final Permit. Please see the table below:

Thallium Results of Additional Samples Collected at IMP 207

Date	Thallium (ug/l)	Quantitation Limit (ug/l)
03/15/22	Non-Detect	0.081
03/22/22	Non-Detect	0.081
03/29/22	Non-Detect	0.081
04/12/22	Non-Detect	0.081
05/03/22	Non-Detect	0.081
06/07/22	Non-Detect	0.081
06/22/22	Non-Detect	0.081
06/28/22	Non-Detect	0.081
07/05/22	Non-Detect	0.081

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All nine (9) additional samples spanning March through July were reported as non-detect at a QL of 0.081 ug/l. These results at this QL clearly demonstrate that Thallium is not a parameter of concern. Therefore, we respectfully request the Department remove Thallium monitoring requirements at IMP 207 from the Permit.

Department's Response to ATI's Comment 4:

IMP 207 is subject to Thallium monitoring requirements based on the results of the Toxics Management Spreadsheet (TMS). ATI reported in its revised application that Thallium was detected at 10 ug/l and the water quality-based effluent limit for Thallium calculated using the TMS was determined to be 38.9 ug/l. The reported result is within 10% - 50% of the WQBEL, therefore reasonable potential exists for the discharge concentration to exceed the water quality-based effluent limitation and monitoring for Thallium is proposed. This situation is not similar to ATI's Brackenridge facility where the Department quantitation limits were not met for Thallium, and resampling at the Department's QLs and getting non-detect could remove the limitations from the permit. Thallium was detected in the discharge, and then after modeling, determined to be a pollutant of concern requiring the need to be monitored. ATI's argument that Thallium has been non-detect at the QL for the past 9 samples ignores the fact that it was detected previously. Following additional monitoring and non-detects reported, the removal of the Thallium monitoring may be evaluated during the next permit cycle. At this time however, the Department is willing to reduce the sample frequency from 1/week to 1/quarter.

ATI's Comment 5:

Parts A.I.D. and A.I.E. - 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 a NEVER TO EXCEED LIMIT is extremely unreasonable and unfair.

Our WWTP exceeds BAT and 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 fifty (50) concentration permit violations (25 potential daily maximum and 25 average monthly permit violations). This is UNACCEPTABLE. It is IMPOSSIBLE and unreasonable to expect to be in 100% compliance with a permit limitation based on the detection limit.

As you know, we installed a new WWTP at the Brackenridge Facility when we installed our new Hot Rolling Processing Facility. The WWTP is designed to remove solids and oils and greases. Although not regulatorily required, ATI voluntarily installed carbon filtration at the Brackenridge Facility, which exceeds BAT. Since ATI installed carbon filtration, the Department proposed a more stringent permit limitation of 10 mg/l, which ATI accepted. As you know, the existing standards for Oil and Grease for average monthly is 15 mg/l and daily maximum is 30 mg/l. Proposing the DETECTION LIMIT on an existing source that does not employ carbon filtration is an impossible and unreasonable permit limitation. Even if ATI would install a carbon filter at the Vandergrift WWTP, which is unnecessary given that we achieve less than detectable results more than 95% of the time, a more reasonable permit limitation for carbon filtration would be a daily maximum limit of 10 mg/l. Please note that even with carbon filtration at the Brackenridge Facility, we exceeded the detection limit of five (5) mg/l seventeen (17) times over the last five (5) years.

The Final Oil and Grease limits proposed in Part A.I.G is an average monthly concentration limit of 12.0 and a daily maximum concentration limit of 20.0 mg/l. Even though those values are still more stringent than the regulatory and current permit limitations, ATI respectfully requests that the Department revise Part A.I.D and A.I.E. to impose the concentration limits proposed in Part A.I.G. We understand that those limits take into consideration the addition of the Bright Anneal and Cleaning Lines, but they are also more stringent than the regulatory limits and much more reasonable than imposing the detection limit. ATI cannot accept permit limitations that would put us in immediate non-compliance, and we would have no choice but to appeal the permit.

Department's Response to ATI's Comment 5:

The Department has re-evaluated the limitations at IMP 207 due to operational changes at the site. As part of this re-evaluation, the Oil and Grease limits at IMP have been revised. The revised limitation development for IMP 207 is included in Fact Sheet Addendum below. During the re-evaluation of the effluent limits at IMP 207, the Department determined that the Department made a technical mistake in the calculations of the ELG limitations. These limitations have been revised to

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correct this mistake causing the limitations to no longer be the same as what was proposed in the Draft Permit. After revising the limits, the average monthly loading limitations for Oil and Grease at IMP 207 is still a concern. The oil and grease limitations are discussed in more detail below in the Department's response to comment 6 and in the limitation development section of this Fact Sheet Addendum.

Please note that the Department imposed the concentration limits of 5 mg/L for oil and grease as a substitute for the mass-based oil and grease limitations because the Department determined that some of the oil and grease mass loading limits would be impossible to achieve and would result in violation of the mass based limits even if ATI reported non-detect. So, the Department's solution at the time was that ATI must report the oil and grease as non-detect at the current quantitation limit of 5.0 mg/L (which is the most stringent achievable reporting limit) to be in compliance with the mass-based limitations.

Additionally, the Department would like to note that ATI is incorrect in stating that the 15 mg/L and 30 mg/L limitations are industry standard. The 15 mg/L and 30 mg/L come from 25 Pa. Code § 95.2(2) for oil bearing wastewater. However, the industry standard for Non-Ferrous Titanium forming category is 12 mg/L and 20 mg/L and the industry standard for Iron and Steel Alkaline Degreasing Subcategory is 10 mg/L and 30 mg/L. The 10 mg/L in the Brackenridge Facility NPDES Permit is derived from a daily maximum limit associated with the Iron and Steel Hot Forming Subcategory

ATI's Comment 6:

Parts A.I.D., A.I.E, A.I.F. and A.I.G. – Mass loading limits for Oil and Grease are proposed at IMP 207. The Department has proposed in Part C.V., that if the Oil and Grease concentration is below the detectable limit, ATI will be determined to be in compliance with the mass loading limitations proposed in Parts A.I.D. and A.I.E. Therefore, in addition to the potential fifty (50) concentration violations (see Comment 4), ATI would have potentially another fifty (50) mass loading violations. ***One hundred (100) Oil and Grease violations are completely UNACCEPTABLE.***

Oil and Grease mass loading limitations are being proposed because of titanium surface treatment. As the fact sheet states on page 16, *"[b]ecause only about 10-15% of the production is titanium, it is not feasible to impose mass-based effluent limitations for Titanium Forming wastewaters. Titanium wastewaters are comingled with ferrous wastewaters making it impossible to accurately regulate the titanium regulated pollutants on a mass-basis separate from the ferrous wastewater contributions. The proposed mass-based effluent limitations for lead, zinc, cyanide, ammonia, fluoride, iron, and titanium at IMP 102 have therefore been removed from the NPDES permit. In order to ensure compliance with the ELG however, the Department has preserved the concentration limits for titanium regulated pollutants. Concentration limits are more flexible when regulating variable flows and production rates and ensures adequate treatment is installed and operated."*

Accordingly, mass loading limitations for Oil and Grease need to be removed from Parts A.I.D., A.I.E., A.I.F. and A.I.G. Accordingly, Part C.V. also needs to be removed from the Draft Permit.

Department's Response to ATI's Comment 6:

Based on ATI's comment, it is the Department's understanding that ATI believes no mass-based limits should be imposed for Oil and Grease based on the Department's justification to not include the mass loading limits for the parameters associated with just the titanium forming category. It should be noted that just because only 10 to 15 % of the production is titanium, doesn't mean that the titanium requirements in the ELG can be omitted. It should also be noted that there is no basis to omit ELGs due to comingling of wastewaters. EPA has been consulted on this matter and has indicated that the ELGs are applicable and must be addressed. Additionally, as discussed above, the Department has re-evaluated the limitations at IMP 207 due to operational changes at the site. As part of this re-evaluation, the Oil and Grease limits at IMP have been revised. The revised limitation development for IMP 207 is included in Fact Sheet Addendum below.

Additionally, after reviewing the past five years of DMRs submitted by ATI for IMP 207, ATI has been consistently reporting non-detect at less than 5 mg/L in their DMRs for all reporting periods from July 2019 through May 2024. So, ATI would have had no violations of the Oil and Grease limitation during the past 5 years if the average monthly limitation was non-detect at 5.0 mg/L.

Oil and Grease Limitation Development (Regarding ATI Comments 5 & 6):

It is the Department's understanding, based on ATI's comments on the Draft Permit, that ATI believes that the site should not receive any mass-based limitations for Oil and Grease and that the concentrations for Oil and Grease should be 15.0 mg/L as an average monthly limit and 30.0 mg/L as a maximum daily limit. However, the Department cannot issue the permit with

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these limitations because those limits would not comply with the applicable Federal ELGs. Based on the proposed operations, the site is subject to the Federal Effluent Limitation Guidelines under 40 CFR 420.114(b) Iron and Steel Manufacturing Alkaline Degreasing - Continuous and various Titanium Forming Subcategories under 40 CFR471 Nonferrous Metals Forming and Metal Powders Category. These ELGs require mass-based effluent limitations for Oil and Grease. The calculated limits based on actual and estimated production data are displayed below in the limitation development section of this Fact Sheet Addendum.

Due to the comingling of wastewaters at IMP 207 from multiple regulated sources; and to ensure that the mass-based effluent limitations are met, the concentration limits that EPA used to develop the ELGs are proposed as well. The production values used to determine the mass-based contributions from the new Bright Anneal Line and the new titanium operations are estimated values provided by ATI. These concentration values come from EPA's Development documents, Tables VII-21 and Table VII-22 in Volume III of the Nonferrous metals Development document and from Table I-1 from the Iron and Steel Development Document. The mass-based limitations for oil and grease are adopted from both the Titanium forming category and Iron and Steel – Alkaline Degreasing subcategory, so the most stringent concentration limits from both of the development documents are proposed. The oil and grease concentrations for the alkaline degreasing subcategory from the Iron and Steel Development Document is 10 mg/L as an average monthly and 30 mg/L as a daily maximum. The oil and grease concentrations for the titanium forming subcategory from the non-ferrous metal's development document is 12.0 mg/L as an average monthly limit and 20.0 as a maximum daily limit. Using both of these references, the oil and grease concentrations that should be imposed are 10 mg/L as an average monthly and 20 mg/L as a daily maximum.

However, because of site operations and the comingling of wastewater from different operations, compliance with the ELG limitations may be difficult for ATI. With only about 10-15% of the production being titanium, it is not feasible to impose mass-based effluent limitations for Titanium Forming wastewaters. Titanium wastewaters are comingled with ferrous wastewaters making it impossible (under ATI's current plumbing configuration) to accurately regulate only the titanium regulated pollutants on a mass-basis separate from the ferrous wastewater contributions. Therefore, mass-based limitations are not proposed for these parameters. In order to ensure compliance with the ELG however, the Department has preserved the concentration limits. Concentration limits are more flexible when regulating variable flows and production rates and ensure adequate treatment is installed and operated. The mass-based limitations are still required for oil and grease because the treatment system receives mass loading from the Iron and Steel ELG and the Titanium ELG.

Mass-Based Limitation Concern:

After re-evaluating the limitations at IMP 207, the Department determined that based on the current average monthly discharge flow, ATI cannot meet the average monthly mass-based limitation for Oil and Grease even if the concentration limit is reported as non-detect at 5.0 mg/l. For example, the average monthly oil and grease mass limit was calculated to be 21.5 lb/day. However, if ATI would report a non-detect for oil and grease (<5 mg/L), the mass loading would calculate to be 22.101 lb/day based upon the average discharge flow of 0.53 MGD; which would be in violation of the mass-based limit. So, the Department's solution was that ATI must report the oil and grease as non-detect at the current quantitation limit of 5.0 mg/L (which is the most stringent achievable reporting limit) to be in compliance with the mass-based limitations.

Options to Mitigate the Concern and to be in compliance with the ELGs**:**

Based on ATI's comments in the Draft Permit, ATI disagrees with the Department's proposal to impose a non-detect oil and grease effluent limitation and is opposed to the 5.0 mg/L concentration limit. Therefore, the Department has presented several options to ATI for consideration, that would comply with the ELGs and the requirements for the Oil and Grease Limitations for the discharges from IMP 207. If ATI has any other options that are consistent with the applicable ELGs that they would like to present, the Department is open to discuss them. To date, ATI has not offered any other viable options. The Department has presented the following options to ATI for consideration:

Option One is for ATI to separate the comingling wastewaters to allow for separate and targeted source regulation. If the wastewater from the different production lines and operations covered under separate ELGs are separated, ATI will have an easier time addressing the limits that apply to each specific wastewater and only the mass-based limitations may be required in the NPDES permit. This would require the Department to re-calculate the mass-based limits and apply them separately to each applicable waste stream.

Option Two is for the Department to impose the mass-based limitations as calculated, as well as the concentration limitations. With this option ATI runs the risk of consistently exceeding the average monthly mass-based limit even when reporting a non-detect value if they are discharging at the current average discharge flow. Therefore, ATI will need to monitor

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its discharge flow and control it enough to consistently discharge below the mass-based limitations by reducing the discharge flow. This could also be achieved by recycling or reusing some of its wastewater. In this case, the oil and grease limits would be as follows:

Option 2 Oil and Grease Limitations

Average Monthly (lbs/day)	Daily Maximum (lbs/day)	Average Monthly (mg/L)	Daily Maximum (mg/L)	Instant. Maximum (mg/L)
21.5	47.6	10.0	20.0	25.0

Option Three is for the Department to impose the 5.0 mg/L concentration limit for Oil and Grease as the average monthly limit. Since analytical methods for Oil and Grease are not sensitive enough to detect pollutant concentrations below 5.0 mg/L, the Permittee will be considered to be in compliance if the average monthly Oil and Grease concentrations are reported as < 5.0 mg/L. The average monthly mass-based limitations for the Oil and Grease will be included in Part A of the permit but will not be included in the DMRs.

Option 3 Oil and Grease Limitations

Average Monthly (lbs/day)	Daily Maximum (lbs/day)	Average Monthly (mg/L)	Daily Maximum (mg/L)	Instant. Maximum (mg/L)
21.5 (Report in DMRs)	47.6	5.0	20.0	25.0

The Department's and ATIs supplement Discussions regarding the Oil and Grease concern

Before the limits were revised per the IMP 207 Limitation Development section of this Fact Sheet Addendum, the Department reached out to ATI to discuss possible solutions to the oil and grease concern and are discussed below. Note, ATI's solution was originally based on the old limitations in the 2021 Draft Permit, but the Department has modified ATI's solution to fit the new site situation and limitations but still contain ATI's intent of their solution

ATI Proposed Solution to the Oil and Grease Mass Based Limitation Concern:

ATI proposed the following if it is determined that mass loading limits are necessary:

ATI Proposed Oil and Grease Limitations

Average Monthly (lbs/day)	Daily Maximum (lbs/day)	Average Monthly (mg/L)	Daily Maximum (mg/L)	Instant. Maximum (mg/L)
21.5	47.6	10.0	20.0	25.0

In the pre-populated eDMRs, mass loading limits will NOT be applied. It will show Report Only.

The following statement will be included in Section C of the NPDES Permit:

> OIL AND GREASE MASS BASED LIMITATIONS – (IMP 207)
>
> The Oil and Grease mass-based effluent limitations for IMP 207 in Part A of this permit were determined from the Federal Effluent Limitation Guidelines; and applicable to discharges from IMP 207. For mass-based loading compliance purposes, if the permittee reports a daily maximum Oil and Grease concentration value less than or equal to 10 mg/l using the current most sensitive EPA approved method and the mass loading limitations are exceeded, the mass-based limitation will be considered to be in compliance. If the analytical results indicate an Oil and Grease concentration greater than 10 mg/l and the mass loading limitations are exceeded, this will be considered to be an exceedance of the mass loading limits, not the oil and grease concentration limits. The Permittee will indicate the mass-based loading exceedances in the eDMR Comments.

Internal Review and Recommendations

As indicated in Part A of the Permit, Oil and Grease concentration limits will be exceedances if the permittee exceeds a monthly average limit of 10 mg/l and/or a maximum daily limit or 20 mg/l.

Justification for 10 mg/l Oil and Grease concentration for purposes of determining compliance with the mass-based loading limitations:

- It is not reasonable to expect a treatment system that is well designed and well operated to control Oils and Greases below detection (5 mg/l) limits 100% of the time. The Vandergrift Facility is an extremely well operated Facility and with the exception of four (4) occasions, Oil and Grease concentrations were reported to be below detectable limits over the past three (3) and a half years. Please note that all four (4) concentrations were less than or equal to 10 mg/l.

- The PA DEP has determined the Hot Rolling Processing Facility Wastewater Treatment Plant (HRPF WWTP) at the ATI Brackenridge Facility to define BAT. The HRPF WWTP installed and is operating carbon filters. The Oil and Grease limitation (10 mg/l) at the HRPF WWTP is more stringent than Industry Standards. Therefore, ATI believes it would be unprecedented and unfair to propose a limit more stringent than BAT (less than 10 mg/l) at the Vandergrift Facility.

Department's Response to ATI's Proposal:

After evaluating ATI's proposal, the Department has determined that ATI's proposed solution cannot be incorporated in the permit. ATI's solution ignores the requirements of the ELG by not imposing the mass-based limitations for Oil and Grease. ATI proposes that the in lieu of the mass-based limitations, the BAT concentration limits will be imposed and a part C condition stating "for mass-based loading compliance purposes, if the permittee reports a daily maximum Oil and Grease concentration value less than or equal to 10 mg/l using the current most sensitive EPA approved method and the mass loading limitations are exceeded, the mass-based limitation will be considered to be in compliance." The Department understands where ATI came up with this solution but find that it ignores the ELG requirements and is factually incorrect. If ATI would report a concentration of between 5 mg/L (Departments QL) and 10 mg/L, the loading would be above the calculated mass-based limitation from the ELG, thus being an exceedance of the limit. It appears that ATI took the Department's solutions of having 5 mg/L being an indicator for compliance of the mass-based limits and modified it to be the BAT concentrations for the Hot Forming subcategory from the Iron and Steel development documents. The Departments solution proposes to have 5 mg/L as the concentration limitations because it is the Department's QL, and this is what the Department finds to be the lowest reportable achievability. The problem is that the calculated mass-limits is so low that even if ATI would report a non-detect at 5 mg/L (22.1 lbs/day using the average discharge flow of 0.53 MGD) it would be above the calculated mass limits from the ELG (21.5 lbs/day).

Based on the review of ATI's Proposed solution and the additional information provide since the Draft permit, the Department's solution to the oil and grease concern is still to impose an average monthly oil and grease concentration limitation of less than 5.0 mg/L limits. The Department's proposed solution is discussing in more detail in the IMP 207 Limitation Development section of this Fact Sheet Addendum.

ATI's Comment 7:

Part C.IV.J. – The Department requests the submittal of a source water baseline biological characterization within 18 months of the Permit Effective Date (PED). Please note that ATI has contacted several consulting companies and at this time, we have not been able to find a company that is capable of conducting this study for ATI. We trust the Department will be able to assist/guide ATI in completing the required study. Please note that the Brackenridge Draft NPDES Permit requires ATI to submit the study within 180 days of the expiration date of the Permit. The timeline of 18 months from effective date is very aggressive and we do not believe we will be able to complete this study in such a short timeframe.

ATI respectfully requests that the Vandergrift Permit be revised to allow for the submittal of the baseline biological characterization within 180 days of the expiration date of the NPDES Permit. Specifically, allow the same provisions as the Brackenridge Permit. This specific language from the Brackenridge Facility is as follows:

F. In accordance with 40 CFR § 125.95(a)(2), an alternate schedule is provided for the permittee to submit the information required by 40 CFR § 122.21(r). The permittee shall submit the information specified below with its permit renewal application due 180 days prior to the permit expiration date of the permit.

Internal Review and Recommendations

1. Source water physical data.
2. Cooling water intake structure data.
3. Source water biological baseline characterization data.
4. Cooling water system data.
5. Chosen method(s) of compliance with impingement mortality standard from 40 CFR § 125.94(c).
6. Entrainment performance studies.
7. Operational status.

G. If the facility covered by this permit withdraws greater than 125 MGD on an Actual Intake Flow basis as defined in 40 CFR § 125.92, the permittee must submit the applicable information in 40 CFR §122.21(r)(9) – (r)(13) with the subsequent permit renewal application, as follows:

1. Entrainment Characterization Study.
2. Comprehensive Technical Feasibility and Cost Evaluation Study (including, but not limited to, evaluations of closed-cycle recirculating cooling, fine mesh screens with a mesh size of 2 mm or less, alternate sources of cooling water, water reuse, variable speed pumps, variable frequency drives, and seasonal flow reductions).
3. Benefits Valuation Study.
4. Non-Water Quality Environmental and Other Impacts Study.
5. Peer Review, completed by peer reviewer(s) approved by DEP.

H. If the facility covered by this permit withdraws less than or equal to 125 MGD on an Actual Intake Flow basis as defined in 40 CFR § 125.92, the permittee must submit an entrainment reduction technology evaluation with the subsequent permit renewal application, which must include at a minimum, an evaluation of the feasibility, cost estimates, and environmental impacts of reducing intake flow using alternate sources of cooling water, water re-use, closed-cycle recirculating cooling; and fine mesh screens.

Department's Response to ATI's Comment 7:

The Department acknowledges ATI's comment and has revised the cooling water intake structure Part C condition to be similar to the ATI Brackenridge permit condition. The Part C condition is as follows:

COOLING WATER INTAKE STRUCTURE(S)

A. Based upon information provided by the permittee, the Department has determined that the permittee operates Best Technology Available (BTA) to comply with the impingement and entrainment mortality standard based on the facility's operation or proposed operation of 0.5 Feet Per Second Through-Screen Design Velocity. This BTA determination may be revised upon submission of additional information by the permittee with the NPDES permit renewal application. Revisions to the BTA determination shall be effective only through amendment or renewal of the NPDES permit.

B. Nothing in this permit authorizes a take of endangered or threatened species under the Endangered Species Act.

C. Technology and operational measures currently employed at the cooling water intake structures must be operated in a way that minimizes impingement mortality and entrainment to the fullest extent possible.

D. The location, design, construction or capacity of the intake structure(s) may not be altered without prior approval of DEP.

E. Cooling water intake monitoring, including through-screen velocity (if applicable), and cooling water withdrawal rates shall be reported on the Cooling Water Intake Monitoring Supplemental Report (3800-FM-BCW0010).

F. In accordance with 40 CFR § 125.95(a)(2), an alternate schedule is provided for the permittee to submit the information required by 40 CFR § 122.21(r). The permittee shall submit the information specified below with its permit renewal application due 180 days prior to the permit expiration date of the permit.

   1. Source water physical data.

   2. Cooling water intake structure data.

   3. Source water biological baseline characterization data.

Internal Review and Recommendations

4. Cooling water system data.

5. Chosen method(s) of compliance with impingement mortality standard from 40 CFR § 125.94(c).

6. Entrainment performance studies.

7. Operational status.

G. If the facility covered by this permit withdraws greater than 125 MGD on an Actual Intake Flow basis as defined in 40 CFR § 125.92, the permittee must submit the applicable information in 40 CFR §122.21(r)(9) – (r)(13) with the subsequent permit renewal application, as follows:

1. Entrainment Characterization Study.

2. Comprehensive Technical Feasibility and Cost Evaluation Study (including, but not limited to, evaluations of closed-cycle recirculating cooling, fine mesh screens with a mesh size of 2 mm or less, alternate sources of cooling water, water reuse, variable speed pumps, variable frequency drives, and seasonal flow reductions).

3. Benefits Valuation Study.

4. Non-Water Quality Environmental and Other Impacts Study.

5. Peer Review, completed by peer reviewer(s) approved by DEP.

H. If the facility covered by this permit withdraws less than or equal to 125 MGD on an Actual Intake Flow basis as defined in 40 CFR § 125.92, the permittee must submit an entrainment reduction technology evaluation with the subsequent permit renewal application, which must include at a minimum, an evaluation of the feasibility, cost estimates, and environmental impacts of reducing intake flow using alternate sources of cooling water, water re-use, closed-cycle recirculating cooling; and fine mesh screens.

I. If DEP requests additional information to make a BTA determination, the permittee shall submit information within 30 days unless a different time frame is approved by DEP.

J. If DEP determines the methods to meet impingement and entrainment BTA requirements are not sufficient, the permittee shall employ additional controls to reduce adverse impacts from impingement and entrainment.

K. The permittee shall, on an annual basis, submit a report describing any modifications to the operation of any unit at the facility that impacts cooling water withdrawals or operation of the cooling water intake structure(s) during a calendar year. If not applicable, the permittee shall submit a statement certifying that no modifications have occurred in lieu of a report. The annual report or statement is due by January 28 of each year.

L. The permittee shall retain data and other records for any information developed pursuant to Section 316(b) of the Clean Water Act for a minimum of ten years.

M. New Units - The permittee must submit applicable information in 40 CFR §122.21(r) at least 180 days prior to the planned commencement of cooling water withdrawals associated with the operation of a new unit (as defined in 40 CFR §125.92(u)).

Summary and Conclusion:

Proposed changes to the Draft Permit due to comments on the Draft permit include:

- The Part C condition numbering has been revised due to typographical error in the first draft permit.

- The pH limitations at IMP 207 have been changed to an instantaneous minimum of 6.0 S.U. and an instantaneous maximum of 9.0 S.U.

Internal Review and Recommendations

- The limitations imposed at IMP 207 have been changed due to a re-evaluation of the limitation development.
- The language and requirements in Part C condition IV, Cooling Water Intake Structure(s), has been changed.

Additionally, because it has been over two and a half years since the permit was first drafted, the Department has determined to re-evaluate all of the discharges from the site and modify the limitations if needed. The re-evaluation of the effluent limitations on the site's Outfalls and IMPs are contained below in this Fact Sheet addendum. These changes include, but are not limited to, the following:

- The schedule of compliance for and the various interim limitation periods for IMP 207 have been removed from the Draft permit. This is due to the fact that all of the proposed process lines have now been constructed or are no longer being proposed at this time. Additionally, the schedule of compliance for the TMDL parameters at IMP 207 has been removed, because after further review, ATI can achieve these limitations upon permit issuance.
- Annual monitoring for PFOA, PFOS, PFBS, and HFPO-DA have been added to the effluent limitation at IMP 207 in Part A of the Draft permit to be consistent with the Department's PFAS monitoring initiative. This is discussed in more detail in the limitation development section of this Fact Sheet Addendum.
- The Department has updated the PAG-03 General Stormwater Permit to include monitoring for Total Phosphorous and Total Nitrogen to all appendices and monitoring and a Benchmark Value of 30 mg/L for Oil and Grease has been added to Appendix B. Monitoring for Total Phosphorous, Total Nitrogen, and Oil and Grease added to Outfalls 008 and 009 to be consistent with the PAG-03 requirements. A footnote has been added to the draft permit discussing how Total Nitrogen is calculated.
- As part of the update to the PAG-03 General Permit the Department has made changes to the Part C condition for the Requirements Applicable to Stormwater Outfalls in Individual NPDES Permits. The standard Requirements Applicable to Stormwater Outfalls Part C conditions have been updated to include additional requirements, see Part C. III. C. 1. f., Part C. III. C. 1. g., Part C. III. C. 4. c., Part C. III. D. 1., Part C. III. F.5, Part C. III. F.7, and Part C. III. G of the NPDES Permit.

Due to the changes made to the Draft permit, the Department will issue a second draft permit to allow ATI and EPA to make additional comments on the changes made to the Draft permit.

The Permittee has no open violations. The site was last inspected on July 7, 2023; no violations were noted.

Draft Permit issuance is recommended.

Public Participation

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

Discharge, Receiving Waters and Water Supply Information

Outfall No.	007	Design Flow (MGD)	0.98
Latitude	40º 36' 10"	Longitude	-79º 33' 21"
Quad Name	Vandergrift	Quad Code	1409
Wastewater Description:	IW Process Effluent with ELG		
Receiving Waters	Kiskiminetas River (WWF)	Stream Code	42816
NHD Com ID	125290768	RMI	11.7
Drainage Area	1,530	Yield (cfs/mi^2)	0.086
Q_{7-10} Flow (cfs)	132	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	775	Slope (ft/ft)	0.0001
Watershed No.	18-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Metals, Total Suspended Solids (TSS)		
Source(s) of Impairment	Acid Mine Drainage		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL
Nearest Downstream Public Water Supply Intake	Buffalo Township Municipal Authority Freeport		
PWS Waters	Allegheny River	Flow at Intake (cfs)	1.25
PWS RMI	29.57	Distance from Outfall (mi)	13.06

Discharge, Receiving Waters and Water Supply Information

Outfall No.	008	Design Flow (MGD)	0
Latitude	40º 36' 32"	Longitude	-79º 34' 11"
Quad Name	Vandergrift	Quad Code	1409
Wastewater Description:	Stormwater		
Receiving Waters	Kiskiminetas River (WWF)	Stream Code	42816
NHD Com ID	125290764	RMI	11.7
Drainage Area	1,530	Yield (cfs/mi^2)	0.086
Q_{7-10} Flow (cfs)	132	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	775	Slope (ft/ft)	0.0001
Watershed No.	18-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Metals, Total Suspended Solids (TSS)		
Source(s) of Impairment	Acid Mine Drainage		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL
Nearest Downstream Public Water Supply Intake	Buffalo Township Municipal Authority Freeport		
PWS Waters	Allegheny River	Flow at Intake (cfs)	1.25
PWS RMI	29.57	Distance from Outfall (mi)	13.06

Discharge, Receiving Waters and Water Supply Information

Outfall No.	009	Design Flow (MGD)	0
Latitude	40º 36' 15"	Longitude	-79º 34' 08"
Quad Name	Vandergrift	Quad Code	1409
Wastewater Description:	Stormwater		
Receiving Waters	Kiskiminetas River (WWF)	Stream Code	42816
NHD Com ID	125290764	RMI	11.55
Drainage Area	1,530	Yield (cfs/mi^2)	0.086
Q_{7-10} Flow (cfs)	132	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	775	Slope (ft/ft)	0.0001
Watershed No.	18-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Metals, Total Suspended Solids (TSS),		
Source(s) of Impairment	Acid Mine Drainage		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL
Nearest Downstream Public Water Supply Intake	Buffalo Township Municipal Authority Freeport		
PWS Waters	Allegheny River	Flow at Intake (cfs)	1.25
PWS RMI	29.57	Distance from Outfall (mi)	12.91

Development of Effluent Limitations

Outfall No.	007	**Design Flow (MGD)**	0.98
Latitude	40º 36' 10"	**Longitude**	-79º 33' 21"
Wastewater Description:	Stormwater, strainer backwash water, discharges from IMP 107 and IMP 207		

Due to the configuration of the Outfall, the site's industrial wastewater will be monitored at Internal Monitoring Points, IMP 107 and IMP 207.

Additionally, the following statement from the current permit will remain in Part A of the new permit:

> *Debris collected on the intake trash racks shall not be returned to the waterway*.

Development of Effluent Limitations

IMP No.	107	**Design Flow (MGD)**	0.40
Latitude	40º 36' 10"	**Longitude**	-79º 33' 21"

Wastewater Description: Non-contact cooling water, stormwater, air compressor condensate

Technology-Based Limitations

Regulatory Effluent Standards and Monitoring Requirements

25 PA Code Chapter 92 requires pH requirements to be a minimum of 6.0 and a maximum of 9.0 S.U. for all industrial waste process and non-process discharges.

Flow Reporting requirements is in accordance with the 25 PA Code Chapter 92 regulations.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation.

Temperature limits will be imposed per the Department's "*Implementation Guidance for Temperature Criteria*." As a policy, DEP normally imposes a maximum temperature limit of 110°F on discharges that contain residual heat. The limit is intended as a safety measure to protect sampling personnel or anyone who may come into contact with the heated discharge where it enters the receiving water.

Table 1: Regulatory Effluent Standards and Monitoring Requirements for IMP 107

Parameter	Monthly Average	Daily Maximum	Instantaneous Maximum	Units
Flow	Monitor and Report		-	MGD
Total Residual Chlorine	0.5	1.0	-	mg/L
Temperature	-	-	110	°F
pH	Between 6.0 and 9.0			S.U.

Water Quality-Based Limitations

Toxic Pollutants Water Quality Analysis

The discharges from IMP 107 are non-contact cooling water and are non-process discharges, therefore a toxic pollutant water quality analysis was not conducted for the discharge from IMP 107.

Thermal WQBELs for Heated Discharges

Thermal WQBELs are evaluated using DEP's "Thermal Limits Spreadsheet" created with Microsoft Excel for Windows. The program calculates temperature WLAs through the application of a heat transfer equation, which takes two forms in the program depending on the source of the facility's cooling water. In Case 1, intake water to a facility is from the receiving stream. In Case 2, intake water is from a source other than the receiving stream (e.g., municipal water supply). The determination of which case applies to a given discharge is determined by the input data which include the receiving stream flow rate ($Q_{7\text{-}10}$ or the minimum regulated flow for large rivers), the stream intake flow rate, external source intake flow rates, consumptive flow rates and site-specific ambient stream temperatures. Case 1 limits are generally expressed as heat rejection rates while Case 2 limits are usually expressed as temperatures.

Since the temperature criteria from 25 Pa. Code Chapter 93.7(a) are expressed on monthly and semi-monthly bases for three different aquatic life-uses—cold water fishes, warm water fishes and trout stocking—the program generates monthly and semi-monthly limits for each use. DEP selects the output that corresponds to the aquatic life-use of the receiving stream and consequently which limits apply to the discharge. Temperature WLAs are bounded by an upper limit of 110°F for the safety of sampling personnel and anyone who may come into contact with the heated discharge where it enters the receiving water. If no WLAs below 110°F are calculated, an instantaneous maximum limit of 110°F is recommended by the program.

Due to the nature of the discharges and their relative locations on the receiving stream, all heated discharges will be evaluated as one discharge to ensure the temperature criteria is met instream from all of the heated discharges and a combined flow of 0.93 MGD was used in the model. Discharges from IMP 107 and 207 are classified under Case 1 because water is obtained via an intake structure owned by the permittee on the Kiskiminetas River. The results of the thermal analysis, included in Attachment B,

indicate that no WQBELs for temperature are required at IMP 107. Therefore, the 110°F daily maximum temperature limit will be imposed at IMP 107.

Total Residual Chlorine

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/l from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in Attachment C, indicate that no WQBELs are required for TRC.

Total Maximum Daily Loads for IMP 107

The ATI Vandergrift facility is within the watershed area covered by the Kiskiminetas-Conemaugh Watershed TMDL, approved as final by EPA in 2010. This TMDL addresses certain impairments of water quality standards associated with elevated instream concentrations of iron, aluminum, and manganese. A pH impairment is addressed through a surrogate relationship with these metals. This TMDL establishes wasteload allocations for these metals for point sources, and load allocations for these metals for nonpoint sources in the watershed. DEP must assure that any effluent limitations assigned to point sources are consistent with the assumptions and requirements of any available wasteload allocation for the discharge pursuant to 40 CFR 130.7 (i.e., a final TMDL). The Vandergrift Facility's permit PA0040274 is listed in the Appendix G of the Kiskiminetas-Conemaugh River Watershed TMDL, requiring load allocations. Wasteload allocations were delegated for IMP 107 and 207. These wasteload allocations are equivalent to the listed concentration limits under various flow scenarios. In this case, the concentration limits are prosed rather than the load limits to simplify compliance assessments. The effluent limits from the TMDL are displayed below in Table 2.

The specific water quality criterion for aluminum is expressed as an acute or maximum daily in 25 Pa. Code Chapter 93. Discharges of aluminum may only be authorized to the extent that they will not cause or contribute to any violation of the water quality standards. Therefore, the water quality criterion for aluminum (0.75 mg/L) is imposed as a maximum daily effluent limit (MDL). Whenever the most stringent criterion is selected for the MDL, the Department should also impose an average monthly limit (AML) and instantaneous maximum limit (IMAX) if applicable. The imposition of an AML that is more stringent than the MDL is typically not appropriate because the water quality concerns have already been fully addressed by setting the MDL equal to the most stringent applicable criterion. Therefore, where the MDL is set at the value of the most stringent applicable criterion, the AML should be set equal to the MDL.

The specific water quality criterion for iron is expressed as a 30-day average of 1.5 $^{mg}/_{L}$ in 25 Pa. Code § 93.7(a). The criterion is based on the protection of aquatic life and is associated with chronic exposure. There are no other criteria for total iron. Since the duration of the total iron criterion coincides with the 30-day duration of the AML, the 30-day average criterion for total iron is set equal to the AML. In addition, because the total iron criterion is associated with chronic exposure, the MDL (representing acute exposure) and the IMAX may be made less stringent according to established procedures described in Section III.C.3.h on Page 13 of the Water Quality Toxics Management Strategy (Doc. # 361-0100-003). These procedures state that a MDL and IMAX may be set at 2 times and 2.5 times the AML, respectively, or there is the option to use multipliers from EPA's Technical Support Document for Water Quality-based Toxics Control, if data are available to support the use of alternative multipliers.

The specific water quality criterion for manganese is expressed as an acute or maximum daily of 1.0 mg/L in 25 Pa. Code § 93.7(a). The criterion is based on the protection of human health and is associated with chronic exposure associated with a potable water supply (PWS). Since no duration is given in Chapter 93 for the manganese criterion, a duration of 30 days is used based on the water quality criteria duration for Threshold Human Health (THH) criteria given in Section III.C.3.a., Table 1 on Page 10 of DEP's Water Quality Toxics Management Strategy. The 30-day duration for THH criteria coincides with the 30-day duration of an AML, which is why the manganese criterion is set equal to the AML for a "permitting at criteria" scenario. Because the manganese criterion is interpreted as having chronic exposure, the manganese MDL and IMAX may be made less stringent according to procedures established in Section III.C.2.h. of the Water Quality Toxics Management Strategy (AML multipliers of 2.0 and 2.5 for the MDL and IMAX respectively).

Table 2 – TMDL Limits for IMP 107

Parameter	TMDL Limits		Units
	Average Monthly	Maximum Daily	
Aluminum, total	0.75	0.75	mg/L
Iron, total	1.5	3.0	mg/L
Manganese, total	1.0	2.0	mg/L

These TMDL limitations are new to the permit and there are no discharge sampling results showing the concentrations of Aluminum, Iron, and Manganese in the discharge; therefore, it is uncertain if ATI can meet these limitations upon permit issuance. The Department is proposing to include a Schedule of Compliance for these parameters per 25 Pa. Code § 92a.51(a). The Department is proposing a three-year compliance schedule for ATI to achieve the limits.

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l). The previous limitations for IMP 107 are displayed below in Table 3.

Table 3: Effluent Limitations in the Current Permit for IMP 107

Parameter	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	XXX	XXX	2/month	Measured
Temperature (°F)	XXX	XXX	110	2/month	I-S
Total Residual Chlorine	0.5	XXX	1.25	2/month	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/month	Grab

Proposed Effluent Limitations

The proposed effluent limitations for IMP 107 are displayed in Table 4 and 5 below, they are the most stringent values from the above effluent limitation development. As mentioned above, a Schedule of Compliance is included in the permit, providing ATI three (3) years to meet the Final Effluent Limitations for Total Aluminum, Total Iron, and Total Manganese. From the Permit Effective Date until three years following the Permit Effective Date, Total Aluminum, Total Iron, and Total Manganese will be subject to monitor and report requirements. As discussed in the Department's response to ATI's comment 2, the Department is proposing to impose monitoring requirements for flow and the TMDL parameters on the intake that ATI uses to supply water to their site that is used as NCCW and discharged via IMP 107. This data can be used by ATI to show that the discharges from IMP 107 are not adding to the existing load in the receiving stream. If ATI can show that the intake concentrations and similar to the discharge concentrations, ATI may submit an amendment application to the Department during the permit term requesting that the Department re-evaluate the need to impose the TMDL limitations at IMP 107. A footnote has been added to the second draft permit indicating that the samples of the intake water may be conducted at the cooling water intake structure prior to being used in any industrial process.

Table 4: Proposed Interim Effluent Limitations for IMP 107

Parameter	Instantaneous Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	XXX	Report	Report	XXX	2/month	Measured
Temperature (°F)	XXX	XXX	XXX	110	2/month	I-S
Total Residual Chlorine (mg/l)	XXX	0.5	1.0	1.25	2/month	grab
Total Aluminum (mg/l)	XXX	Monitor	Monitor	XXX	2/month	grab
Total Iron(mg/l)	XXX	Monitor	Monitor	XXX	2/month	grab
Total Manganese(mg/l)	XXX	Monitor	Monitor	XXX	2/month	grab
pH (S.U.)	6.0	XXX	XXX	9.0	2/month	Grab

Table 5: Proposed Final Effluent Limitations for IMP 107

Parameter	Instantaneous Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	XXX	Report	Report	XXX	2/month	Measured
Temperature (°F)	XXX	XXX	XXX	110	2/month	I-S
Total Residual Chlorine (mg/l)	XXX	0.5	1.0	1.25	2/month	grab

Table 5: Proposed Final Effluent Limitations for IMP 107

Parameter	Instantaneous Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Total Aluminum (mg/l)	XXX	0.75	0.75	XXX	2/month	grab
Total Iron(mg/l)	XXX	1.5	3.0	XXX	2/month	grab
Total Manganese(mg/l)	XXX	1.0	2.0	XXX	2/month	grab
pH (S.U.)	6.0	XXX	XXX	9.0	2/month	Grab

Optional Influent Sampling During the Schedule of Compliance

Whenever the Department imposes Water Quality Limits for the first time or that are more stringent that under the previous permit, the Department may include within the renewed permit a Schedule of Compliance. ATI has expressed concerns about the imposition of TMDL limits for NCCW. The company argues that it does not add aluminum, iron, or manganese to its once-through cooling waters and worries that background stream concentrations may already exceed the proposed TMDL effluent limits under no fault of their own.

As part of the permittee's compliance efforts associated with aluminum, iron, and manganese TMDL limits, the permittee may conduct a study in support of removing those limits from the NPDES permit. At its discretion, the permittee may conduct a minimum 1-year study to show that influent and effluent concentrations of aluminum, iron, and manganese are or nearly the same, and that the permittee does not contribute the instream impairment of these TMDL metals. The study shall include influent analytical data to compare to bi-monthly effluent data (2/month; 24 data points) collected each month.

If the results of the 1-year influent study do not definitively verify that ATI is not the source of TMDL pollutants, the company will still have 2 additional years to evaluate pollutant source reductions and or wastewater treatment options.

Development of Effluent Limitations

IMP No.	207	**Design Flow (MGD)**	1.2
Latitude	40º 36' 10"	**Longitude**	-79º 33' 21"
Wastewater Description:	Contact wastewater, waste pickle liquor, wastewater from the acid purification units, salt bath descaling wastewater, caustic wastewater, fume scrubber blowdown, alkaline degreasing wastewater, boiler blowdown, cooling tower blowdown, air compressor condensate and miscellaneous cooling water		

Technology-Based Limitations

Federal Effluent Limitation Guidelines (ELGs)

IMP 207 is subject to Federal Effluent Limitation Guidelines (ELGs) under 40 CFR 420 Iron and Steel Manufacturing and 40 CFR 471 Nonferrous Metals Forming and Metal Powders.

The No. 90 line is subject to 420.92 (c) (3) (Iron and Steel Manufacturing Subpart I- Combination Acid Pickling, Strip, Sheet and Plate – Continuous Subcategory), 40 CFR 420.92 (c) (6) (Iron and Steel Manufacturing Subpart I- Combination Acid Pickling, Fume Scrubbers), 471.63(m) (Titanium Forming Surface Treatment Spent Baths), 471.63(n) (Titanium Forming Surface Treatment Rise), and 471.63(0) (Titanium Forming Wet Air Pollutant Control Scrubber Blowdown).

The No. 91 line is subject to 420.94 (c) (3) (Iron and Steel Manufacturing Subpart I- New Source Performance Standard (NSPS) Combination Acid Pickling, Strip, Sheet and Plate – Continuous Subcategory), 40 CFR 420.94 (c) (6) (Iron and Steel Manufacturing Subpart I- NSPS Combination Acid Pickling, Fume Scrubbers) and 40 CFR 420.84 (a)(4) (Iron and Steel Manufacturing Subpart H- NSPS Salt Bath Descaling Oxidizing Subcategory), 471.63(m) Titanium Forming Surface Treatment Spent Baths, 471.63(n) Titanium Forming Surface Treatment Rise, 471.63(r) Titanium Forming Molten Salt Rinse, and 471.63(0) Titanium Forming Wet Air Pollutant Control Scrubber Blowdown.

The Bright Anneal Line is subject to 420.114(b) Iron and Steel Manufacturing Alkaline Degreasing – Continuous), 471.63(p) Titanium - Alkaline Cleaning Spent Bath, and 471.63(q) Titanium - Alkaline Cleaning Rinse.

Each subcategory of each production line is broken down in detail in Attachment A. The maximum daily production rate from 2017 – 2021, which is still consistent with the current production numbers, was used for the existing production lines and the proposed average daily production rate was used for the new processes. The mass-based limitations from the ELGs are displayed below in Tables 6. The limits are the summation of all of the above subparts for each of the production lines. Additionally, it should be noted that the Oil and Grease limitations from 420.92(c)(3), 420.92(c)(6), 420.94(c)(3), and 420.94(c)(6) on all of the production lines are not applicable because cold rolling wastewaters are not treated with the acid pickling wastewaters. As discussed in the Department's response to ATI's comment 3, because the majority of the operations conducted at the site are associated with the Iron and Steel Category and the pH required to treat the Iron and Steel wastewater may differ from the Titanium wastewater the pH will be limited based on the Iron and Steel ELG, to be between 6.0 and 9.0 S.U.

Table 6: Total Mass Based Limits from ELGs

Pollutant	Mass-Based Effluent Limits (lbs./day)	
	Average Monthly	Max Daily
Cyanide	0.129	0.310
Lead	0.214	0.450
Zinc	0.651	1.56
Ammonia	62.4	142
Fluoride	28.1	63.6
O&G	21.5	47.6
TSS	527	1220
Chromium	6.39	16.0
Nickel	4.80	14.4
pH	Within Range of 6.0 to 9.0	

Concentration Limits Associated with ELGs

To ensure that the mass-based limitations are met, the concentration limits that EPA used to develop the ELGs will be imposed as well. This is due to the fact that the wastewater being treated and discharged via IMP 207 is a combination of multiple wastewater streams, as well as, the production values used to determine the mass-based contributions from the new line and the new titanium operations are estimated values. These concentration values come from EPA's Development documents, Table 7 below is from Tables VII-21 and Table VII-22 in Volume III of the Nonferrous metals Development document and Table 8 below is from Table I-1 from the Iron and Steel Development Document.

Table 7: Concentration Limits from the Non-Ferrous Metals Development Document

Pollutant	Concentration Effluent Limits (mg/L)		
	Average Monthly	Max Daily	IMax
Cyanide	0.12	0.29	0.36
Lead	0.20	0.42	0.52
Zinc	0.61	1.46	1.82
Ammonia	58.6	133.3	166.6
Fluoride	26.4	59.5	74.4
O&G	12.0	20.0	25.0
TSS	19.5	41.0	51.2

Table 8: Concentration Limits from the Iron and Steel Development Document

Pollutant	Concentration Effluent Limits (mg/L)		
	Average Monthly	Max Daily	IMax
TSS	30.0	70.0	87.5
O & G	10.0	30.0	37.5
Chromium	0.4	1.0	1.25
Nickel	0.3	0.9	1.13

The NPDES permitting regulations at 40 CFR 122.21(g)(5) require the Department to use a reasonable measure of production (a production rate) to calculate the allowable mass loadings (mass effluent limitations). Should production increase significantly in the future, ATI may apply to amend the permit. EPA allows the imposition of concentration limits in addition to mass effluent limitations, as provided in 40 CFR 122.45(f)(2). In accordance with this regulation, the Department imposed both mass effluent limitations and concentration limits for the parameters total suspended solids and oil and grease to ensure adequate treatment under any production scenario. Since only 10-15% of production is titanium, only concentration effluent limitations are imposed for Titanium Forming wastewater pollutants. Because only about 10-15% of the production is titanium, it is not feasible to impose mass-based effluent limitations for Titanium Forming wastewaters. Titanium wastewaters are comingled with ferrous wastewaters making it impossible to accurately regulate the titanium regulated pollutants on a mass-basis separate from the ferrous wastewater contributions. The proposed mass-based effluent limitations for lead, zinc, cyanide, ammonia, fluoride, iron, and titanium at IMP 207 are not imposed in the permit. In order to ensure compliance with the ELG however, the Department has preserved the concentration limits for titanium regulated pollutants. Concentration limits are more flexible when regulating variable flows and production rates and ensures adequate treatment is installed and operated.

The option of including concentration based effluent limits was evaluated by the permit writer for use (in addition to mass limits for some parameters) pursuant to the BPJ authority in Section 402(a)(1) of the Clean Water Act. This option is also discussed in the U.S. EPA NPDES Permit Writers' Manual. This option allows the addition of both a monthly average and daily maximum concentration limit from the appropriate subcategory tables in the development document for the specific subcategory and pollutants involved into the permit as effluent limits (not mass x flow at the facility). EPA used the concentrations in the development documents, in conjunction with the production normalizing flow, to derive the effluent limitation guidelines. The main reason for this approach is to assure proper operation and maintenance of the treatment facility during periods of low production. The major advantage of this approach is simplicity, and it in no way restricts production levels at the facility. This approach is particularly useful at facilities where production is either moderately or highly variable and/or multiple production lines with a centralized treatment

facility are involved. It is also useful at new facilities where production records do not exist since mass limits are based solely on production.

The use of concentration limits also assures compliance with the unit production figures in the ELG, especially during low production periods when mass limits alone can be achieved without treatment in some cases. This approach provides concentration limits that will not change over time and also represent what BAT for the particular production line involved can achieve in a well-operated treatment facility. This approach is preferable to calculating a concentration limit using the current flow at the facility and the mass limits from the ELG, which often yields concentration limits far less stringent than what BAT can achieve. The use of existing waste-flow at a facility also leads to a moving target since waste-flows are constantly changing at treatment facilities as production changes due to market factors, maintenance, product changes, down times, breakdowns, and facility modifications. If there are multiple subcategories involved, production ratios in conjunction with the various regulated pollutants for each process may be used as the basis for deriving the concentration limits.

Some permittees have argued that they are being penalized for water conservation/reuse efforts, i.e., their flows are now much less than the normalized flows used by EPA in the development document to convert the concentrations to mass in the ELG, and as a result, effluent concentrations are higher. Some conservation/reuse efforts result in higher influent concentrations to the treatment plants since less water is being used, but the pollutant load remains the same. Other efforts involve the elimination/reduction of both the flows and pollutant loadings (going to air cooling for example) resulting in less flow to the treatment plant but no increase in concentration. In either case, even if the influent pollutant concentration does increase due to reduced flows, the effluent concentration from a properly operated lime and settle system, for example, will not increase accordingly, if at all.

The effluent concentration from a pH adjustment/settling system is essentially a function of a pollutant's solubility at a certain pH and settling properties, not influent concentration. In fact, in many cases, the more concentrated the influent, the easier it is to treat through co-precipitation and sweeping effects of floc in the water column. If the treatment system is being operated at an optimum pH, and adequate settling time is provided, the effluent concentrations can routinely be met regardless of influent levels. This is further evidenced by higher pollutant removal percentages currently being realized by many industrial treatment plants compared to what was originally found by EPA in early 1980 surveys. Concentration limits also help our inspectors to more readily evaluate if the treatment system is being properly operated and maintained. By including both mass and concentration limit in permits, dilution cannot be used to comply with the concentration limits.

Concentration limits for TSS and Oil and Grease were available from both the iron & steel and nonferrous development documents. In this case, the Department compared the concentration limits from each process and selected the most stringent limits for IMP 207. In this way, the limits comply with all pertinent ELGs. Concentration limits for Nickel and Chromium were selected from the iron and steel ELGs. Concentration limits for TSS, lead, zinc, cyanide, ammonia and fluoride have been imposed based upon the model system treatment effectiveness listed in the Non-Ferrous Metals Forming and Metal Powders Point Source Category. The average monthly limit for oil and grease is from the iron and steel ELGs and the daily maximum limit for oil and grease is from the Non-Ferrous Metals Forming - Titanium ELGs. The model system treatment effectiveness values are based upon lime and settle technology. Projected discharge concentrations included in the NPDES permit application indicate that the proposed concentration limits will be achieved through the employment of the selected technology. Utilization of filtration technologies (as is proposed for all discharges from IMP 207) should provide additional benefits to the effluent quality and ensure compliance with the NPDES permit.

Oil and Grease

As discussed in the Department's responses to ATI's comments 5 and 6, the Department determined that based on the current average monthly discharge flow, ATI cannot meet the average monthly mass-based limitations for Oil and Grease even if the concentration limits are reported as non-detect at 5.0 mg/l. For example, the average monthly oil and grease mass limit was calculated to be 21.5 lb/day. However, if ATI were to report a non-detect for oil and grease (<5 mg/L), the mass loading would calculate to be 22.101 lb/day based upon the average discharge flow of 0.53 MGD; which would exceed the mass-based limit.

The Department's solution to this problem is that ATI must achieve non-detectible concentrations of oil and grease at the current quantitation limit of 5.0 mg/L (which is the most stringent achievable reporting limit) to be in compliance with the mass-based limitations. If the analytical results indicate that oil and grease is present in the discharge, any exceedance of the 5 mg/L concentration limit may be considered a permit violation of the average monthly loading limit. The average monthly loading limitation will be included in Part A of the permit, but it will not be included in the DMRs. A Part C condition will be included in the permit prescribing requirements of the average monthly limit as described below.

OIL AND GREASE MASS BASED LIMITATIONS FOR IMP 207

The Oil and Grease mass-based effluent limitation of 21.5 lbs/day as an average monthly from the Federal Effluent Limitation Guidelines is applicable to discharges from IMP 207. However, the ELG loading limit corelates to non-detectible concentrations of oil and grease at ATI's given flow rates. Therefore, for compliance purposes, if the permittee reports a non-detect concentration value using the current most sensitive EPA approved method, the permittee shall be considered compliant with the oil and grease effluent limitation. If the analytical results indicate that oil and grease is present in the discharge, any exceedance of the 5 mg/L concentration limit would be considered a violation of the average monthly limitation.

Technology Limitations Developed from the *Iron and Steel and Non-Ferrous ELGs*

The limits for iron and titanium are evaluated from the iron and steel forming and titanium forming development documents and are representative of the treatment effectiveness of lime and settle treatment technology. Utilization of filtration technologies should ensure compliance with the NPDES permit. The proposed technology-based effluent limits for IMP 207 are shown in Tables 9.

Table 9: Technology Limits from ELGs

Parameter	Average Monthly (lbs/day)	Daily Maximum (lbs/day)	Average Monthly (mg/L)	Daily Maximum (mg/L)	Instant. Maximum (mg/L)
Total Cyanide	Report	Report	0.12	0.29	0.36
Total Lead	Report	Report	0.20	0.42	0.52
Total Zinc	Report	Report	0.61	1.46	1.82
Ammonia	Report	Report	58.6	133.3	166.6
Fluoride	Report	Report	26.4	59.5	74.4
Total Suspended Solids	527	1220	19.5	41.0	51.2
Oil and Grease	21.5	47.6	5.0	20.0	25.0
Total Chromium	6.39	16.0	0.4	1.0	1.25
Total Nickel	4.80	14.3	0.3	0.9	1.13
pH (S.U.)	Between 7.5 and 9.0				

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1).

As oil-bearing wastewaters, discharges from IMP 207 are subject to effluent standards for oil and grease from 25 Pa. Code § 95.2(2).

Temperature limits will be imposed per the Department's "*Implementation Guidance for Temperature Criteria*." As a policy, DEP normally imposes an Instantaneous maximum temperature limit of 110°F on discharges that contain residual heat. The limit is intended as a safety measure to protect sampling personnel or anyone who may come into contact with the heated discharge where it enters the receiving water.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation.

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code § 95.2(1) as indicated in Table 10.

Table 10: Regulatory Effluent Standards and Monitoring Requirements for IMP 207

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Oil & Grease	15	30	XXX	mg/L
Temperature	-	XXX	110	°F
Total Residual Chlorine	0.5	1.0	XXX	mg/L
pH	Not less than 6.0 nor greater than 9.0			S.U.

Per- and Polyfluoroalkyl Substances (PFAS)

In February 2024, DEP implemented a new monitoring initiative for PFAS consistent with an EPA memorandum that provides guidance to states for addressing PFAS discharges. PFAS are a family of thousands of synthetic organic chemicals that contain a chain of strong carbon-fluorine bonds. Many PFAS are highly stable, water- and oil-resistant, and exhibit other properties that make them useful in a variety of consumer products and industrial processes. PFAS are resistant to biodegradation, photooxidation, direct photolysis, and hydrolysis and do not readily degrade naturally; thus, many PFAS accumulate over time. According to the United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR), the environmental persistence and mobility of some PFAS, combined with decades of widespread use, have resulted in their presence in surface water, groundwater, drinking water, rainwater, soil, sediment, ice caps, outdoor and indoor air, plants, animal tissue, and human blood serum across the globe. ATSDR also reported that exposure to certain PFAS can lead to adverse human health impacts Due to their durability, toxicity, persistence, and pervasiveness, PFAS have emerged as potentially significant pollutants of concern.

In accordance with Section II.I of DEP's "Standard Operating Procedure (SOP) for Clean Water Program – Establishing Effluent Limitations for Individual Industrial Permits" [SOP No. BCW-PMT-032] and under the authority of 25 Pa. Code § 92a.61(b), DEP has determined that monitoring for a subset of common/well-studied PFAS including Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) is necessary to help understand the extent of environmental contamination by PFAS in the Commonwealth and the extent to which point source dischargers are contributors. SOP BCW-PMT-032 directs permit writers to consider special monitoring requirements for PFOA, PFOS, PFBS, and HFPO-DA in the following instances:

a. If sampling that is completed as part of the permit renewal application reveals a detection of PFOA, PFOS, HFPO-DA or PFBS (any of these compounds), the application manager will establish a quarterly monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds) in the permit.

b. If sampling that is completed as part of the permit renewal application demonstrates non-detect values at or below the Target QLs for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds in a minimum of 3 samples), the application manager will establish an annual monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS in the permit.

c. In all cases the application manager will include a condition in the permit that the permittee may cease monitoring for PFOA, PFOS, HFPO-DA and PFBS when the permittee reports non-detect values at or below the Target QL for four consecutive monitoring periods for each PFAS parameter that is analyzed. Use the following language: The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detects at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees should enter a No Discharge Indicator (NODI) Code of "GG" on DMRs.

ATI's application was submitted before the NPDES permit application forms were updated to require sampling for PFOA, PFOS, PFBS, and HFPO-DA. Also, according to EPA's guidance, ATI does not operate in one of the industries EPA expects to be a source for PFAS. Therefore, annual reporting of PFOA, PFOS, PFBS, and HFPO-DA will be required consistent with Section II.I.b of SOP BCW-PMT-032. Even though ATI did not report results for PFOA, PFOS, PFBS, and HFPO-DA on the permit application, as a facility operating in a suspected non-source industry, ATI is subject to the annual monitoring requirements described in Section II.I.b of the SOP.

As stated in Section II.I.c of the SOP, if non-detect values at or below DEP's Target QLs are reported for four consecutive monitoring periods (i.e., four consecutive annual results in ATI's case), then the monitoring may be discontinued

Water Quality-Based Limitations

Toxics Management Spread Sheet

The Department of Environmental Protection (DEP) has developed the DEP Toxics Management Spreadsheet ("TMS") to facilitate calculations necessary for completing a reasonable potential (RP) analysis and determining water quality-based effluent limitations for discharges of toxic pollutants. The Toxics Management Spreadsheet is a macro-enabled Excel binary file that combines the functions of the PENTOXSD model and the Toxics Screening Analysis spreadsheet to evaluate the reasonable potential for discharges to cause excursions above water quality standards and to determine WQBELs. The Toxics Management Spread Sheet is a single discharge, mass-balance water quality calculation spread sheet that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number, discharge flow rate and the discharge concentrations for parameters in the permit application or in DMRs, which are entered into the spread sheet to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial

mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Discharge concentrations for the parameters are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). The spread sheet then evaluates each parameter by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, the Toxics Management Spread sheet recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for IMP 207

Discharges from IMP 207 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the Toxics Management Spread Sheet. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration in the Toxics Management Spread Sheet. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water quality criterion are considered to be pollutants of concern. [This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion]. The Toxics Management Spread Sheet is run with the discharge and receiving stream characteristics shown in Table 11. For IW discharges, the design flow used in modeling is the average flow during production or operation taken from the permit application. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis. All the parameters are evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge concentration equals or exceeds 50% of the WQBEL. For non-conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 25% - 50% of the WQBEL. For conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 10% - 50% of the WQBEL. The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are displayed in the Toxics Management Spread Sheet in Attachment D of this Fact Sheet. The water quality-based effluent limitations and monitoring requirements that are recommended by the Toxics Management Spread Sheet are displayed below in Table 12.

Table 11: TMS Inputs for IMP 207

Parameter	**Value**
River Mile Index	11.7
Discharge Flow (MGD)	0.53
Basin/Stream Characteristics	
Parameter	**Value**
Area in Square Miles	1,530
$Q_{7\text{-}10}$ (cfs)	132
Low-flow yield (cfs/mi^2)	0.086
Elevation (ft)	775
Slope	0.0001

Table 12: Water Quality Based Effluent Limitations at IMP 207

Parameters	**Average Monthly (µg/L)**	**Daily Maximum (µg/L)**
Total Thallium	Report	Report

Thermal WQBELs for Heated Discharges

Thermal WQBELs are evaluated using a DEP program called "Thermal Discharge Limit Calculation Spreadsheet" created with Microsoft Excel for Windows. The program calculates temperature WLAs through the application of a heat transfer equation, which takes two forms in the program depending on the source of the facility's cooling water. In Case 1, intake water to a facility is from the receiving stream. In Case 2, intake water is from a source other than the receiving stream (e.g., municipal water supply). The determination of which case applies to a given discharge is determined by the input data which include the receiving stream flow rate (Q_{7-10} or the minimum regulated flow for large rivers), the stream intake flow rate, external source intake flow rates, consumptive flow rates and site-specific ambient stream temperatures. Case 1 limits are generally expressed as heat rejection rates while Case 2 limits are usually expressed as temperatures.

Since the temperature criteria from 25 Pa. Code Chapter 93.7(a) are expressed on monthly and semi-monthly bases for three different aquatic life-uses—cold water fishes, warm water fishes and trout stocking—the program generates monthly and semi-monthly limits for each use. DEP selects the output that corresponds to the aquatic life-use of the receiving stream and consequently which limits apply to the discharge. Temperature WLAs are bounded by an upper limit of 110°F for the safety of sampling personnel and anyone who may come into contact with the heated discharge where it enters the receiving water. If no WLAs below 110°F are calculated, an instantaneous maximum limit of 110°F is recommended by the program.

Due to the nature of the discharge and the location on the receiving stream, all heated discharges will be evaluated as one discharge to ensure the temperature criteria is met instream from all of the heated discharges and a combined flow of 0.93 MGD was used in the model. Discharges from IMP 107 and 207 are classified under Case 1 because water is obtained via an intake structure owned by the permittee on the Kiskiminetas River. The results of the thermal analysis, included in Attachment B, indicate that no WQBELs for temperature are required at IMP 207. Therefore, the 110°F daily maximum temperature limit will be imposed at IMP 207.

Total Residual Chlorine

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/l from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in Attachment F, indicate that no WQBELs are required for TRC.

WQM 7.0 Water Quality Modeling Program

WQM 7.0 is a water quality modeling program for Windows that determines wasteload allocations and effluent limitations for carbonaceous biochemical oxygen demand (CBOD5), ammonia nitrogen (NH3-N), and dissolved oxygen (DO) for single and multiple point-source discharge scenarios. To accomplish this, the model simulates two basic processes. In the NH3-N module, the model simulates the mixing and degradation of NH3-N in the stream and compares calculated instream NH3-N concentrations to NH3-N water quality criteria. In the DO module the model simulates the mixing and consumption of DO in the stream due to the degradation of CBOD5 and NH3-N and compares calculated instream DO concentrations to DO water quality criteria. WQM 7.0 then determines the highest pollutant loadings that the stream can assimilate while still meeting water quality criteria under design conditions.

The IW Effluent Limit SOP recommends that permit writers run DEP's WQM 7.0 Model "if the maximum BOD5/CBOD5 concentration exceeds 30/25 mg/L in the permit application or DMRs or if the application manager believes that effluent NH3-N concentrations may need to be evaluated." BOD5 concentrations at IMP 207 are not significant with a maximum concentration of only 10 mg/L reported on the application. However, WQM 7.0 will be run for IMP 207 because ammonia-nitrogen is a pollutant of concern at Nonferrous Metals Forming and Metal Powders (Titanium Forming Subcategory).

The WQM-7 model is run with the discharge and receiving stream characteristics shown in Table 11 above.

The modeling results (see Attachment G) indicate that no WQBELs are required for ammonia-nitrogen at IMP 207.

Total Maximum Daily Loads for IMP 207

The ATI Vandergrift facility is within the watershed area covered by the Kiskiminetas-Conemaugh Watershed TMDL, approved as final by EPA in 2010. This TMDL addresses certain impairments of water quality standards associated with elevated instream concentrations of iron, aluminum, and manganese. A pH impairment is addressed through a surrogate relationship with these metals. This TMDL establishes wasteload allocations for these metals for point sources, and load allocations for these metals for nonpoint sources in the watershed. DEP must assure that any effluent limitations assigned to point sources are consistent with the assumptions and requirements of any available wasteload allocation for the discharge pursuant to 40 CFR 130.7 (i.e., a final TMDL). The Vandergrift Facility's permit PA0040274 is listed in the Appendix G of the Kiskiminetas-Conemaugh River Watershed TMDL, requiring load allocations. Wasteload allocations were delegated for IMP 107 and 207. These wasteload allocations are equivalent to the listed concentration limits under various flow scenarios. In this case, the concentration limits are proposed rather than the mass load limits to simplify compliance assessments. The effluent limits from the TMDL are displayed below in Table 13.

The specific water quality criterion for aluminum is expressed as an acute or maximum daily in 25 Pa. Code Chapter 93. Discharges of aluminum may only be authorized to the extent that they will not cause or contribute to any violation of the water quality standards. Therefore, the water quality criterion for aluminum (0.75 mg/L) is imposed as a maximum daily effluent limit (MDL). Whenever the most stringent criterion is selected for the MDL, the Department should also impose an average monthly limit (AML) and instantaneous maximum limit (IMAX) if applicable. The imposition of an AML that is more stringent than the MDL is typically not appropriate because the water quality concerns have already been fully addressed by setting the MDL equal to the most stringent applicable criterion. Therefore, where the MDL is set at the value of the most stringent applicable criterion, the AML should be set equal to the MDL.

The specific water quality criterion for iron is expressed as a 30-day average of 1.5 $^{mg}/_{L}$ in 25 Pa. Code § 93.7(a). The criterion is based on the protection of aquatic life and is associated with chronic exposure. There are no other criteria for total iron. Since the duration of the total iron criterion coincides with the 30-day duration of the AML, the 30-day average criterion for total iron is set equal to the AML. In addition, because the total iron criterion is associated with chronic exposure, the MDL (representing acute exposure) and the IMAX may be made less stringent according to established procedures described in Section III.C.3.h on Page 13 of the Water Quality Toxics Management Strategy (Doc. # 361-0100-003). These procedures state that a MDL and IMAX may be set at 2 times and 2.5 times the AML, respectively, or there is the option to use multipliers from EPA's Technical Support Document for Water Quality-based Toxics Control, if data are available to support the use of alternative multipliers.

The specific water quality criterion for manganese is expressed as an acute or maximum daily of 1.0 mg/L in 25 Pa. Code § 93.7(a). The criterion is based on the protection of human health and is associated with chronic exposure associated with a potable water supply (PWS). Since no duration is given in Chapter 93 for the manganese criterion, a duration of 30 days is used based on the water quality criteria duration for Threshold Human Health (THH) criteria given in Section III.C.3.a., Table 1 on Page 10 of DEP's Water Quality Toxics Management Strategy. The 30-day duration for THH criteria coincides with the 30-day duration of an AML, which is why the manganese criterion is set equal to the AML for a "permitting at criteria" scenario. Because the manganese criterion is interpreted as having chronic exposure, the manganese MDL and IMAX may be made less stringent according to procedures established in Section III.C.2.h. of the Water Quality Toxics Management Strategy (AML multipliers of 2.0 and 2.5 for the MDL and IMAX respectively).

Table 13 – TMDL Limits for IMP 207

Parameter	TMDL Limits		Discharge Concentration (mg/L)	Units
	Average Monthly	Maximum Daily		
Aluminum, total	0.75	0.75	0.16	mg/L
Iron, total	1.5	3.0	0.18	mg/L
Manganese, total	1.0	2.0	0.03	mg/L

These TMDL limitations are new to the permit, however the discharge sampling results show that the concentrations of Aluminum, Iron, and Manganese in the discharge are well below the limitations; indicating that ATI can meet these limitations upon permit issuance. Therefore, the Department is not proposing to include a Schedule of Compliance for these parameters at IMP 207.

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 14. The mass-based limitations for total suspended solids, oil and grease, total chromium, and total nickel were developed using the ELGs in 40 CFR 420 and previous production data. These limitations will be replaced with the new production-based mass limitations to reflect how the site is currently operating.

Table 14: Effluent Limitations in the Current Permit for IMP 207

Parameter	Average Monthly (lbs/day)	Daily Maximum (lbs/day)	Average Monthly (mg/L)	Daily Maximum (mg/L)	Instant. Maximum (mg/L)	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	Continuous	Recorded
Total Suspended Solids	365.94	852.98	30.0	70.0	87.5	1/week	24-hr composite
Oil and Grease	XXX	XXX	15	XXX	30	1/week	Grab
Total Chromium	4.88	12.19	0.4	1.0	1.25	1/week	24-hr composite
Total Nickel	3.65	10.97	0.3	0.9	1.13	1/week	24-hr composite
Total Residual Chlorine	XXX	XXX	0.5	XXX	1.25	1/week	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0					1/week	Grab

Proposed Effluent Limitations and Monitoring Requirements

The proposed effluent limitations for IMP 207 are displayed in Table 15 below, they are the most stringent values from the above effluent limitation development. As discussed in the Department's response to ATI's comment 4, the monitoring frequency for Total Thallium will be 1/quarter.

Table 15: Proposed Final Effluent Limitations for IMP 207

Parameter	Average Monthly (lbs/day)	Daily Maximum (lbs/day)	Average Monthly (mg/L)	Daily Maximum (mg/L)	Instant. Maximum (mg/L)	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	Continuous	Recorded
Temperature (°F)	XXX	XXX	XXX	XXX	110	1/week	I-S
Total Cyanide	Report	Report	0.12	0.29	0.36 (1)	1/week	24-hr composite
Total Lead	Report	Report	0.20	0.42	0.52 (1)	1/week	24-hr composite
Total Zinc	Report	Report	0.61	1.46	1.82 (1)	1/week	24-hr composite
Ammonia	Report	Report	58.6	133.3	166.6 (1)	1/week	24-hr composite
Fluoride	Report	Report	26.4	59.5	74.4 (1)	1/week	24-hr composite
Total Suspended Solids	527	1220	19.5	41.0	51.2 (1)	1/week	24-hr composite
Oil and Grease	21.5	47.6	5.0	20.0	25.0	1/week	Grab
Total Chromium	6.39	16.0	0.4	1.0	1.25 (1)	1/week	24-hr composite
Total Nickel	4.80	14.3	0.3	0.9	1.13 (1)	1/week	24-hr composite
Total Aluminum	XXX	XXX	0.75	0.75	XXX	1/week	Grab
Total Iron	XXX	XXX	1.5	3.0	XXX	1/week	Grab
Total Manganese	XXX	XXX	1.0	2.0	XXX	1/week	Grab
Total Residual Chlorine	XXX	XXX	0.5	1.0	1.25	1/week	Grab
pH (S.U.)	Between 6.0 and 9.0					1/week	Grab
Total Thallium	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFOA (ng/L)	XXX	XXX	XXX	Report	XXX	1/year	Grab
PFOS (ng/L)	XXX	XXX	XXX	Report	XXX	1/year	Grab
PFBS (ng/L)	XXX	XXX	XXX	Report	XXX	1/year	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	Report	XXX	1/year	Grab

(1) These Instantaneous maximum limitations are imposed to allow for a grab sample to be collected by the appropriate regulatory agency to determine compliance. The permittee is not required to monitoring for the instantaneous maximum limitation. However, if grab samples are collected by the permittee, the results must be reported.

Development of Effluent Limitations

Outfall No. 008 **Design Flow (MGD)** 0
Latitude 40º 36' 32" **Longitude** -79º 34' 11"
Wastewater Description: Stormwater

Stormwater Technology Limits

Outfall 008 will be subject to PAG-03 General Stormwater Permit conditions as a minimum requirement because the outfall receives stormwater. The SIC code for the site is 3316 and the corresponding appendix of the PAG-03 that would apply to the facility is Appendix B. The reporting requirements applicable to stormwater discharges are shown in Table 16 below.

Table 16: PAG-03 Appendix (B) Monitoring Requirements

Parameter	Max Daily Concentration	Measurement Frequency	Sample Type
Total Nitrogen	Monitor and Report	1/6 Months	Grab
Total Phosphorous	Monitor and Report	1/6 Months	Grab
Total Suspended Solids (TSS)	Monitor and Report	1/6 Months	Grab
Oil and Grease	Monitor and Report	1/6 Months	Grab
Total Aluminum	Monitor and Report	1/6 Months	Grab
Total Zinc	Monitor and Report	1/6 Months	Grab
Total Copper	Monitor and Report	1/6 Months	Grab
Total Iron	Monitor and Report	1/6 Months	Grab
Total Lead	Monitor and Report	1/6 Months	Grab

Water Quality-Based Limitations

Stormwater WQBELs

Water quality analyses are typically performed under low-flow (Q7-10) conditions. Stormwater discharges occur at variable rates and frequencies but not however during Q7-10 conditions. Since the discharges from Outfall 008 are composed entirely of stormwater, a formal water quality analysis cannot be accurately conducted. Accordingly, water quality-based effluent limitations based on water quality analyses are not proposed.

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l). The previous limitations for Outfalls 008 are displayed below in Table 17.

Table 17: Effluent Limitations in the Current Permit for Outfall 008

Parameter	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Zinc	Report	Report	XXX	1/quarter	grab

Proposed Effluent Limitations and Monitoring Requirements

The proposed effluent monitoring requirements for Outfall 008 are displayed in Table 18 below, they are the most stringent values from the above effluent limitation development. The monitoring frequency for the existing monitoring requirements has been changed from 1/quarter to semi-annually to reflect that monitoring frequency in the PAG-03 general permit. The Draft Permit requires a Corrective Action Plan when there are two consecutive exceedances of the benchmark values, which are also included in the Part C condition. The benchmark values are displayed below in Table 18. These values are not effluent limitations, an exceedance of the benchmark value is not a violation. As described above, if there are two consecutive exceedances of the benchmark value, a corrective action plan must be conducted to evaluate site stormwater controls and BMPs. Benchmark monitoring is a feedback tool, along with routine inspections and visual assessments, for assessing the effectiveness of stormwater controls and BMPs. An exceedance of the benchmark provides permittees with an indication that the facility's controls may not be sufficiently controlling pollutants in stormwater.

Table 18: Proposed Effluent Monitoring Requirements – Outfall 008

Parameter	Max Daily Concentration	Benchmark Values (mg/L)	Measurement Frequency	Sample Type
Total Nitrogen	Report	XXX	1/6 Months	Grab
Total Phosphorous	Report	XXX	1/6 Months	Grab
Total Suspended Solids (TSS)	Report	100	1/6 Months	Grab
Oil and Grease	Report	30	1/6 Months	Grab
Total Aluminum	Report	XXX	1/6 Months	Grab
Total Zinc	Report	XXX	1/6 Months	Grab
Total Copper	Report	XXX	1/6 Months	Grab
Total Iron	Report	XXX	1/6 Months	Grab
Total Lead	Report	XXX	1/6 Months	Grab

Development of Effluent Limitations

Outfall No.	009	**Design Flow (MGD)**	0
Latitude	40º 36' 15"	**Longitude**	-79º 34' 08"

Wastewater Description: Stormwater

Stormwater Technology Limits

Outfall 009 will be subject to PAG-03 General Stormwater Permit conditions as a minimum requirement because the outfall receives stormwater. The SIC code for the site is 3316 and the corresponding appendix of the PAG-03 that would apply to the facility is Appendix B. The reporting requirements applicable to stormwater discharges are shown in Table 19 below.

Table 19: PAG-03 Appendix (B) Monitoring Requirements

Parameter	Max Daily Concentration	Measurement Frequency	Sample Type
Total Nitrogen	Monitor and Report	1/6 Months	Grab
Total Phosphorous	Monitor and Report	1/6 Months	Grab
Total Suspended Solids (TSS)	Monitor and Report	1/6 Months	Grab
Oil and Grease	Monitor and Report	1/6 Months	Grab
Total Aluminum	Monitor and Report	1/6 Months	Grab
Total Zinc	Monitor and Report	1/6 Months	Grab
Total Copper	Monitor and Report	1/6 Months	Grab
Total Iron	Monitor and Report	1/6 Months	Grab
Total Lead	Monitor and Report	1/6 Months	Grab

Water Quality-Based Limitations

Stormwater WQBELs

Water quality analyses are typically performed under low-flow (Q7-10) conditions. Stormwater discharges occur at variable rates and frequencies but not however during Q7-10 conditions. Since the discharges from Outfall 009 are composed entirely of stormwater, a formal water quality analysis cannot be accurately conducted. Accordingly, water quality-based effluent limitations based on water quality analyses are not proposed.

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l). The previous limitations for Outfalls 009 are displayed below in Table 20.

Table 20: Effluent Limitations in the Current Permit for Outfall 009

Parameter	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Zinc	Report	Report	XXX	1/6 months	grab

Proposed Effluent Limitations and Monitoring Requirements

The proposed effluent monitoring requirements for Outfall 009 are displayed in Table 21 below, they are the most stringent values from the above effluent limitation development. The Draft Permit requires a Corrective Action Plan when there are two consecutive exceedances of the benchmark values, which are also included in the Part C condition. The benchmark values are displayed below in Table 21. These values are not effluent limitations, an exceedance of the benchmark value is not a violation. As described above, if there are two consecutive exceedances of the benchmark value, a corrective action plan must be conducted to evaluate site stormwater controls and BMPs. Benchmark monitoring is a feedback tool, along with routine inspections and visual assessments, for assessing the effectiveness of stormwater controls and BMPs. An exceedance of the benchmark provides permittees with an indication that the facility's controls may not be sufficiently controlling pollutants in stormwater.

Table 21: Proposed Effluent Monitoring Requirements – Outfall 009

Parameter	Max Daily Concentration	Benchmark Values (mg/L)	Measurement Frequency	Sample Type
Total Nitrogen	Report	XXX	1/6 Months	Grab
Total Phosphorous	Report	XXX	1/6 Months	Grab
Total Suspended Solids (TSS)	Report	100	1/6 Months	Grab
Oil and Grease	Report	30	1/6 Months	Grab
Total Aluminum	Report	XXX	1/6 Months	Grab
Total Zinc	Report	XXX	1/6 Months	Grab
Total Copper	Report	XXX	1/6 Months	Grab
Total Iron	Report	XXX	1/6 Months	Grab
Total Lead	Report	XXX	1/6 Months	Grab

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **G**)
☒	TRC Model Spreadsheet (see Attachment **C, F**)
☒	Temperature Model Spreadsheet (see Attachment **B**)
☒	Toxics Management Spreadsheet (see Attachment E)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

Attachments

Attachment A: StreamStats Report

Attachment B: Site Thermal Discharge Evaluation

Attachment C: IMP 107 Total Residual Chlorine Evaluation

Attachment D: IMP 207 Federal Effluent Limitation Guideline Calculations

Attachment E: IMP 207 Toxics Management Spreadsheet

Attachment F: IMP 207 Total Residual Chlorine Evaluation

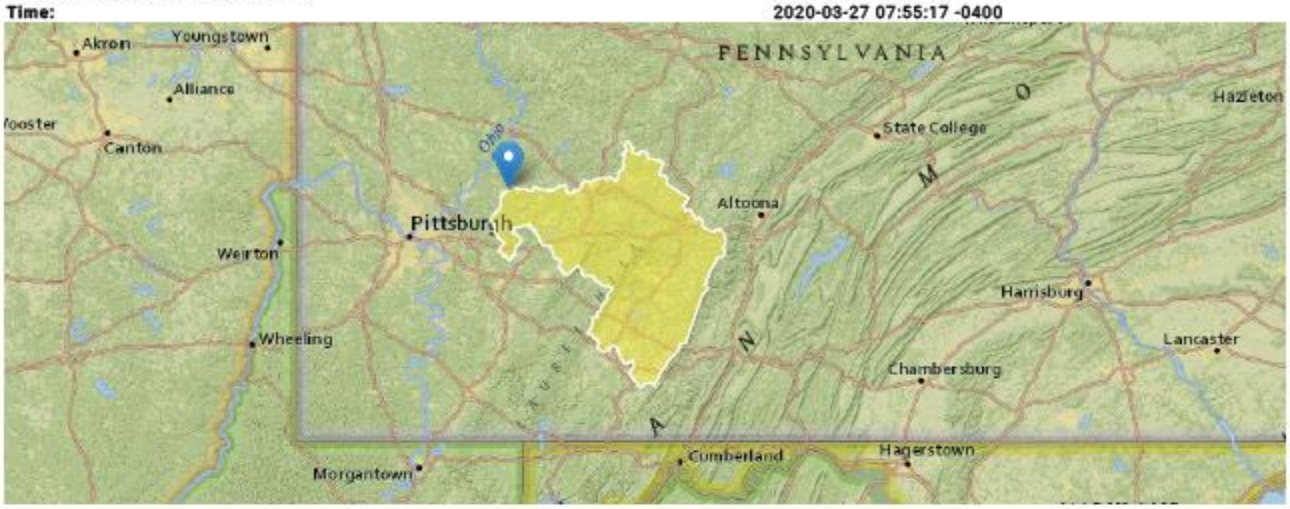
Attachment G: IMP 207 WQM 7.0 Water Quality Modeling

Attachment A:

StreamStats Report

StreamStats Report

Region ID:	PA
Workspace ID:	PA20200327115457528000
Clicked Point (Latitude, Longitude):	40.60489, -79.55202
Time:	2020-03-27 07:55:17 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1530	square miles
ELEV	Mean Basin Elevation	1765.2	feet
PRECIP	Mean Annual Precipitation	44.7	inches

Low-Flow Statistics Parameters[100 Percent (1530 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1530	square miles	2.33	1720
ELEV	Mean Basin Elevation	1765.2	feet	898	2700
PRECIP	Mean Annual Precipitation	44.7	inches	38.7	47.9

Low-Flow Statistics Flow Report[100 Percent (1530 square miles) Low Flow Region 3]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	SEp
7 Day 2 Year Low Flow	215	ft^3/s	43	43
30 Day 2 Year Low Flow	282	ft^3/s	38	38
7 Day 10 Year Low Flow	132	ft^3/s	54	54
30 Day 10 Year Low Flow	161	ft^3/s	49	49
90 Day 10 Year Low Flow	221	ft^3/s	41	41

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Attachment B:

Site Thermal Discharge Evaluation

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Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *Inputs*

Facility: **ATI Vandergrift** Permit No.: **PA0040274**

Stream Name: **Kiskiminetas** Analyst/Engineer: **Adam Olesnanik**

Stream Q7-10 (cfs)*: **132.0** Outfall No.: **007** Analysis Type*: **WWF**

	Facility Flows				Stream Flows				Temperature
Semi-Monthly Increment	Intake (Stream) (MGD)*	Intake (External) (MGD)*	Consumptive Loss (MGD)*	Discharge Flow (MGD)	Q7-10 Multipliers (Default Shown)	PMF	Seasonal Stream Flow (cfs)	Downstream Stream Flow (cfs)	Ambient Stream Temperature (°F)*
Jan 1-31	0.93			0.93	3.2	1.00	422.40	422.40	
Feb 1-29	0.93			0.93	3.5	1.00	462.00	462.00	
Mar 1-31	0.93			0.93	7	1.00	924.00	924.00	
Apr 1-15	0.93			0.93	9.3	1.00	1227.60	1227.60	
Apr 16-30	0.93			0.93	9.3	1.00	1227.60	1227.60	
May 1-15	0.93			0.93	5.1	1.00	673.20	673.20	
May 16-31	0.93			0.93	5.1	1.00	673.20	673.20	
Jun 1-15	0.93			0.93	3	1.00	396.00	396.00	
Jun 16-30	0.93			0.93	3	1.00	396.00	396.00	
Jul 1-31	0.93			0.93	1.7	1.00	224.40	224.40	
Aug 1-15	0.93			0.93	1.4	1.00	184.80	184.80	
Aug 16-31	0.93			0.93	1.4	1.00	184.80	184.80	
Sep 1-15	0.93			0.93	1.1	1.00	145.20	145.20	
Sep 16-30	0.93			0.93	1.1	1.00	145.20	145.20	
Oct 1-15	0.93			0.93	1.2	1.00	158.40	158.40	
Oct 16-31	0.93			0.93	1.2	1.00	158.40	158.40	
Nov 1-15	0.93			0.93	1.6	1.00	211.20	211.20	
Nov 16-30	0.93			0.93	1.6	1.00	211.20	211.20	
Dec 1-31	0.93			0.93	2.4	1.00	316.80	316.80	

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Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *WWF Results*

Recommended Limits for Case 1 or Case 2

Semi-Monthly Increment	**WWF** Target Maximum Stream Temp. (ºF)	**Case 1** Daily WLA (Million BTUs/day)	**Case 2** Daily WLA (ºF)
Jan 1-31	40	11,384	110.0
Feb 1-29	40	12,451	110.0
Mar 1-31	46	29,882	110.0
Apr 1-15	52	33,084	110.0
Apr 16-30	58	33,084	110.0
May 1-15	64	21,771	110.0
May 16-31	72	36,285	110.0
Jun 1-15	80	27,748	110.0
Jun 16-30	84	27,748	110.0
Jul 1-31	87	14,514	110.0
Aug 1-15	87	12,949	110.0
Aug 16-31	87	12,949	110.0
Sep 1-15	84	10,174	110.0
Sep 16-30	78	10,174	110.0
Oct 1-15	72	10,245	110.0
Oct 16-31	66	10,245	110.0
Nov 1-15	58	11,384	110.0
Nov 16-30	50	9,107	110.0
Dec 1-31	42	8,538	110.0

Attachment C:

IMP 107 Total Residual Chlorine Evaluation

TRC EVALUATION

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

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	**1.3.2.iii**	WLA afc =	34.043	**1.3.2.iii**	WLA cfc =	33.182
PENTOXSD TRG	**5.1a**	LTAMULT afc =	0.373	**5.1c**	LTAMULT cfc =	0.581
PENTOXSD TRG	**5.1b**	LTA_afc=	12.685	**5.1d**	LTA_cfc =	19.290

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

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

Attachment D:

IMP 207 Federal Effluent Limitation Guideline Calculations

No. 90 Anneal and Pickle Line Operations

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

Pollutant	ELG - BPT Effluent Limitations (lbs/1,000 lb product)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Average Daily Value for 30 consectutive days	Average Monthly	Max Daily
TSS	0.438	0.188	360.114	838.989
O&G*	0.188	0.0626	119.910	360.114
Chromium	0.00626	0.0025	4.789	11.991
Nickel	0.00563	0.00188	3.601	10.784
pH	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

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
Avg Annual 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 Baths (NSPS)
NO. 90 Anneal and Pickle Line

Pollutant	ELG - NSPS Effluent Limitations (lbs/1,000,000 off-lb titanium suface treated)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
Cyanide	0.061	0.025	0.004	0.010
Lead	0.088	0.042	0.007	0.014
Zinc	0.304	0.127	0.020	0.049
Ammonia	27.7	12.2	1.952	4.432
Fluoride	12.4	5.49	0.878	1.984
O&G	4.16	2.5	0.400	0.666
TSS	8.53	4.06	0.650	1.365
pH	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) = 1.024 lbs/day

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
Avg Annual 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	ELG - NSPS Effluent Limitations (lbs/1,000,000 off-lb titanium suface treated)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
Cyanide	0.847	0.351	0.056	0.136
Lead	1.23	0.584	0.093	0.197
Zinc	4.27	1.78	0.285	0.683
Ammonia	389	171	27.360	62.240
Fluoride	174	77.1	12.336	27.840
O&G	58.40	35.1	5.616	9.344
TSS	120.00	57.00	9.120	19.200
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10	

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)	
	Max for any 1 day	Average Daily Value for 30 consectutive days	Average Monthly	Max Daily
TSS	5.720	2.45	10.803	25.221
O&G*	2.45	0.816	3.598	10.803
Chromium	0.0816	0.0327	0.144	0.360
Nickel	0.07350	0.0245	0.108	0.324
pH	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

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
Avg Annual 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	ELG - NSPS Effluent Limitations (lbs/1,000,000 off-lb titanium suface treated)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
Cyanide	0.062	0.026	0.004	0.010
Lead	0.09	0.043	0.007	0.014
Zinc	0.313	0.131	0.021	0.050
Ammonia	28.5	12.3	1.968	4.560
Fluoride	12.8	5.65	0.904	2.048
O&G	4.28	2.57	0.411	0.685
TSS	8.78	4.18	0.669	1.405
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10	

No. 91 Anneal and Pickle Line Operations

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

Pollutant	ELG - BPT Effluent Limitations (lbs/1,000 lb product)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Average Daily Value for 30 consectutive days	Average Monthly	Max Daily
TSS	0.0496	0.0213	31.702	73.822
O&G*	0.0213	0.0071	10.567	31.702
Chromium	0.000710	0.000284	0.423	1.057
Nickel	0.000638	0.000213	0.317	0.950
pH	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

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

Pollutant	ELG - NSPS Effluent Limitations (lbs/1,000 lb product)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
TSS	0.0964	0.0413	61.469	143.476
Chromium	0.00138	0.000551	0.820	2.054
Nickel	0.00124	0.000413	0.615	1.846
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10	

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	ELG - NSPS Effluent Limitations (lbs/1,000,000 off-lb titanium suface treated)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
Cyanide	0.061	0.025	0.003	0.006
Lead	0.088	0.042	0.004	0.009
Zinc	0.304	0.127	0.013	0.030
Ammonia	27.7	12.2	1.220	2.770
Fluoride	12.4	5.49	0.549	1.240
O&G	4.16	2.5	0.250	0.416
TSS	8.53	4.06	0.406	0.853
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10	

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)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
Cyanide	0.847	0.351	0.035	0.085
Lead	1.23	0.584	0.058	0.123
Zinc	4.27	1.78	0.178	0.427
Ammonia	389	171	17.100	38.900
Fluoride	174	77.1	7.710	17.400
O&G	58.40	35.1	3.510	5.840
TSS	120.00	57.00	5.700	12.000
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10	

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	ELG - NSPS Effluent Limitations (lbs/1,000,000 off-lb titanium treated with molten salt)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
Cyanide	0.277	0.115	0.012	0.028
Lead	0.401	0.191	0.019	0.040
Zinc	1.4	0.583	0.058	0.140
Ammonia	128	56	5.600	12.800
Fluoride	56.8	25.2	2.520	5.680
O&G	19.10	11.5	1.150	1.910
TSS	39.20	18.60	1.860	3.920
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10	

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)	
	Max for any 1 day	Average Daily Value for 30 consectutive days	Average Monthly	Max Daily
TSS	5.720	2.45	16.204	37.831
O&G*	2.45	0.816	5.397	16.204
Chromium	0.0816	0.0327	0.216	0.540
Nickel	0.07350	0.0245	0.162	0.486
pH	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

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
(MGD)					0.500
Avg Annual Wastewater Flow (MGD)					0.450

Design Production Capacity (tons/day)	960		
Production (tons)	NA	Production	50.00 tons/day
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 titanium suface treated)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
Cyanide	0.062	0.026	0.003	0.006
Lead	0.09	0.043	0.004	0.009
Zinc	0.313	0.131	0.013	0.031
Ammonia	28.5	12.3	1.230	2.850
Fluoride	12.8	5.65	0.565	1.280
O&G	4.28	2.57	0.257	0.428
TSS	8.78	4.18	0.418	0.878
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10	

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
Avg Annual 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)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
TSS	0.102	0.0438	26.28	61.20
O&G	0.0438	0.0146	8.76	26.28
pH	Within Range of 6.0 to 9.0		Within Range of 6.0 to 9.0	

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
Avg Annual 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	ELG - NSPS Effluent Limitations (lbs/1,000,000 off-lb titanium alkaline cleaned)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
Cyanide	0.07	0.03	0.006	0.014
Lead	0.101	0.048	0.010	0.020
Zinc	0.351	0.147	0.029	0.070
Ammonia	32	14.1	2.820	6.400
Fluoride	14.3	6.34	1.268	2.860
O&G	4.80	2.88	0.576	0.960
TSS	9.84	4.68	0.936	1.968
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10	

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
Avg Annual 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 titanium alkaline cleaned)		Mass-Based Effluent Limtis (lbs./day)	
	Max for any 1 day	Maxium for Monthly Average	Average Monthly	Max Daily
Cyanide	0.08	0.033	0.007	0.016
Lead	0.116	0.055	0.011	0.023
Zinc	0.403	0.169	0.034	0.081
Ammonia	36.8	16.2	3.240	7.360
Fluoride	16.4	7.29	1.458	3.280
O&G	5.52	3.31	0.662	1.104
TSS	11.30	5.38	1.076	2.260
pH	Within Range of 7.5 to 10		Within Range of 7.5 to 10	

Combined Total ELG Limitations

Final Total Mass Based Limits

Pollutant	Mass-Based Effluent Limits (lbs./day)		Converted to Concentrations (mg/L)		Department's Quatitation Limits (mg/L)
	Average Monthly	Max Daily	Average Monthly	Max Daily	
Cyanide	0.129	0.310	0.029098231	0.07010995	0.01
Lead	0.214	0.450	0.048332655	0.10171033	0.001
Zinc	0.651	1.561	0.147364373	0.353246459	0.005
Ammonia	62.490	142.312	14.13736935	32.19582824	0.02
Fluoride	28.188	63.612	6.377177503	14.39120402	0.2
O&G	21.592	47.632	4.884892086	10.77607348	5
TSS	527.405	1224.388	119.31703	276.9982138	2
Chromium	6.392	16.001	1.446081632	3.620005314	0.004
Nickel	4.803	14.390	1.086581458	3.255410861	0.004
pH	Within Range of 7.5 to 9.0		Within Range of 7.5 to 9.0		NA

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

TSS Daily Max (mg/L) = (1224.388 lbs/day) / [(0.53 MGD) * (8.34)]
TSS Daily Max (mg/L) =276.99 mg/L

Attachment E:

IMP 207 Toxics Management Spreadsheet

pennsylvania
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		290									
	Hexavalent Chromium	µg/L		5									
	Total Cobalt	µg/L	<	1									
	Total Copper	µg/L		6									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	10									
	Dissolved Iron	µg/L		80									
	Total Iron	µg/L		180									
	Total Lead	µg/L		5									
	Total Manganese	µg/L		30									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		150									
	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	<	10									
	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										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

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 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
Total Chromium (III)	14,071	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 Lead	522	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 Nickel	8,519	µg/L	Discharge Conc ≤ 10% WQBEL
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

Attachment F:

IMP 207 Total Residual Chlorine Evaluation

TRC EVALUATION

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

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	**1.3.2.iii**	WLA afc =	25.697	**1.3.2.iii**	WLA cfc =	25.045
PENTOXSD TRG	**5.1a**	LTAMULT afc =	0.373	**5.1c**	LTAMULT cfc =	0.581
PENTOXSD TRG	**5.1b**	LTA_afc=	9.575	**5.1d**	LTA_cfc =	14.560

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

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

Attachment G:

IMP 207 WQM 7.0 Water Quality Modeling

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18B	42816	KISKIMINETAS RIVER	11.700	775.00	1530.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	132.00	0.000	0.000	10.0	0.00	0.00	0.00	0.00	25.00	7.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
ATI Vandergrift	PA0040274	0.5300	0.0000	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	133.30	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18B	42816	KISKIMINETAS RIVER	10.700	774.00	1531.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	132.00	0.000	0.000	10.0	0.00	0.00	0.00	0.00	25.00	7.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
11.700	132.00	0.00	132.00	.8199	0.00019	5.076	50.76	10	0.52	0.119	24.97	7.00
Q1-10 Flow												
11.700	84.48	0.00	84.48	.8199	0.00019	NA	NA	NA	0.40	0.152	24.95	7.00
Q30-10 Flow												
11.700	179.52	0.00	179.52	.8199	0.00019	NA	NA	NA	0.61	0.100	24.98	7.00

WQM 7.0 Modeling Specifications

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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
11.700	ATI Vandergrift	11.12	266.6	11.12	266.6	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
11.700	ATI Vandergrift	1.37	133.3	1.37	133.3	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
11.70	ATI Vandergrift	25	25	133.3	133.3	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
11.700	0.530	24.969	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
50.756	5.076	10.000	0.516
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.14	0.098	0.82	1.026
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.223	0.911	O'Connor	6
Reach Travel Time (days)			
0.119			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.012	2.14	0.81	7.54
0.024	2.14	0.80	7.54
0.036	2.13	0.79	7.54
0.047	2.13	0.78	7.54
0.059	2.13	0.77	7.54
0.071	2.12	0.76	7.54
0.083	2.12	0.76	7.54
0.095	2.12	0.75	7.54
0.107	2.11	0.74	7.54
0.119	2.11	0.73	7.54

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
11.700	ATI Vandergrift	PA0040274	0.530	CBOD5	25		
				NH3-N	133.3	266.6	
				Dissolved Oxygen			5