

**CWA COMPLIANCE EVALUATION INSPECTION REPORT
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5**

Facility: Quality Metal Finishing Company
421 N. Walnut Street
Byron, IL 61010

NPDES Permit Number: IL0003581

Purpose: To evaluate compliance with the facility's National Pollutant Discharge Elimination System (NPDES) permit program and the Clean Water Act (CWA).

Date of Inspection: August 27-28, 2024

EPA Region 5 Water Enforcement Compliance Assurance Representatives:

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Facility Representatives:

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- Gerald Reed, EHS Technician, Fehr Graham, greed@fehrgraham.com, 815-235-7643

Report Prepared by: Keith Middleton, Environmental Engineer

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Approver Name and Title: Ryan J. Bahr, Section 2 Supervisor, Water Enforcement and Compliance Assurance Branch

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Date: 2024.10.25 08:46:05 -05'00'

INTRODUCTION

On August 27, 2024, and August 28, 2024, inspectors from the U.S. Environmental Protection Agency, Region 5 conducted a Compliance Evaluation Inspection regarding the Quality Metal Finishing (QMF) facility (“facility”) in Byron, Illinois. The purpose of this inspection was to evaluate this facility’s compliance with the facility’s National Pollutant Discharge Elimination System (NPDES) permit and the Clean Water Act (CWA). The inspection consisted of an opening conference, questions about the facility and the wastewater treatment process, a discussion of the facility’s NPDES Permit compliance, a walk-through of the facility, and a closing conference. Any concerns that the EPA identified during the inspection and the review of materials obtained as a result of the inspection are listed in the section entitled “Areas of Concern” starting on page 17 of this report.

BACKGROUND

The QMF facility specializes in zinc-dye casting, electroplating and metal finishing of plumbing equipment, such as faucets and sink handles, along with other hardware such as motorcycle/automotive accessories. All of the products produced at the facility are for other customers by contract. QMF’s July 2023 NPDES Permit renewal application estimates that 30,000 pieces of hardware are plated per day at the facility during operations. As a result of these processes, this facility generates non-domestic wastewater within its electroplating processes. The generated wastewater is then treated at an on-site treatment facility owned and operated by QMF before discharging to the Rock River, via the City of Byron’s storm sewer collection system. Along with the wastewater discharge, the facility discharges non-contact cooling water to the Rock River within the same discharge pipe. Any sanitary wastewater generated by the facility is conveyed to the City of Byron wastewater treatment plant for treatment.

According to Bill Wohrley, there are approximately 50 employees that work at this facility. Typical production hours occur from approximately 5:00 am to 4:00 pm, five days a week. There is also a night shift that performs electroplating maintenance tasks. The facility Standard Industrial Classification (SIC) code is 3471 (Electroplating, Plating, Polishing, Anodizing, and Coloring) and 3432 (Plumbing Fixture Fittings and Trim). The facility has been operating in this location since 1947 and has no plans to change or add any new industrial process in the future.

National Pollutant Discharge Elimination System Permit

Illinois Environmental Protection Agency (Illinois EPA) has issued this facility an individual National Pollutant Discharge Elimination System (NPDES) permit (Permit No. IL0003581) for its wastewater treatment plant’s operation and discharge, along with the non-contact cooling water discharge.

This facility's current NPDES wastewater permit ("NPDES Permit" or "Permit") became effective on July 1, 2024, and expires on June 30, 2029. The facility's NPDES Permit identifies two final wastewater discharge locations (Outfall 001 and Outfall 002).

Outfall 001 is the facility's treated process water outfall that discharges to the Rock River. Outfall 001 has effluent limitations for pH, total residual chlorine (TRC), oil & grease, total suspended solids (TSS), total chromium, hexavalent chromium, cadmium, lead, nickel, silver, zinc, copper, total cyanide, and total toxic organics (TTOs). The facility is also required to monitor and report flow, boron, and per- and polyfluoroalkyl substances (PFAS). Outfall 002 is the facility's non-contact cooling water outfall that discharges to the Rock River. Outfall 002 has effluent limitations for pH, total residual chlorine (TRC), and temperature. The facility is also required to monitor and report flow from Outfall 002. QMF's July 2023 NPDES Permit renewal application lists the average flow from Outfall 001 and Outfall 002 to be 0.0114 million gallons per day (MGD) and 0.012 MGD, respectively.

The NPDES Permit also includes 15 special conditions, located in the NPDES Permit after the Outfall 001 and Outfall 002 effluent limits. Certain special conditions are noted below:

- Special Condition 2: pH shall be in the range of 6.0 to 9.0 with the monthly minimum and maximum reported on the facility's discharge monitoring report (DMR).
- Special Condition 3: The temperature discharge limits for each month for Outfall 002 are included in a table within this special condition. In addition, the NPDES Permit indicates that the discharge of wastewater must be met prior to discharge into the receiving stream and the discharge shall not cause the maximum temperature to rise above natural temperatures to exceed 5° Fahrenheit.
- Special Condition 5: Samples taken for compliance for Outfall 002 effluent requirements shall be taken at a point representative of the discharge but prior to entry into the receiving waterbody.
- Special Condition 6: Samples taken for compliance for Outfall 001 effluent requirements shall be taken at a point representative of the discharge but prior to combining with non-contact cooling water and prior to entry into the receiving waterbody.
- Special Condition 8: The operation of the facility's wastewater treatment shall be by or under the supervision of a Certified Class K operator.
- Special Condition 9: Discharge from Outfall 002 is limited to non-contact cooling water, free from process and other wastewater discharges. If the facility uses water treatment additives, the facility must request a NPDES Permit modification.
- Special Condition 10: The effluent from the facility shall contain no settleable solids, floating debris, visual oil, grease, scum or sludge solids. Color, odor, and the turbidity shall be reduced to below obvious levels.

- Special Condition 14: The facility's TTO management plan requirements are included in this special condition.
- Special Condition 15 & 16: The facility's PFAS requirements, including its quarterly sampling requirements and PFAS minimization program requirements are included in this special condition.

Receiving Waters

Both of the facility's permitted outfalls discharge to the Rock River after combining with the City of Byron storm sewer system. This portion of the system discharges to one point source, located south of the QMF facility, to the Rock River. The Rock River is delineated by the USGS as a river/permanent waterbody. The Rock River is impaired for mercury, polychlorinated biphenyls (PCBs), and pathogens.

NPDES Permit Compliance

EPA's public compliance tracking website, EPA ECHO (www.echo.epa.gov), indicated that the facility had 62 NPDES Permit effluent limit exceedances that occurred in the last five years. Additional NPDES Permit exceedance information is included in Attachment B of this Report.

NPDES Permit Exceedances in the Last Five Years:

- 20 Temperature monthly maximum effluent limit exceedance from Outfall 002 that occurred in December 2019, January 2020, February 2020, March 2020, December 2020, January 2021, February 2021, March 2021, December 2021, January 2022, February 2022, March 2022, December 2022, January 2023, February 2023, March 2023, December 2023, January 2024, February 2024, and March 2024. During the fourth quarter of 2019 to the first quarter of 2020, the fourth quarter of 2020 to the first quarter of 2021, the fourth quarter of 2021 to the first quarter of 2022, the fourth quarter of 2022 to the first quarter of 2023, and the fourth quarter of 2023 to the first quarter of 2024, the facility had four or more months during each of the two consecutive quarters that had monthly temperature exceedances.
- 16 Copper daily maximum and monthly effluent limit exceedances from Outfall 001 that occurred in September 2020, October 2020, November 2020, December 2020, January 2021, February 2021, March 2021, April 2021, May 2021, June 2021, and October 2023. From the third quarter of 2020 to the second quarter of 2020, the facility had four or more months during the two consecutive quarters that had either copper monthly or daily maximum exceedances (with monthly exceedances also occurring).
- 7 pH daily maximum effluent limit exceedances from Outfall 001 that occurred in March 2021, April 2021, June 2021, July 2021, August 2021, September 2021, and August 2024.
- 1 pH daily maximum effluent limit exceedances from Outfall 002 that occurred in March 2021.

- 3 Hexavalent Chromium daily maximum effluent limit exceedances from Outfall 001 that occurred in November 2020, January 2021, and July 2024.
- 1 Total Chromium daily maximum effluent limit exceedance from Outfall 001 that occurred in August 2024.
- 2 TSS daily maximum and monthly effluent limit exceedances from Outfall 001 that occurred November 2020 and April 2021.
- 3 Nickel daily maximum and monthly effluent limit and pollutant loading exceedances from Outfall 001 that occurred in September 2020.
- 3 Total Residual Chlorine daily maximum effluent limit exceedances from Outfall 002 that occurred in July 2021, August 2021, and August 2024. For the two TRC exceedances that occurred in the third quarter of 2021, the NPDES Permit limits were exceeded by more than 20%.
- 2 Total Residual Chlorine daily maximum effluent limit exceedances from Outfall 001 that occurred in August 2021 and August 2024.
- 4 Total Cyanide daily maximum and monthly effluent limit exceedances from Outfall 001 that occurred in May 2024 and June 2024. All four exceedances occurred in either the second or first quarter of 2024, which are consecutive quarters, and exceeded the NPDES Permit limits by more than 20%.

Other Background Information

- According to the EPA ECHO website, the Illinois EPA has not conducted a CWA inspection this facility in the last five years.
- The Illinois EPA issued this facility a compliance commitment agreement (CCA) to address NPDES Permit non-compliance on August 30, 2021. This CCA (W-2021-50049) specifically had the facility address NPDES Permit effluent violations and was closed in 2022.
- Initially, QMF reported 2 total cyanide exceedances in July 2024. It appears that on September 13, 2024, QMF resubmitted its DMR to Illinois EPA to indicate that a laboratory test or invalid test had occurred for its cyanide sample analysis. The comment on the July 2024 DMR regarding this change reads as follows: *The total cyanide results in July are believed not to be representative of effluent conditions due to QA/QC or other issues with the use of a new laboratory spectrometer. Two (2) split samples collected in August showed that the instrument readings were much higher than the results from a qualified outside laboratory.*

SITE INSPECTION

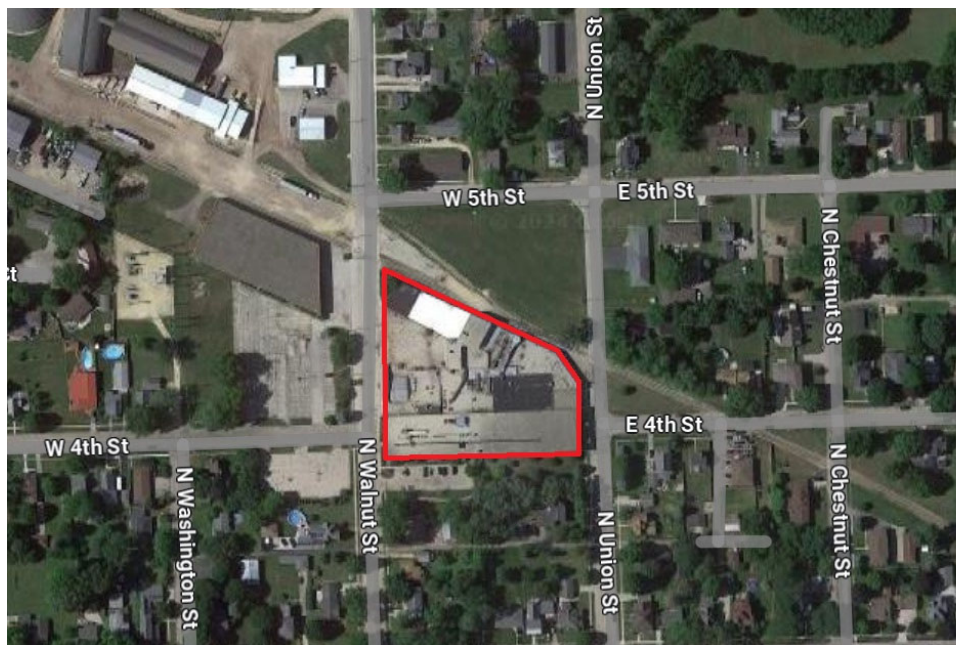


Exhibit 1: Location of Quality Metal Finishing Company¹

Source: Google Maps (2024)

AUGUST 27, 2024

Initial Inspection Discussion

The EPA team, consisting of Keith Middleton and Jake Berger, arrived at the QMF facility at 12:15 pm on Tuesday, August 27, 2024. The weather was sunny with a temperature of approximately 90° Fahrenheit. Mr. Middleton and Mr. Berger entered the facility and made contact with facility employees in the office area. After waiting approximately 15 minutes, Mr. Bob W Ehrley arrived and met the EPA inspection team in the office waiting room. Mr. Middleton then informed Mr. W Ehrley that EPA was at the facility to conduct a CWA inspection of the facility focusing on its NPDES Permit compliance. Mr. W Ehrley informed EPA that personnel more familiar with the facility's NPDES Permit compliance were not available today and the facility was planning on shutting down at 2:00 pm due to the extreme heat weather forecast. Mr. W Ehrley then called Gerald Reed, the facility environmental contractor and scheduled a time for Mr. Reed to come to the facility tomorrow to discuss the facility and its NPDES Permit compliance. After the telephone conversation with Mr. Reed, the EPA and Mr. W Ehrley went to Mr. W Ehrley's office.

Mr. Middleton then began the opening conference. The EPA inspectors introduced themselves and presented their inspector credentials to Mr. W Ehrley at this time. After introductions, the

¹ The red box on Exhibit 1 denotes the facility's building location in Byron, Illinois

EPA discussed with Mr. Wohrley the EPA's Confidential Business Information (CBI) provisions, the reason for the inspection, the EPA's regulatory authority to conduct the inspection, the potential need for the EPA to take pictures during the inspection and to request documentation, and a tentative schedule for the inspection. After the opening conference was completed, the EPA and Mr. Wohrley agreed to go through the EPA's list of questions and have Mr. Wohrley answer facility background questions. Mr. Wohrley's responses are summarized above within the inspection report's background section. The EPA and Mr. Wohrley then agreed to continue the inspection tomorrow at 10:00 am. The EPA then left the facility at 12:54 pm.

After leaving the site, the EPA inspectors drove around the site to observe if there was any exposure of industrial materials to stormwater. This drive included driving north on North Walnut Street, turning east on West 5th Street, and then south on North Union Street. During this drive, the EPA did not observe any materials that were exposed to stormwater.

AUGUST 28, 2024

The EPA arrived back at the Facility at 9:30 am on Wednesday, August 28, 2024. The weather was overcast with a temperature of approximately 76° Fahrenheit. The EPA checked in at the office and met briefly in Mr. Wohrley's office. After going over some potential documents that the EPA would be requesting as part of this inspection, the EPA and Mr. Wohrley proceeded to an open area on the second floor of the facility. Here, the EPA inspectors met Gerald Reed. At approximately 10:00 am, the EPA started asking questions related to the facility's production process, the facility's wastewater treatment plant, and the facility's compliance with its NPDES Permit.

Facility Process

QMF has three types of processes at this facility: zinc die casting, metal finishing, and electroplating. Each of these three processes are used in combination to produce finished products at this facility.

Zinc die casting involves the facility using a mold (either provided by the customer or created by the facility), melting raw zinc, and injecting the molten zinc into the mold. After the zinc is in the mold, it begins to cool and solidify. The facility also uses non-contact cooling water, circulating around the mold and then a quench bath to cool the mold. Most of the water in this quench bath is reused or evaporates. Any excess or used quench water is not treated at the facility's onsite wastewater treatment plant (WWTP). This excess water is collected and treated off-site by a special waste treatment facility. After the cooling process is complete, the zinc die cast will be removed from the mold and the excess zinc will be trimmed off the die cast. The zinc part will then be polished, buffed, and cleaned through a contained degreasing unit that utilizes propyl bromide.

Metal finishing occurs throughout the facility and includes scraping, polishing, and buffing items. Some of the finishing is done in order to allow for more effective electroplating, and in other cases metal finishing is the final step before completion. There is no wastewater generated by metal finishing performed at this facility.

After zinc die casting and any associated metal finishing, the zinc parts are typically electroplated with either copper, nickel, or hexavalent chrome (or a combination of these metals). There are four electroplating lines used by this facility: a nickel plating line, a copper plating line, a hexavalent chrome plating line, and an acid/copper plating line. The nickel, copper, and hexavalent chrome plating lines are automated; the acid/copper plating line uses a manual process controlled by an operator. Before plating, the parts are rinsed in strikes. The facility's strikes utilize water for rinsing and each strike bath is considered a contained system because the water is reused. Note that any waste from the strike bath is considered hazardous and is processed by AllSource Environmental. Parts are loaded on racks with hooks and dipped into the respective plating baths and then there are clean water rinses during certain time intervals, based on the preprogrammed system that achieves the desired plating thickness required by the customer. Rinses have water constantly flowing into the tanks. There is an overflow system at the top of the tank where the water flows out of the rinse tanks to the facility's WWTP. Brightening agents can be used in the facility's electroplating process as need depending on the requirements of the customer.

Wastewater Treatment Process

The wastewater that is created during the facility's industrial processes is generated within the electroplating process in the rinse baths. This wastewater is treated on-site before discharge to the Rock River.

Both the rinse water from the hexavalent chrome plating line and the copper plating line goes through an initial treatment step before reaching the WWTP. The hexavalent chrome plating rinse wastewater contains hexavalent chrome within the wastewater. Therefore, this wastewater will enter a 780-gallon chrome reduction tank where hexavalent chromium will reduce into trivalent chromium. This is accomplished by QMF adding sodium metabisulfite to the tank. Sulfuric acid is also added since the reduction most effectively occurs at a low pH (2-3). The facility monitors pH and oxygen reduction potential (ORP) in the chrome reduction tank, via monitors near the neutralization tank, to ensure that the hexavalent chrome reduces to trivalent chromium.

The copper plating rinse wastewater contains cyanide. Cyanide is used in the copper plating process to help copper adhere to zinc. Therefore, this wastewater is treated in a two-stage cyanide destruction treatment process. First, the copper plating rinse wastewater flows into a 12,000-gallon equalization tank. From the equalization tank, the wastewater is pumped continuously into a 250-gallon tank that represents the first stage of the cyanide destruction

treatment. In the first stage, the facility adds caustic and sodium hypochlorite to convert the free cyanide into cyanate. Mr. Reed told the EPA that the facility targets a pH in the range of 11-12 in order to begin this reaction. ORP is also monitored in the first stage of the cyanide destruction treatment with a target range of 225 millivolt (mV) to 425 mV. Next the wastewater flows into a 750-gallon tank which is the second stage of the cyanide destruction process. In this tank the pH is lowered using sulfuric acid to a target range of 8.2 to 8.5 in order to oxidize the cyanate. ORP is also monitored in the second stage of the cyanide destruction treatment process with a target range of 700 mV to 850 mV. Both tanks in this process are continuously mixed.

After copper plating rinse wastewater flows through the cyanide destruction process and the hexavalent chromium rinse water flows through the chromium reduction process, the wastewater flows into the 6,100-gallon neutralization tank in the basement of the facility. The copper-acid rinse water and the nickel plating rinse flow directly to the neutralization tank. The neutralization tank is a cement tank that is continuously mixed. In the tank, pH is adjusted using either caustic or sulfuric acid with a target pH of 9.2. Calcium chloride, magnesium hydroxide, and a defoaming agent can also be added as needed.

The wastewater is then pumped to the first floor of the facility to a 22,000-gallon clarifier. The clarifier sludge collecting arm on the bottom of the tank is broken and 2-3 years ago the facility replaced this clarifier with a smaller plate clarifier. This 22,000-gallon tank is now used as an equalization tank for the WWTP. Wastewater in the old clarifier/equalization tank is pumped to a mixing tank where the facility adds a polymer (GWT-4220) to assist in flocculation in the plate clarifier.

The WWTP utilizes a plate clarifier for settling after wastewater flows out of the mixing tank. This plate clarifier is much more efficient than the old clarifier and therefore the plate clarifier tank is much smaller. In addition, any settled out material or sludge is processed through a filter press and a sludge dryer located in the same building. Any filtrate from the filter press is pumped back to the neutralization tank. QMF representatives told the EPA that the dewatered sludge is considered hazardous waste and is picked up and processed by AllSource Environmental.

After the plate clarifier, wastewater flows into an approximately 1,500-gallon sand filter. Mr. Reed told the EPA that the sand filter will automatically backwash, with the backwash flowing back to the neutralization tank for treatment through the WWTP. The sand filter can be manually backwashed if needed. The facility monitors pH near the effluent end of the sand filter. Mr. Reed also said that the sand media in the filter is not replaced on a schedule, instead it is replaced as needed. From the sand filter, the wastewater can flow through Outfall 001 and be discharged to the Rock River. However, the EPA learned during the inspection that it is common practice for QMF to mix the treated WWTP effluent with city water to be used in the once-through non-contact cooling water. Samples are still taken at Outfall 001 of the treated wastewater before use in the non-contact cooling water. This facility utilizes a ISCO GLS

composite sampler that stores obtained samples in a refrigerated unit for compliance composite sampling.

The current wastewater treatment operator is Felicia Murray. According to QMF representatives, Ms. Murray is working on obtaining a State of Illinois Class K operator license. Currently, QMF does not have an employee that has a Class K operator license. Mr. Reed did indicate to the EPA that he has a Class K operator license. The EPA then learned that Dave Carlson and Matt Bortoli, the QMF facility owner, are considered backup WWTP operators if Ms. Murray is not available.

WWTP NPDES Permit Compliance

The EPA then began to ask questions concerning QMF's compliance with its NPDES Permit. The EPA learned that compliance sampling is done by Deb Jackson. Usually, compliance samples are taken on Wednesday at the facility, unless the NPDES Permit identifies more frequent sampling. Composite samples are conducted for 24 hours with a sample taken every 15 to 30 minutes. All of the compliance sample analysis is done at the on-site laboratory by Deb Jackson, with the exception of the metals sample analysis that is conducted twice a year for silver, lead, boron, and cadmium. These samples are shipped to Pace Analytical, either in Hazelwood, Missouri or Green Bay, Wisconsin.

Temperature Exceedances

The EPA then began to ask QMF representatives about past NPDES Permit exceedances that occurred, starting with the 20 Total NPDES Permit Temperature monthly effluent exceedances that occurred from Outfall 002 in the last five years. Mr. Reed indicated that QMF was aware of the issue and that the water temperature taken at the Outfall 002 discharge point at the WWTP would likely be much lower if sampled just upstream of the discharge point to the Rock River, which was located several thousand feet to the south.

Copper Exceedances

Next, the EPA asked QMF representatives about the 16 NPDES Permit copper monthly and daily maximum effluent exceedances that occurred from Outfall 001 in the last five years. Most of these total copper exceedances occurred from September 2020 to June 2021. Mr. Reed told the EPA that during the September 2020 to June 2021 time period, he recalled that there might have been an issue at the time with the cyanide destruction process and incomplete cyanide removal did not allow the copper to be completely removed in the wastewater treatment process. Mr. Reed said that the Compliance Commitment Agreement (CCA) was issued to the facility by the Illinois EPA due to these exceedances. Mr. Reed was unclear what exactly caused the cyanide removal issue, noting that the issue did resolve after June 2021.

Total Suspended Solids Exceedances

Next, the EPA asked QMF representatives about the 2 NPDES Permit TSS monthly and daily maximum effluent exceedances that occurred from Outfall 001 in the last five years. Mr. Reed told the EPA that the TSS exceedances occurred because of the issues with the old clarifier. Once that clarifier was replaced with the new plate clarifier, the TSS exceedances no longer occurred.

pH Exceedances

The EPA then inquired about the 7 NPDES Permit pH daily maximum effluent exceedances that occurred from Outfall 001 in the last five years (6 exceedances occurred from Outfall 001 and 1 exceedance occurred from Outfall 002). All of the pH effluent exceedances were above the maximum range limit and occurred in 2021. QMF representatives were not sure what caused the exceedances. The EPA was not aware at that time of the pH exceedance that occurred in August 2024.

Hexavalent Chromium Exceedances

Next, the EPA asked QMF representatives about the 2 NPDES Permit Hexavalent Chromium daily maximum effluent exceedances that occurred from Outfall 001 in the last five years. Mr. Reed told the EPA that the hexavalent chromium exceedances that occurred in November 2020 occurred because of a malfunctioning pH/ORP probe within the hexavalent chromium reduction treatment. Mr. Reed also indicated that the exceedance occurred in January 2021 because of clarification issues at the WWTP. The EPA was not aware at that time the hexavalent chromium or the total chromium exceedances that occurred in July 2024 or August 2024, respectively.

Nickel Exceedances

The EPA then asked QMF representatives about the 3 NPDES Permit Hexavalent Chromium monthly and daily maximum effluent exceedances that occurred from Outfall 001 in the last five years (all in September 2020). Mr. Reed told the EPA that he thought there could have been a malfunctioning pH probe within the neutralization tank, which caused the WWTP not to meet the optimal nickel pH removal level.

Total Residual Chlorine Exceedances

Next, the EPA asked QMF representatives about the 3 NPDES Permit TRC daily maximum effluent exceedances that occurred from Outfall 001 and Outfall 002 in the last five years. Mr. Reed told the EPA that the TRC exceedances may have occurred because of high chlorine in the potable water received from the City of Byron used for the non-contact cooling water and rinse water.

Cyanide Exceedances

The EPA and QMF representatives then discussed the 6 NPDES Permit cyanide monthly and daily maximum effluent exceedances that occurred from Outfall 001 in the last five years. These exceedances occurred in May 2024, June 2024, and July 2024. Mr. Reed told the EPA that QMF has been engaged in a long investigation to understand why these cyanide exceedances occurred. This investigation was still ongoing at the time of the EPA's inspection. After the inspection, QMF revised its DMR submittal to indicate that the July 2024 exceedances occurred because, of what QMF determined to be, a laboratory error. Additional information regarding the EPA and QMF discussion of the cyanide exceedances is included below:

- Mr. Reed believed the first circumstance that led to the cyanide issues occurred after a storm in May 2024² that led to a power surge/outage the QMF facility. This event may have caused the cyanide destruction treatment unit's pH and ORP probes to malfunction. It is not clear what the date of the cyanide sample was in May 2024.
- Mr. Reed indicated to the EPA that the probes were cleaned after this event, but there were still issues with the probes. This required QMF to order new probes which took time to arrive and install at the facility.
- Around this same time, the cyanide test meter used by QMF in-house lab broke. This required QMF to purchase a new testing meter.
- QMF first purchased a Thermo Fisher Scientific spectrometer. There were issues with the new sampling procedures and Mr. Reed told the EPA he thinks the new spectrometer may have inflated the cyanide sampling results.
- In August 2024, QMF purchased a more expensive Hach DR3900 spectrometer that uses a more straight-forward sample analysis procedure. Mr. Reed believes this new cyanide testing meter will produce more accurate results.
- In mid-August 2024, QMF took a series of cyanide samples throughout the facility's production facilities and wastewater treatment plant. These samples were analyzed by QMF outside contract lab, Pace Analytics.
- The results of the samples indicate high cyanide concentrations within the neutralization tank (2.4 mg/L) and the boiler feed water (120 mg/L) with low cyanide concentrations in the sand filter (0.05 mg/L).
- QMF further investigated the high cyanide concentration within neutralization in the boiler feed water (which should have had no cyanide in the water) and found that the

² It is not entirely clear when this storm event occurred in May 2024, although there was a high wind report from the National Weather Service Storm Prediction Center that occur just a few miles away from the Quality Metal Finishing facility on May 21, 2024.

cause of this was a leaking steam pipe within a heating coil in the copper plating process. This heating coil is used to heat up the copper plating rinse water to an optimal temperature. Mr. Reed told the EPA that what QMF believed happened was a leak formed and, during infrequent water hammer events, the rinse water containing cyanide was able to enter the leak in the heating coil into the boiler feed water loop. From there, the boiler water was able to get into the other wastewater streams through other leaks that did not undergo cyanide destruction treatment, which included the nickel plating process. This would explain the high cyanide concentration within the neutralization tank from the mid-August sampling event.

- The EPA learned during the inspection that repairs to the steam pipes have been made where leaks have been identified.

Stormwater

Illinois EPA's general NPDES permit for stormwater discharges from industrial activities indicates in Section A.2 that the QMF facility should obtain NPDES permit coverage due to the facility's qualifying SIC code.

During the inspection on August 28th, the EPA asked about QMF's industrial stormwater status. Mr. Reed indicated that QMF had completed a no exposure certification, indicating that the facility's industrial activities are not exposed to storm water runoff. On September 13, 2024, Mr. Reed provided EPA a letter from Illinois EPA acknowledging the receipt of the QMF's no exposure certification.

Other Items Discussed:

- The EPA learned from Mr. Reed that the facility adds a small amount of sodium bisulfite to the water discharged to the Rock River from the facility in order to control muscle growth at the discharge point.
- During the inspection, QMF representatives told the EPA that the facility had completed a TTO certification, indicating that the facility did not discharge TTOs. After the inspection, QMF provided the EPA a copy of the TTO certification.
- Deb Jackson keeps the records related to NPDES Permit compliance electronically.
- Dave Carlson performs WWTP maintenance.
- QMF representatives told the EPA that the facility had developed a slug control plan to protect the facility's WWTP. After the inspection, QMF provided the EPA a copy of the slug control plan, dated September 2024.
- QMF adds no additives to the non-contact cooling water except sodium bisulfate prior to discharge.
- Sanitary wastewater generated by the QMF facility is treated at the City of Byron municipal wastewater treatment plant.

- The EPA discussed the new PFAS NPDES Permit requirements with QMF representatives during the inspection. Mr. Reed indicated that PFAS sampling will start at the WWTP in third quarter of 2024 and Pace Analytics will perform the PFAS sample analysis.

Facility Walk-Through

At approximately 12:10 pm, Mr. Middleton, Mr. Berger, Mr. Wohrley, and Mr. Reed began a walk-through of the facility, starting with facility's WWTP. While walking to the facility, the EPA and QMF representatives observed a quench bath used in the zinc dye casting process (Photograph 1 in Attachment A).

At the WWTP, the EPA inspectors first observed the sand filter treatment unit (Photograph 3 in Attachment A). Mr. Reed explained that influent to the sand filter would fill up an initial tank and then spill over into the filter. The EPA observed the sampling point used to take NPDES Permit compliance samples for Outfall 001 (Photograph 2 in Attachment A). The EPA noticed at the sand filter a pH readout which showed that the pH at the sand filter was 5.08 (which is outside the range for the NPDES Permit effluent limits for pH). The EPA asked Mr. Reed about the low pH reading, but Mr. Reed was unsure why the pH was at that level. The EPA then viewed the Outfall 001 composite sampler (Photographs 4 and 5 in Attachment A).

Next, the EPA and QMF representatives walked over to the plate clarifier. Photograph 7 in Attachment A shows the old clarifier tank. As indicated previously in this report, QMF uses the old clarifier tank as equalization storage within the WWTP. The EPA then viewed the plate clarifier (Photograph 8 in Attachment A). Mr. Reed told the EPA that the clarifier is drained and cleaned once a week. Mr. Reed also informed the EPA that the sludge accumulated in the clarifier is pumped manually to the sludge press as needed. The EPA also observed the clarifier pre-mixing tank where QMF adds a polymer to assist with settling in the plate clarifier (Photograph 9 in Attachment A).

The EPA and QMF representatives then viewed the sludge press and the sludge dryer. Near the sludge press, the EPA observed the process sludge bags that contain the processed sludge ready for disposal (Photograph 10 in Attachment A). Mr. Reed estimated that 1 to 1.5 bags of processed sludge are filled each month. The EPA then walked over to the Outfall 001 flow meter readout panel (Photograph 11 in Attachment A) and observed that the flow through Outfall 001 was approximately 4.6 gallons per minute at this time. While walking out of the facility's WWTP, the EPA observed the polymer pumping equipment used to add the polymer to the clarifier mixing tank (Photograph 12 in Attachment A).

The EPA and QMF representatives next walked through the facility to the basement to look at the neutralization tank. The EPA observed that the neutralization tank is a rectangular concrete tank (Photograph 13 in Attachment A). Near the neutralization tank, the EPA observed the chrome reduction tank treatment unit (Photograph 14 in Attachment A). In this area were the pH

and ORP readouts for the neutralization tank and the chrome reduction tank probes. The EPA recorded the following pH and ORP readings at this monitoring location (with the noted range goals for each parameter identified on the control panel in parentheses):

- Neutralization Tank pH: 9.25 (9.2 – 9.6)
- Chrome Reduction Tank pH: 2.17 (2.00 – 2.25)
- Chrome Reduction Tank ORP: 231 mV (180 mV – 280 mV)

The EPA and QMF representatives then left the neutralization tank/chrome reduction treatment unit area and walked to the cyanide destruction treatment. The first component of cyanide destruction treatment that the EPA observed was the equalization tank (Photograph 16 in Attachment A). From the equalization tank, the wastewater is pumped up to the Stage 1 tank (Photograph 17 in Attachment A). From the Stage 1 tank, the wastewater flows into the Stage 2 tank (Photograph 18 in Attachment A). The flows from the Stage 1 tank to the Stage 2 tank are continuous. After treatment in the Stage 2 tank, the wastewater flows to the neutralization tank. The EPA also climbed a ladder to view the top of both the Stage 1 tank and the Stage 2 tank, noting that the tanks are closed and have mixers to ensure they are continuously mixed (Photograph 20 in Attachment A). The EPA and QMF representatives walked over to the cyanide destruction treatment control panel to view the current pH and ORP readings at each of the stages (Photograph 19 in Attachment A). The EPA recorded the following pH and ORP readings at this monitoring location (with the noted range goals for each parameter identified on the control panel in parentheses):

- Stage 1 Tank pH: 11.5 (11 – 12)
- Stage 1 Tank ORP: 279 mV (225 mV – 425 mV)
- Stage 2 Tank pH: 8.6 (8.2 – 8.5)
- Stage 2 Tank ORP: 747 mV (700 mV – 850 mV)

The EPA and QMF representatives then left the chrome destruction treatment unit and walked to the main plating area. Bob Kemper, QMF's production manager, joined the inspection in order to answer electroplating process questions. The EPA learned from Mr. Kemper the plating baths consist of the following (later confirmed by a follow-up response from Mr. Reed):

- Nickel plating line: sulfuric acid
- Hexavalent chrome plating line: water and chrome acid beads
- Copper plating line: potassium cyanide, caustic, and double salts
- Acid/Copper plating line: copper sulfate and sulfuric acid

The EPA and QMF representatives then walked through the plating process lines and rinses. The plating production consisted of one long double line in the center of the facility that was connected at the end by a curve (creating a "skinny U-shaped" line). EPA started by observing the nickel plating and rinses (Photographs 21-23 in Attachment A). Next, the EPA continued to

walk down the line and near the beforementioned curve, the EPA observed the copper plating line and rinses (Photograph 24 and 25 in Attachment A). The EPA then continued walking the other direction on the other side and observed the hexavalent chrome plating line, which was fundamentally similar to the other two automated plating lines.

Closing Conference

After the EPA had completed its observation of the production plating lines, the EPA and QMF representatives went back to the large room on the second floor of the facility. Mr. Middleton began the closing conference at approximately 1:15 pm. Mr. Berger, Mr. Wohrley, and Mr. Reed were present for the closing conference. First, the EPA thanked QMF representatives for their time. The EPA then went over the preliminary concerns found during the inspection. These concerns are listed below. The EPA discussed the outstanding documents that it had requested during the inspection and both the EPA and QMF representatives agreed to a timeframe in which QMF would submit these requested documents to the EPA. Mr. Middleton next went over the additional documentation requested by the EPA during this inspection with Mr. Wohrley and Mr. Reed. The EPA also confirmed that none of the information provided to the EPA during the inspection was confidential business information. After the EPA answered QMF's questions and provided the next steps, the closing conference ended at approximately 1:35 pm.

After the closing conference, the EPA and Mr. Wohrley walked to the on-site facility laboratory located on the other side of the building. Here, the EPA was able to observe QMF's laboratory including the area of the laboratory where the majority of the NPDES Permit compliance sampling occurs (Photograph 26 in Attachment A). The EPA also looked into the refrigerator where the NPDES Permit compliance samples are stored before analysis, noting that there was no thermometer present (Photograph 27 in Attachment A). The EPA left the QMF facility at 1:36 pm.

During the closing conference, the EPA asked QMF representatives for more information about where the wastewater treatment plant effluent and the used non-contact cooling water discharged to the Rock River. Mr. Reed indicated that he believed when he had visited the main outfall in the past it was located south of where Walnut Street dead-ended just north of the Rock River. The EPA informed QMF representatives that after the inspection, the EPA would try to find this outfall, observe any ongoing discharge, and photograph it. However, when the EPA reached the end of Walnut Street, the EPA inspectors realized that any access to the outfall would require access through private property. So instead, the EPA parked at nearby Hamas Park and walked down the Illinois 72 right of way to take a picture of the general area of the outfall from an upstream location (Photograph 28 in Attachment A). The EPA left the park and ended the inspection at 1:55 pm.

DOCUMENTS RECEIVED BY THE EPA AFTER THE INSPECTION:

- A. Source Wide Flow Diagram, dated July 5, 2023
- B. Process Water Flow and Wastewater Treatment Schematic, dated July 5, 2023
- C. Current NPDES Permit, effective on July 1, 2024
- D. NPDES Permit Renewal, dated July 24, 2023

DOCUMENTS RECEIVED BY EPA AFTER THE INSPECTION:

- A. Slug Prevention and Discharge Control Plan, dated September 2024
- B. Quality Metal Finishing Wastewater Treatment Handbook, dated September 2024
- C. Safety Data Sheets
 - 1. Decurate AM Brightener
 - 2. Decurate AM Leveler
 - 3. Coproplate SB
 - 4. Electropure Copper Sulfate Crystal EN/EG
 - 5. Decurate AM Make Up
 - 6. Polymerized Aluminum Mixture GWT-4420
 - 7. Sodium Bisulfite
 - 8. Sulfuric Acid
- D. QMF Discharge Monitoring Reports
 - 1. June 2024 DMR
 - 2. July 2024 DMR
 - 3. August 2024 DMR
- E. August 2024 pH and Total Residual Choline Sample Analysis Bench Sheet
- F. 2021 Final Compliance Commitment Agreement issued by the Illinois EPA
- G. Letter from the Illinois EPA Acknowledging QMF's Submittal of a Stormwater No Exposure Certification, dated May 19, 2023
- H. Total Toxic Organic Certification, dated July 24, 2023

AREAS OF CONCERN:

The EPA has identified the following 14 areas of concern based on findings during the inspection of the QMF facility and based on a post-inspection review of the information provided to the EPA by facility representatives: An enumerated list of the areas of concern are listed below:

- 1. Outfall 001 Total Cyanide Exceedances: QMF has reported 4 NPDES Permit exceedances related to the facility's Outfall 001 cyanide effluent limits in the last five years. All four of these NPDES Permit exceedances occurred from May 2024 to June 2024. The percent of exceedance for the six cyanide exceedances ranged from 177% to 1,150%. During the inspection, the QMF representatives indicated that there could have been multiple issues that caused or contributed to the exceedances. Those issues are detailed in the inspection report above. QMF representatives also indicated that further

investigations were ongoing into the cyanide exceedances. QMF representatives told EPA that they believed a leaking steam pipe within a heating coil in the copper plating process was causing the cyanide exceedances. It is unknown to the EPA if there were any other issue discovered within QMF's investigation once completed and if any other issues were addressed. The August 2024 sampling results showed that the cyanide concentrations were below the NPDES Permit effluent limitations.

2. Outfall 002 Temperature Exceedances: QMF has reported 20 NPDES Permit exceedances related to the facility's Outfall 002 temperature effluent limits in the last five years. Specifically, these NPDES Permit exceedances occurred every year during the months of December through March. During the inspection, the QMF representatives indicated that the facility was aware of the issue. The EPA is unsure how these temperature exceedances will be addressed by QMF moving forward.
3. Outfall 001 Hexavalent Chromium Exceedances: QMF has reported 3 NPDES Permit exceedances related to the facility's Outfall 001 hexavalent chromium effluent limits in the last five years, including an exceedance in July 2024. During the inspection, the EPA did not discuss the July 2024 exceedance with QMF representatives, and it is unclear how the recent hexavalent chromium exceedance will be addressed by QMF.
4. August 2024 NPDES Permit Exceedances from the WWTP: In Quality Metal Finishing's August 2024 DMR, QMF reported NPDES Permit exceedances related to its pH effluent limit, total chromium limit, and its TRC effluent limit. During the inspection, the EPA did not ask QMF representatives about the exceedances, since the EPA was not aware that they had occurred.
5. WWTP Operation During Inspection: The EPA noticed during the walkthrough of the WWTP that the pH in the sand filter was 5.08 (below the facility's NPDES Permit effluent limitation for pH) and the 2nd stage cyanide destruction treatment was out of range for the pH target (8.6 instead of 8.5 to 8.2). When the EPA asked about the pH in the sand filter, QMF representatives indicated it would be looked into. The EPA is unclear why these values were off and if they contributed to the effluent exceedances that occurred in August 2024.
6. Cyanide Destruction Treatment: According to the Industrial Wastewater Management, Treatment and Disposal, Water Environment Federation (Manual of Practice No. FD-3), the second stage of typical cyanide destruction treatment should have a pH lower than 8.5 and an ORP raised to 790 mV. During the walkthrough of the facility's cyanide destruction treatment, the EPA observed the cyanide destruction treatment's control panel to indicate a pH of 8.6 and an ORP of 747 mV. These values are both outside the

recommendations in the referenced guidance above. In addition, the guidance also indicates that the first stage of cyanide destruction treatment takes 30 to 45 minutes to complete, with the second stage taking 90 minutes. From the EPA's inspection observations and discussions with QMF representatives, QMF does not have a way to measure detention times within either stage of the cyanide destruction treatment to ensure the times described in the guidance are met. The EPA is unclear if these identified discrepancies with the above stated guidance have caused/contributed to the recent cyanide NPDES Permit exceedances experienced by QMF.

7. Lack of Operator License: Special Condition 8 in the facility's NPDES Permit indicates the operation of the facility's wastewater treatment shall be by or under the supervision of a Certified Class K operator. During the inspection, the EPA learned that no current QMF employee has obtained a Class K operator licence.
8. Total Toxic Organic Management Plan: Page 4 (section 7.6) of QMF's Slug Control Plan indicates that facility has a "TTO Plan." Although the EPA has been provided QMF's signed TTO certification, the EPA has not been provided a TTO Management Plan (although the EPA did not specifically ask for the plan during the inspection). The EPA is unclear how the TTO Management Plan is implemented and therefore if the TTO certification can be used (Special Condition 14 of the NPDES Permit indicates that the TTO certification can be made following the implementation of the TTO Management Plan).
9. Discharge Monitoring Report Total Toxic Organic Certification: Special Condition 14 of the NPDES Permit requires that the TTO certification "be included as a comment on the Discharge Monitoring Report if the certification alternative is chosen." The EPA reviewed QMF's May, June, and July 2024 DMR submittals to the Illinois EPA and did not see the TTO certification provided, nor included as a comment, to the DMRs.
10. Total Residual Chlorine and pH Laboratory Bench Sheet: After reviewing QMF TRC and pH laboratory bench sheet (*Copy of August 24-111 QMF 2024-09-09 - EPA Data Outfalls 1 and 2.pdf*), the EPA notes that the sampling time, the person performing the sampling, the analysis time, and the person performing the analysis is not listed on the submittal. General Condition 10.c requires that QMF record, among other items, the time of sampling, the individual who performed the sampling, the date of the analysis, and the individual who performed the analysis. With the information that QMF has provided the EPA in this bench sheet, the EPA is unable to confirm that QMF has met the holding time requirements for TRC or pH of 15 minutes, pursuant to 40 C.R.F. Part 136.

11. Refrigerator Thermometer: During the EPA's inspection, the EPA observed in both the Outfall 001 composite sample refrigerator sample collection area and in the sample storage refrigerator in QMF's laboratory that QMF did not have a calibrated thermometer within either unit. Without a calibrated thermometer, QMF would not be able to confirm that the temperature of the refrigerator was below 6 degrees Celsius throughout the sample storage process before analysis, as required by 40 C.F.R. Part 136 for some of the pollutant parameters.
12. Sodium Bisulfate Addition Location: The EPA is unclear where the sodium bisulfate addition occurs, the current understanding is that the sodium bisulfate is added to treated wastewater effluent after the Outfall 001 sampling point. Special Condition 6 of QMF's NPDES Permit indicates that samples taken for compliance for Outfall 001 effluent requirements shall be taken at a point representative of the discharge. If sodium bisulfite is added after the sampling point, as the EPA's current understanding indicates, it would be unclear if the Outfall 001 sampling location would be representative of the final discharge.
13. July 2024 Cyanide Sampling Reporting: On September 13, 2024, QMF submitted a revision to its July 2024 DMR report to the Illinois EPA, indicating the code "Laboratory Error or Invalid Test" for its cyanide compliance sampling. Previously, QMF reported its 30-day average for cyanide as 0.2769 mg/L and its daily maximum for cyanide as 0.973 mg/L (both NPDES Permit effluent exceedances) within its July 2024 DMR. Although the EPA believes the basis for this change is that split sampling that compared results from QMF laboratory and Pace Analytics showed the QMF results to have a high bias, the EPA's understanding was that this took place in August 2024 and not in July 2024. In addition, EPA's understanding would increase if provided with additional data, including the test results from the split samples, the testing methods used for each of the cyanide tests, and the testing equipment used.
14. Cyanide Sampling: During the inspection, the EPA observed that QMF conducted cyanide sampling only at Outfall 001. 40 C.F.R. Part 433.12(c) requires that metal finishers, such as the QMF facility, self-monitoring for cyanide after cyanide treatment and before dilution with other streams. Alternatively, the facility may sample at the final effluent discharge (Outfall 001) if the facility limitations are adjusted based on the dilution ratio of the cyanide waste stream flow to the effluent flow. It is unclear if a dilution ratio of the cyanide waste stream was applied to the effluent limit at Outfall 001. The facility has Cyanide treatment that is located upstream before being combined with other waste streams which are treated together at QMF's WWTP .

LIST OF ATTACHMENTS:

- A. Inspection Photograph Log
- B. Tabulation of NPDES Permit Effluent Exceedances - Outfall 001 & Outfall 002

Attachment A: Inspection Photograph Log
Quality Metal Finishing Company – Byron, Illinois
U.S. EPA Inspection – August 27-28, 2024
All photos taken by Keith Middleton, Environmental Engineer, U.S. EPA
Camera: Canon PowerShot SX230 HS



1: IMG_1145

Description: Quench Bath

Location: Quality Metal Finishing Company – Production Area

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:18 pm CDT



2: IMG_1146

Description: Outfall 001 Sampling Location/Sand Filter

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:24pm CDT



3: IMG_1147

Description: Sand Filter

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:25 pm CDT



4: IMG_1148

Description: Outfall 001 Composite Sampler

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:26 pm CDT



5: IMG_1149

Description: Outfall 001 Composite Sampler Refrigerator

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:26 pm CDT



6: IMG_1150

Description: Outfall 002 Sampling Location

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:28 pm CDT



7: IMG_1151

Description: Old Clarifier/Storage Tank

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:32 pm CDT



8: IMG_1152

Description: Plate Clarifier

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:33 pm CDT



9: IMG_1153

Description: Clarifier Pre-Mixing Tank

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:33 pm CDT



10: IMG_1154

Description: Processed Sludge Container Bag

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:35 pm CDT



11: IMG_1155

Description: Outfall 001 Flow Readout

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:36 pm CDT



12: IMG_1156

Description: Clarifier Chemical Pump Feed

Location: Quality Metal Finishing Company – Wastewater Treatment Plant

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:39 pm CDT



13: IMG_1157

Description: Neutralization Tank

Location: Quality Metal Finishing Company – Wastewater Treatment Plant/Basement

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:26 pm CDT



14: IMG_1158

Description: Hexavalent Chromium Reduction Treatment Tank

Location: Quality Metal Finishing Company – Wastewater Treatment Plant/Basement

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:42 pm CDT



15: IMG_1159

Description: Neutralization Tank/ Hexavalent Chromium Reduction Control Treatment Panel

Location: Quality Metal Finishing Company – Wastewater Treatment Plant/Basement

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:45 pm CDT



16: IMG_1160

Description: Cyanide Destruction Treatment Equalization Tank

Location: Quality Metal Finishing Company – Cyanide Destruction Treatment

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:45 pm CDT



17: IMG_1161

Description: Cyanide Destruction Treatment - Stage 1

Location: Quality Metal Finishing Company – Cyanide Destruction Treatment

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:48 pm CDT



18: IMG_1162

Description: Cyanide Destruction Treatment - Stage 2

Location: Quality Metal Finishing Company – Cyanide Destruction Treatment

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:48 pm CDT



19: IMG_1163

Description: Cyanide Destruction Treatment Control Panel

Location: Quality Metal Finishing Company – Cyanide Destruction Treatment

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:48 pm CDT



20: IMG_1164

Description: Cyanide Destruction Treatment – Top of Stage 1 and 2 Tanks

Location: Quality Metal Finishing Company – Cyanide Destruction Treatment

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:48 pm CDT



21: IMG_1165

Description: Nickel Plating Rinses

Location: Quality Metal Finishing Company – Production Area

Camera Direction: N/A

Date/Time: August 28, 2024 – 12:59 pm CDT



22: IMG_1166

Description: Additional Nickel Plating Rinses

Location: Quality Metal Finishing Company – Production Area

Camera Direction: N/A

Date/Time: August 28, 2024 – 1:00 pm CDT



23: IMG_1167

Description: Additional Nickel Plating Rinses

Location: Quality Metal Finishing Company – Production Area

Camera Direction: N/A

Date/Time: August 28, 2024 – 1:00 pm CDT



24: IMG_1168

Description: Copper Plating Rinse

Location: Quality Metal Finishing Company – Production Area

Camera Direction: N/A

Date/Time: August 28, 2024 – 1:02 pm CDT



25: IMG_1169

Description: Additional Copper Plating Rinses

Location: Quality Metal Finishing Company – Production Area

Camera Direction: N/A

Date/Time: August 28, 2024 – 1:03 pm CDT



26: IMG_1170

Description: On-site Facility Laboratory

Location: Quality Metal Finishing Company – Laboratory

Camera Direction: N/A

Date/Time: August 28, 2024 – 1:02 pm CDT



27: IMG_1171

Description: Sampling Storage Refrigerator

Location: Quality Metal Finishing Company – Laboratory

Camera Direction: N/A

Date/Time: August 28, 2024 – 1:40 pm CDT



28: IMG_1172

Description: Approximate Facility Discharge Location to Rock River

Location: Rock River

Camera Direction: N/A

Date/Time: August 28, 2024 – 1:52 pm CDT

Quality Metal Finishing - Byron, Illinois - NPDES Permit #IL0003581

Attachment B: Tabulation of NPDES Permit Effluent Exceedances - Outfall 001 & Outfall 002

	Number of exceedances per parameter													
Month/Year	Total Cyanide	Total Cyanide	Total Copper	Total Copper	TSS	TSS	Hexavalent Chromium	Hexavalent Chromium	Total Chromium	Water Temperature (F degrees)	Total Residual Chlorine	Total Nickel	pH	# of Violations
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max	Daily Max	Monthly Max	Daily Max	Daily Max	Daily Max	
December 2019	0	0	0	0	0	0	0	0	0	1	0	0	0	1
January 2020	0	0	0	0	0	0	0	0	0	1	0	0	0	1
February 2020	0	0	0	0	0	0	0	0	0	1	0	0	0	1
March 2020	0	0	0	0	0	0	0	0	0	1	0	0	0	1
September 2020	0	0	1	1	0	0	0	1	0	0	0	2	0	5
October 2020	0	0	0	1	0	0	0	0	0	0	0	0	0	1
November 2020	0	0	1	1	1	0	0	0	0	0	0	0	0	3
December 2020	0	0	1	1	0	0	0	0	0	1	0	0	0	3
January 2021	0	0	1	1	0	0	0	1	0	1	0	0	0	4
February 2021	0	0	0	1	0	0	0	0	0	1	0	0	0	2
March 2021	0	0	1	1	0	0	0	0	0	1	0	0	1	4
April 2021	0	0	0	1	0	1	0	0	0	0	0	0	2	4
May 2021	0	0	0	1	0	0	0	0	0	0	0	1	0	2
June 2021	0	0	0	1	0	0	0	0	0	0	0	0	1	2
July 2021	0	0	0	0	0	0	0	0	0	0	1	0	1	2
August 2021	0	0	0	0	0	0	0	0	0	0	2	0	1	3
September 2021	0	0	0	0	0	0	0	0	0	0	0	0	1	1
December 2021	0	0	0	0	0	0	0	0	0	1	0	0	0	1
January 2022	0	0	0	0	0	0	0	0	0	1	0	0	0	1
February 2022	0	0	0	0	0	0	0	0	0	1	0	0	0	1
March 2022	0	0	0	0	0	0	0	0	0	1	0	0	0	1
December 2022	0	0	0	0	0	0	0	0	0	1	0	0	0	1
January 2023	0	0	0	0	0	0	0	0	0	1	0	0	0	1
February 2023	0	0	0	0	0	0	0	0	0	1	0	0	0	1
March 2023	0	0	0	0	0	0	0	0	0	1	0	0	0	1
October 2023	0	0	0	1	0	0	0	0	0	0	0	0	0	1
December 2023	0	0	0	0	0	0	0	0	0	1	0	0	0	1
January 2024	0	0	0	0	0	0	0	0	0	1	0	0	0	1
February 2024	0	0	0	0	0	0	0	0	0	1	0	0	0	1

Quality Metal Finishing - Byron, Illinois - NPDES Permit #IL0003581

Attachment B: Tabulation of NPDES Permit Effluent Exceedances - Outfall 001 & Outfall 002

	Number of exceedances per parameter													
Month/Year	Total Cyanide	Total Cyanide	Total Copper	Total Copper	TSS	TSS	Hexavalent Chromium	Hexavalent Chromium	Total Chromium	Water Temperature (F degrees)	Total Residual Chlorine	Total Nickel	pH	# of Violations
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max	Daily Max	Monthly Max	Daily Max	Daily Max	Daily Max	
March 2024	0	0	0	0	0	0	0	0	0	1	0	0	0	1
May 2024	1	1	0	0	0	0	0	0	0	0	0	0	0	2
June 2024	1	1	0	0	0	0	0	0	0	0	0	0	0	2
July 2024	0	0	0	0	0	0	1	0	0	0	0	0	0	1
August 2024	0	0	0	0	0	0	0	0	1	0	2	0	1	4
TOTAL	2	2	5	11	1	1	1	2	1	20	5	3	8	62