NPDES Inspection Report – Pretreatment Categorical Industrial User

National Database Information	
Inspection Entry Date/Time: **3/10/2021 at 9:00-11:00am**	Inspection Type: **Pretreatment Categorical Industrial User (CIU)**
Inspection Closing Date/Time: **3/11/2021 at 9:00-11:00am**	NPDES ID Number: **COP900099 - CDPHE; COPF00105 – EPA**
Inspection ID: **202103_COP900099/COPF00105**	
Lead inspector and affiliation: **Jessica Duggan, EPA Region 8**	
Inspector and affiliation: **Emilio Llamozas, EPA Region 8**	

Facility Location Information (*Name/Location/ Mailing Address*)	
Site/Facility Name & Location: **Golden Aluminum** **1405 E. 14th St.** **Ft. Lupton, Colorado 80621**	Mail Report (Electronic Delivery) to: **Chris Moellers, Chief Technical Officer at Golden Aluminum** **chrismoellers@goldenaluminum.com** **cc: DonForchette@goldenaluminum.com;** **ryanthompson@goldenaluminum.com**

Contact Information	
	Name(s)/Title
Person/Company meeting definition of Owner/Operator	**Golden Aluminum**
Facility Contacts: *(indicate primary lead and present during inspection)*	**Don Forchette / Environmental Engineer / Golden Aluminum (lead- present)**
	Chris Moellers / Chief Technical Officer / Golden Aluminum (present)
	Ryan Thompson / EHS Manager / Golden Aluminum (present)
	David Voigt / Coating Lines / Golden Aluminum (present)
	Luis Montenegro / Maintenance Manager / Golden Aluminum (present)
	Peyton Rumbo / Maintenance Superintendent / Golden Aluminum (present)
Authorized Official(s)	**Chris Moellers / Chief Technical Officer / Golden Aluminum (present)**

Areas Evaluated During Inspection		
Permit	Effluent/Receiving Waters	Compliance Schedule
Records/Reports	Flow Measurement	**Pollution Prevention**
Facility Site Review	**Self-Monitoring Program**	Laboratory
Stormwater	**Operations and Maintenance**	**Pretreatment**

Report Review and Signature

Drafter Name	Date	Address/Phone Number
Jessica Duggan	**6/21/2021**	**U.S. EPA Region 8** **1595 Wynkoop Street** **8ENF-W-NW** **Denver, Colorado 80202** **303-312-6195**
Reviewer Name	Date	Address/Phone Number
Emilio Llamozas	**6/23/2021**	**U.S. EPA Region 8** **1595 Wynkoop Street** **8ENF-W-NW** **Denver, Colorado 80202** **303-312-6407**
Management Reviewer Signature	Date	Address/Phone Number
COLLEEN RATHBONE Digitally signed by COLLEEN RATHBONE Date: 2021.06.25 06:24:42 -06'00' **Michael Boeglin, NPDES and Wetlands Enforcement Section Chief**		**U.S. EPA Region 8** **1595 Wynkoop Street** **8ENF-W-NW** **Denver, Colorado 80202** **303-312-6250**

Inspection Narrative and Site Description

Introduction

On Wednesday, March 10, 2021 and Thursday, March 11, 2021, at approximately 9:00am each day, U.S. Environmental Protection Agency (EPA) inspectors Jessica Duggan and Emilio Llamozas (inspectors) conducted a remote pretreatment categorical industrial user (CIU) inspection of the Golden Aluminum (facility) located at 1405 E. 14th St, Ft. Lupton, Colorado. The inspection was conducted remotely due to concerns surrounding the COVID-19 pandemic. The purpose of the remote inspection was to evaluate Golden Aluminum's compliance with the requirements in 40 CFR Parts 403, 467 and 465 for the General Pretreatment Regulations, Aluminum Forming, and Coil Coating Point Source Categories, respectively.

The remote compliance evaluation consisted of an opening conference, industrial process and compliance questions, records review, and a closing conference. Throughout the remote inspection, inspectors noted observations in digital checklists.

On March 10, 2021, EPA inspectors introduced themselves and met with Mr. Chris Moellers, Chief Technical Officer; Mr. Don Forchette, Environmental Engineer; Mr. Ryan Thompson, EHS Manager; Mr. David Voigt, Coating Lines Manager; Mr. Luis Montenegro, Maintenance Manager; and Mr. Peyton Rumbo, Maintenance Superintendent through a Microsoft Teams video conference call. The inspectors held an opening conference with the facility representatives to explain the purpose of the inspection and discussed the role of the EPA regarding pretreatment regulations in Colorado. Colorado Department of Public Health and Environment (CDPHE) had previously issued a permit to Golden Aluminum (NPDES number COP900099). The EPA has also assigned a NPDES number for this facility (COPF00105). An EPA pretreatment permit application form was forwarded to the Golden Aluminum contact on March 1, 2021. Questions on the application form can be sent to the EPA Region 8 Pretreatment Coordinator, Al Garcia at 303-312-6385 or garcia.al@epa.gov. Inspectors also explained the use of remote inspection as a tool to evaluate compliance without being onsite during the COVID-19 pandemic.

Facility representatives provided an overview of the operations and processes at Golden Aluminum. Inspectors proceeded to ask a series of questions to help evaluate compliance with pretreatment regulations in 40 CFR Part 467 Aluminum Forming Point Source Category and 40 CFR Part 465 Coil Coating Point Source Category. The facility has been operating since 1983 and considered a new source for both the Aluminum Forming and Coil Coating pretreatment standards for new sources (PSNS). Based on the information provided during the process discussion and past inspections, the facility discharges to the City of Fort Lupton Wastewater Treatment Plant (NPDES number CO0021440), which discharges to the South Platte River.

Facility Description and Process Overview

EPA inspectors discussed onsite processes with Golden Aluminum staff, but because the inspection was performed remotely, onsite conditions were not independently verified.

Golden Aluminum is an aluminum sheet coil manufacturing facility located at 1405 E. 14th St. Ft. Lupton, Colorado. The facility operates 24 hours per day, 7 days per week, and 365 days per year, but may occasionally stop operations to replace equipment. There are two 12-hour shifts; a day shift from 6am-6pm and a night shift from 6pm-6am. The facility has approximately 200 employees, and the

office staff work Monday through Friday.

Golden Aluminum uses prime aluminum ingots, and scrap material such as flashing and used beverage containers to create aluminum coiled sheets used in a variety of applications such as food and beverage containers, automotive sheet metal, and raw material used in building and consumer products. Used beverage containers would go through the delacquering kiln to remove paint from cans. The delacquering kiln line has been offline for last year (2020) and will likely stay offline for another year (2021). The facility is planning to upgrade the delacquer kiln line, but no wastewater is generated from this part of the process. Aluminum scrap material is a cheaper form of aluminum.

Aluminum scrap and prime ingots are placed into three smelting furnaces to melt the material into molten aluminum. The facility can make alloys by adding manganese, magnesium, beryllium, or chromate to the aluminum.

The molten aluminum is cast into a sheet using copper casters blocks for heat extraction. The caster blocks used to create the sheets are cooled with water sprayed onto the blocks that constantly rotate on the top and bottom of the sheet, similar to a tank tractor wheel. Cooling water is used to cool the blocks and does not touch the aluminum sheets. Cooling water is vacuumed off the caster blocks and collected in two (2) tanks, each 1,500 gallons, located in the basement under the casting operation. One water collection tank is used for the top caster blocks and one is used for bottom caster blocks. The water is recirculated and reused for approximately four casting events, or approximately every 10 days. Occasionally, some contaminants can be vacuumed off the blocks. Operators use visual observations of the water, such as dirt or cloudy appearance, to determine when to discharge a cooling water tank. The entire capacity of the cooling water tank is discharged to the sanitary sewer without treatment.

The formed and coiled sheets enter the hot mill and cold mill unit operations to gauge the coils. In the hot mill unit, the aluminum sheet at 7/8-inch thickness is compressed to 1/8-inch thickness. The hot mill unit uses a water-based coolant, consisting of 99% water and 1% mineral oil, that is sprayed on the rolls to press the aluminum sheet. The hot mill coolant is captured, reused, and disposed of through Waste Management when spent. Coils are moved to annealing furnaces that provide a heat soaking stage and alter the mechanical properties of the metal. The annealing process does not use water.

The cold mill process reduces the thickness of coil sheets through rolling, and some sheets may go through the cold mill process two or three times to reduce size to desired thickness. Heat is generated in the process of rolling and a mineral oil coolant is used in the cold mill process. The cold mill coolant is captured, reused, and disposed of off-site when spent. Coils from the cold mill process are sent to the tension leveler devise to apply tension on the sheets. No wastewater is generated in the tension leveling unit. After tension leveling, coils are sent to the Wash line or Coating line.

<u>Wash Line – wastewater to Outfall P001</u>
The Wash line uses potassium hydroxide (KOH) and water to wash lubricants and dirt from the milling process. Coils are unrolled and washed in wash line towers. The wastewater from the washing and rinsing are collected and pumped to T2 Tank in the Wastewater Treatment (WWT) as Outfall P001 waste stream.

<u>Coating Line – wastewater to Outfall P002</u>
The Coating line consists of five process tanks to wash and coat the coils. All waste streams and wastewater from this process line are characterized by the facility as:

- Potassium hydroxide (KOH) cleansing - The coils are unrolled and washed with potassium

hydroxide and water in Tank 1;
- Rinse - Coils are rinsed in Tank 2;
- Chromate conversion coating spray - A solution of chrome and hydrofluoric acid is sprayed on the coils coating the sheet with a thin coating in Tank 3;
- Rinse tanks – Tanks 4 and 5 are two rinse tanks to remove excess chrome

Some tanks in the Coating line process are interconnected and weir over, and all tanks are constantly recharged while the process is running. The rinse tanks continuously overflow to a pipe that leads to the waste treatment sump. Additionally, the cleansing and chromate conversion tanks overflow to a pipe to the waste treatment sump. The waste treatment sump pumps the wastewater into T1 Tank in the WWT. Approximately once per month, the liquid in the Tank 3 is removed and the solids are shoveled out into poly drum and disposed of as hazardous waste. There can be solid build up in all the tanks, and Tanks 2, 4, and 5 are cleaned-out at the same time. Tank 1 is not cleaned unless it needs to be discharged.

During past EPA inspections, totes use to refill Tank 1 and Tank 3 were observed located adjacent to the Coating line without secondary containment. The facility representatives stated that spill containment is not always used when refilling Tank 1 and Tank 3. Draining the totes can be difficult when the totes are on a containment structure platform, and in some cases the secondary containment has broken. The slug discharge plan identifies that any leaks or spills would flow into the T1 Tank in the WWT, and the facility could drain T1 Tank into totes if high concentrations of chemicals were spilled. Golden Aluminum is using T1 Tank as the secondary containment for spills in the Coating line. Clean Harbors would dispose of the tote contents, but the facility has not had to implement this measure.

Quench line – wastewater to Outfall P003

After the Coating line, the coils are them moved to the coating room for contact coating. The coated aluminum passes through a series of ovens to dry the paint and remove volatiles. The sheets are quenched using spray city tap water. Quench water is captured by gravity in a sump and sent directly down the drain at Outfall P003. There are no holding tanks associated with the quench wastewater.

Wastewater Treatment (WWT)

Wastestream from the Wash line is stored in T2 Tank (800 gallon). This waste stream is neutralized with sulfuric acid and the pH is controlled by the pH probe in the tank. The pH probe is set for pH 7. The Outfall P001 discharge line is equipped with a flow meter and pH meter.

Coating line tanks 1-5 are comingled into T1 Tank at WWT, then wastewater is metered from T1 into the chrome reducing tank (200 gallon). Sulfuric acid and sodium metabisulfate are used to lower the pH below 3, to reduce the chromium. The pH and oxidation reduction potential (ORP) are monitored in the chrome reducing tank and the facility tries to keep the ORP below 240 millivolts. From the chrome reduction tank, wastewater is directed to the neutralization tank. Hydrated lime and water are pumped into the neutralization tank and the facility tries to maintain a pH of approximately 7. The lime particles neutralize and act as a substrate for chromium to attach as a salt. The slurry from the neutralization tank goes to the floc tank and midfloc chemical is metered into the tank to help flocs form. The floc settles out in the clarifier and collects as sludge on bottom of the clarifier. Clarified water weirs into the media filter tank, also called the liquid level control tank or inline tank, and the final pH probe checks the pH before discharge to through Outfall P002 to the sanitary sewer. Sludge from the clarifier bottom is pumped to the filter press. Excess water is directed back to the clarifier. The filter cake is collected in a 20-yard covered roll-off box and disposed of as F019 waste

approximately 1-2 times per month by Clean Harbors in the Deer Trail landfill.

Each tank in the WWT has a dedicated pH probe. The pH probes are calibrated with pH 4 and 10 buffer solutions and Mr. Forchette emailed photographs of the buffer solutions. None of the buffer solutions were expired. The final pH probe was moved after the 2019 EPA inspection to be right at the discharge point. The pH probe is located within the inline tank, and on the side closest to the point of discharge.

Cooling Tower

Non-contact cooling water is used throughout the facility. On May 18, 2021, Golden Aluminum reported to the EPA and the City of Fort Lupton a slug discharge of hot mill coolant (99% water and 1% mineral oil) to the sanitary sewer due to a gasket failure on the hot mill coolant heat exchanger. This report does not include findings or corrective actions due to the hot mill coolant slug discharge in May 2021, since it was after the inspection and records review. Any findings or corrective actions in response to the May 2021 slug discharge will be addressed separate from this inspection report.

The facility also has a forklift maintenance area that has a wash bay. The wastewater from the forklift wash is contained in storage tanks for hauling off by Waste Management.

Pretreatment Categorization

Wastewater generated from Golden Aluminum's processes are regulated under the General Pretreatment Regulations (40 CFR 403), and categorical pretreatment standards. Due to the coil coating process at Golden Aluminum, wastewater generated from Coating and Quench line are subject to categorical pretreatment standards in Coil Coating Pretreatment Standards, Subpart C - Aluminum (40 CFR 465.35).

Aluminum Forming pretreatment standards apply at Golden Aluminum because the facility operations of rolling, and related operations of heat treatment, casting, and surface treatment. Specifically, the cold mill process of rolling with neat oils 40 CFR 467.16, Subpart A – Rolling with Neat Oils is applicable, and the wastewater from Washing line is considered the ancillary operation of cleaning or etching rinse. The hot mill process uses an emulsion lubricant, which would be considered the process of rolling with emulsions (40 CFR 467, Subpart B – Rolling with Emulsions), but no wastewater is generated from the hot mill process, and therefore, no wastewater is regulated under Subpart B.

Facilities may generate wastewater from Coil Coating and Aluminum Forming processes at the same plant. Coil Coating regulations were deemed to be most appropriate for the waste streams associated with the Coil Coating operations. The Table below summarizes the outfalls designated in the CDPHE permit (COP900099), and the applicable pretreatment standards at each outfall.

Outfall	Wastewater source and applicable pretreatment standards
P001	Wastewater from the Washing line. Subject to Aluminum Forming Pretreatment Standards (40 CFR 467, Subpart A – Cleaning or Etching Rinse)
P002	Wastewater from the Coating line. Subject to Coil Coating Pretreatment Standards (40 CFR 465, Subpart C- Aluminum)
P003	Wastewater from the Quench line. Subject to Coil Coating Pretreatment Standards (40 CFR 465, Subpart C- Aluminum)

Sample Collection

Wastewater samples are collected once per month by Mr. Forchette. There are sampling manifolds for each Outfall (P001/P002/P003). Composite samples are collected by aliquots taken every 15 minutes for 24 hours. The sampler uses a 2.5-gallon carboy to collect the composite samples, and the sample is poured into pre-preserved laboratory bottles (nitric acid for metals). Grab samples are collected for cyanide and laboratory bottles are pre-preserved with sodium hydroxide. Four individual grab samples are collected over 24-hours for the TTO samples and composited in the laboratory.

On Monday, March 8, 2021, Golden Aluminum notified EPA of a potential chromium exceedance. The operator observed the color of the water in the clarifier to be different than normal operations. Internal process control test with a HACH colorimeter showed that chromium was present in the clarifier at approximately 0.4 mg/L. Process wastewater from the Coating line (Outfall P002) is treated in a chromium reducing tank and neutralization tank prior to entering the clarifier. The operator stopped discharging through Outfall P002 and recirculated the wastewater to T1 Tank in the WWT. The calibration of the ORP probe, which controls the metabisulfate addition, had shifted and sporadically failed. The facility was not aware of the ORP probe failure and subsequent mistreatment of the wastewater. Upon learning of the probe failure, the facility stopped discharging, collected a grab sample for laboratory analysis of chromium, replaced the ORP probe, and recycled the wastewater back through the WWT. The exact timing of the probe malfunction was not known. Normal operation and maintenance of the WWT is to test the clarifier for chromium using the HACH colorimeter daily. The operator over the weekend may not have performed this daily internal process check. Golden Aluminum recirculated the wastewater through the WWT process, and on Tuesday, March 9, 2021 chrome was not detected in the clarifier and discharge through Outfall P002 resumed.

During the inspection, there was discussion about how to report the chromium results collected from the grab sample on March 8 and March 9, 2021. EPA advised during the closing conference and in the preliminary findings email to report the normal composite sample results from the monthly sample collection on the Discharge Monitoring Report (DMR), and include a memo attached to the DMR with information explaining the purpose of the two grab samples collected on March 8 and 9, 2021, the results of the analyses, and calculations (i.e. wastewater flow, concentration of the pollutant, the pounds of aluminum processed, and the conversion factor).

The March 8, 2021 grab sample result was 2.2233 mg/L of chromium. The volume of wastewater on March 8, 2021 was 4,902 gallons, and the facility had 4,171,773 square feet of aluminum processed.

Calculations: (4902 gallons x 2.2233 mg/L x 8.34) / 4,171773 ft^2 processed
= 0.0218 lbs/Mft^2 of Al processed for Chromium

The March 9, 2021 grab sample result was 2.3720 mg/L of chromium. The volume of wastewater discharged on March 9, 2021 was 903 gallons and the facility had 4,266,486 square feet of aluminum processed. The volume of wastewater was lower than normal because the facility was recirculating water to T1 Tank for most of March 8 and March 9, 2021.

Calculations: (903 gallons x 2.372 mg/L x 8.34) / 4,266,486 ft^2 processed
= 0.0042 lbs/ Mft^2 of Al processed for Chromium

Outfall P002 limits

Parameter	Daily Max (lb/Mft^2)	Monthly Average (lb/Mft^2)
Chromium	0.037	0.015

Based on the limits for Outfall P002, the grab sample from March 8, 2021 would have exceeded the monthly parameter limit for chromium, but met the daily max limit. The March 9, 2021 grab sample would have met both the daily max and monthly parameter limits for chromium. Since these were grab samples rather than 24-hr composites, EPA advised the facility to report them in a memo attached to the DMR rather than include with the monthly composite sample results on the DMR. The permit requires 24-hour composite samples to be collected during the discharge of the wastewater.

Facility Walk-Through

EPA inspectors did not conduct an onsite inspection of the facility due to COVID-19 concerns. The evaluations focused on records review and interviews with facility representatives.

Records Review

Inspectors provided access to a shared folder on Microsoft OneDrive (OneDrive) to allow for Golden Aluminum representatives to upload records. Inspectors reviewed the DMRs and associated laboratory records, chains-of-custody (COC), and pounds of aluminum production data from January 2020 to December 2020. The chromium, cyanide and zinc samples were analyzed by Colorado Analytical Laboratories, Inc., and the Total Toxic Organics (TTO) collected in January and July 2020 were analyzed by ALS Environmental.

Inspectors also reviewed the Slug Discharge Control Plan (SDCP), waste hauling records, and reviewed pH logs. Additionally, on March 17, 2021, the manifest for the wastewater captured at the truck shop wash-bay was emailed to EPA inspectors.

Closing and Follow-Up

The inspectors held a closing conference with Mr. Forchette, Mr. Thompson, and Mr. Moellers on March 11, 2021. EPA inspectors informed the facility contacts of the preliminary findings that were noted during the inspection. On March 18, 2021, EPA emailed the preliminary findings to the facility representatives. On March 19, 2021, Mr. Forchette sent an email to EPA with the results of sample data collected on March 9, 2021. On April 12, 2021, Mr. Forchette forwarded an email from the ALS Environmental laboratory regarding TTO samples and reporting limits (RL) stating, “The sample was diluted due to matrix; the level of non-target compounds and to ensure instrument integrity. Weren’t able to run without a dilution hence the elevated limits.”

On May 19, 2021, EPA received notification of a slug discharge of hot mill coolant to the sanitary sewer and POTW that occurred on May 17 and 18, 2021. Any findings or corrective actions in response to the May 2021 slug discharge will be addressed separate from this inspection report.

Findings, Corrective Actions and Recommendations

Finding #1: Discharge Monitoring Report (DMR) for January 2020 was 10 days late.
The monthly DMRs are due at the end of the reporting period month. EPA inspectors reviewed the January – December 2020 DMR data submitted into EPA's Integrated Compliance Information System (ICIS) database. EPA noted the January 2020 DMR was due on February 28, 2020 but was submitted 10 days late on March 10, 2020.

Pretreatment Requirement:
Part A.1 of the COP900099 permit identifies the Monthly Reporting requirements and states, "On a MONTHLY basis, the Industrial User shall summarize the results of all analyses performed in accordance with the Tables above, and any additional analyses of the discharge points performed during the reporting period. The results shall be submitted on the Self- Monitoring Form with additional sheets attached to the Self-Monitoring Form with all results."

Corrective Action:
Ensure DMR data is reported within the required timeframe. No response is necessary.

Finding #2: The production-based effluent calculations for zinc were incorrect for P002 in February, April, May, and December 2020 DMRs. The production-based effluent calculations for chromium were incorrect for P003 in April 2020, and for P001, P002, and P003 in the December 2020 DMRs. The production-based effluent calculations for cyanide were incorrect for P001 in September and December 2020 DMRs, and for P003 in December 2020 DMR.
EPA inspectors reviewed the January – December 2020 monthly DMR data submitted for Outfalls P001, P002, and P003, and associated laboratory records, chains-of-custody, and pounds of aluminum production data. During the closing conference, the DMR data reported for December 2020 DMRs and inaccurate calculations was noted. On March 17, 2021, Mr. Forchette emailed printouts of the NetDMR submittal changes for November and December 2020 DMRs. The flow data had been updated, but the calculations for the parameters were not adjusted and remain inaccurate. According to the data provided by Golden Aluminum, the production-based effluent calculations of the following parameters were incorrect:

- February 2020 Outfall P002 - Zinc
  The reported zinc daily maximum and the monthly average values for the February 2020 Outfall P002 DMR were 0 lb/million of square foot of aluminum processed (lb/Mft^2) and 0 lb/Mft^2 respectively. Golden Aluminum took one zinc sample from Outfall P002 in February 2020 and the zinc concentration value was 0.005 mg/L. When using the wastewater flow, the concentration of the pollutant, the aluminum processed and the conversion factor, the Outfall P002 zinc daily maximum and the monthly average values for February 2020 were 0.00002 lb/Mft^2 and 0.00002 lb/Mft^2, respectively.

- April 2020 Outfall P002 - Zinc
  The reported zinc daily maximum and the monthly average values for the April 2020 Outfall P002 DMR were 0.00001 lb/Mft^2 and 0.00001 lb/Mft^2, respectively. Golden Aluminum took one zinc sample from Outfall P002 in April 2020 and the zinc concentration value was 0.003

mg/L. When using the wastewater flow, the concentration of the pollutant, the aluminum processed and the conversion factor, the Outfall P002 zinc daily maximum and the monthly average values for April 2020 were 0.00002 lb/Mft^2 and 0.00002 lb/Mft^2, respectively.

- April 2020 Outfall P003 - Chromium
  The reported chromium daily maximum and the monthly average values for the April 2020 Outfall P003 DMR were 0.0015 lb/Mft^2 and 0.0015 lb/Mft^2, respectively. Golden Aluminum took one chromium sample from Outfall P003 in April 2020, and the chromium concentration value was 0.0015 mg/L. When using the wastewater flow, the concentration of the pollutant, the aluminum processed and the conversion factor, the Outfall P003 chromium daily maximum and the monthly average values for April 2020 were 0.00009 lb/Mft^2 and 0.00009 lb/Mft^2, respectively.

- May 2020 Outfall P002 - Zinc
  The reported zinc daily maximum and the monthly average values for the May 2020 Outfall P002 DMR were 0.0001 lb/Mft^2 and 0.0001 lb/Mft^2, respectively. Golden Aluminum took one zinc sample from Outfall P002 in May 2020 and the zinc concentration value was 0.005 mg/L. When using the wastewater flow, the concentration of the pollutant, the aluminum processed and the conversion factor, the Outfall P002 zinc daily maximum and the monthly average values for May 2020 were 0.00006 lb/Mft^2 and 0.00006 lb/Mft^2, respectively.

- September 2020 Outfall P001 – Cyanide
  The reported cyanide daily maximum and the monthly average values for the September 2020 Outfall P001 DMR were 0.002 lb/million lbs of aluminum processed (lb/Mlb) and 0.002 lb/Mlb, respectively. Golden Aluminum took one cyanide sample from Outfall P001 in September 2020, and the cyanide concentration value was 0.005 mg/L. When using the wastewater flow, the concentration of the pollutant, the lbs of aluminum processed and the conversion factor, the Outfall P001 cyanide daily maximum and the monthly average values for September 2020 were 0.00124 lb/Mlb and 0.00124 lb/Mlb, respectively.

- December 2020 Outfall P001 – Cyanide and Chromium
  The reported cyanide daily maximum and the monthly average values for the December 2020 Outfall P001 DMR were 0.0011 lb/Mlb and 0.0011 lb/Mlb, respectively. Golden Aluminum took one cyanide sample from Outfall P001 in December 2020, and the cyanide concentration value was 0.006 mg/L. When using the wastewater flow, the concentration of the pollutant, the lbs of aluminum processed and the conversion factor, the Outfall P001 cyanide daily maximum and the monthly average values for December 2020 were 0.0013 lb/Mlb and 0.0013 lb/Mlb, respectively.

  The reported chromium daily maximum and monthly average values for the December 2020 Outfall P001 DMR were 0.1313 lb/Mlb and 0.1313 lb/Mlb, respectively. Golden Aluminum took one chromium sample from Outfall P001 in December 2020, and the chromium concentration value was 0.1636 mg/L. When using the wastewater flow, the concentration of the pollutant, the lbs of aluminum processed and the conversion factor, the Outfall P001 chromium daily maximum and monthly average values for December 2020 were 0.0363 lb/Mlb and 0.0363 lb/Mlb, respectively.

- December 2020 Outfall P002 – Zinc and Chromium
  The reported zinc daily maximum and the monthly average values for the December 2020 Outfall P002 DMR were 0.0002 lb/Mft^2 and 0.0002 lb/Mft^2, respectively. Golden Aluminum took one zinc sample from Outfall P002 in December 2020 and the zinc concentration value was 0.008 mg/L. When using the wastewater flow, the concentration of the pollutant, the aluminum processed and the conversion factor, the Outfall P002 zinc daily maximum and the monthly average values for December 2020 were 0.00007 lb/Mft^2 and 0.00007 lb/Mft^2, respectively.

  The reported chromium daily maximum and the monthly average values for the December 2020 Outfall P002 DMR were 0.0048 lb/Mft^2 and 0.0048 lb/Mft^2, respectively. Golden Aluminum took one chromium sample from Outfall P002 in December 2020 and the chromium concentration value was 0.5911 mg/L. When using the wastewater flow, the concentration of the pollutant, the aluminum processed and the conversion factor, the Outfall P002 chromium daily maximum and the monthly average values for December 2020 were 0.0052 lb/Mft^2 and 0.0052 lb/Mft^2, respectively.

- December 2020 Outfall P003 – Cyanide and Chromium
  The reported cyanide daily maximum and the monthly average values for the December 2020 Outfall P003 DMR were 0.006 lb/Mft^2 and 0.006 lb/Mft^2, respectively. Golden Aluminum took one cyanide sample from Outfall P003 in December 2020 and the cyanide concentration value was 0.005 mg/L. When using the wastewater flow, the concentration of the pollutant, the aluminum processed and the conversion factor, the Outfall P003 cyanide daily maximum and the monthly average values for December 2020 were 0.000006 l lb/Mft^2 and 0.000006 lb/Mft^2, respectively.

  The reported chromium daily maximum and the monthly average values for the December 2020 Outfall P003 DMR were 0.0004 lb/Mft^2 and 0.0004 lb/Mft^2, respectively. Golden Aluminum took one chromium sample from Outfall P003 in December 2020 and the chromium concentration value was 0.0711 mg/L. When using the wastewater flow, the concentration of the pollutant, the aluminum processed and the conversion factor, the Outfall P003 chromium daily maximum and the monthly average values for December 2020 were 0.00008 lb/Mft^2 and 0.00008 lb/Mft^2, respectively.

Pretreatment Requirement:
40 CFR §465.35 – Coil Coating, Subpart C - Aluminum

Pollutant or pollutant property	PSNS			
	Maximum for any 1 day		Maximum for monthly average	
	mg/m^2 (pounds per 1 million ft^2) of area processed			
Chromium	0.18	(0.037)	0.072	(0.015)
Cyanide	0.095	(0.02)	0.038	(0.008)
Zinc	0.49	(0.10)	0.20	(0.041)

40 CFR §467.16 – Aluminum Forming, Subpart A, Cleaning or Etching Rinse

Cleaning or Etching Rinse

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.52	0.21
Cyanide	0.28	0.11
Zinc	1.42	0.59
TTO	0.96	
Oil and grease (alternate monitoring parameter)	13.91	13.91

COP900099 permit, Part A. Limitation and Monitoring Requirements

Limitations & Monitoring for Discharge **Point 001**:			
Parameter	Units	Numeric Limitations	
		Daily Maximum	Monthly Average
Total Chromium	Million off-lbs of aluminum cleaned or etched	0.52	0.21
Total Cyanide	Million off-lbs of aluminum cleaned or etched	0.28	0.11
Total Zinc	Million off-lbs of aluminum cleaned or etched	1.42	0.59
Total Toxic Organics	Million off-lbs of aluminum cleaned or etched	0.96	---
Oil and Grease	Million off-lbs of aluminum cleaned or etched	13.91	13.91

Limitations & Monitoring for Discharge **Point 002**:			
Parameter	Units	Numeric Limitations	
		Daily Maximum	Monthly Average
Total Chromium	lbs/1 million ft^2 of area processed	0.037	0.015
Total Cyanide	lbs/1 million ft^2 of area processed	0.02	0.008
Total Zinc	lbs/1 million ft^2 of area processed	0.10	0.041

Limitations & Monitoring for Discharge **Point 003**:			
Parameter	Units	Numeric Limitations	
		Daily Maximum	Monthly Average
Total Chromium	lbs/1 million ft^2 of area processed	0.037	0.015
Total Cyanide	lbs/1 million ft^2 of area processed	0.02	0.008
Total Zinc	lbs/1 million ft^2 of area processed	0.10	0.041

Corrective Action:

Ensure the processed-based calculations for effluent parameters at Outfalls P001, P002, and P003 are accurate in the DMR submittals. Correct the 2020 DMR submissions with the accurate production-based effluent calculations for Outfalls P001, P002 and P003. In your response to the EPA, indicate how the facility has addressed this finding.

Finding #3: Sample preservation of cooling to ≤6 °C, as required by 40 CFR 136, was not completed for all cyanide and TTO samples in 2020.

EPA inspectors reviewed the January – December 2020 monthly DMR data submitted for Outfalls P001, P002, and P003, and associated laboratory records, chains-of-custody, and pounds of aluminum production data. According to 40 CFR 403, all sampling and analyses are to be performed according to specified methods in 40 CFR 136 – Guidelines Establishing Test Procedures for the Analysis of

Pollutants. In the DMR and laboratory records reviewed, the following samples were not preserved to ≤6 °C:

1. The January 16, 2020, cyanide sample for P003 was received by the laboratory with a temperature of 11 °C. According to the chain of custody, there was no ice in the cooler.

2. The April 22, 2020, cyanide samples for P001, P002 and P003 were received by the laboratory with a temperature of 12 °C. According to the chain of custody, there was no ice in the cooler.

3. The May 24, 2020, cyanide samples for P001, P002 and P003 were received by the laboratory with a temperature of 27.6 °C. According to the chain of custody, there was no ice in the cooler.

4. The June 24, 2020, cyanide samples for P001, P002 and P003 were received by the laboratory with a temperature of 27 °C. According to the chain of custody, there was no ice in the cooler.

5. The July 17, 2020, TTO samples for P001 were received by the laboratory with a temperature of 10.1 °C. According to the ALS Environmental form, Condition of Sample Upon Receipt Form, the samples were shipped on ice.

6. The July 21, 2020, cyanide samples for P001, P002, and P003 were received by the laboratory with a temperature of 25.5 °C. According to the chain of custody, there was no ice in the cooler.

7. The August 26, 2020, cyanide samples for P002 and P003 were received by the laboratory with a temperature of 14.2 °C. According to the chain of custody, there was no ice in the cooler.

8. The August 27, 2020, cyanide sample for P001 was received by the laboratory with a temperature of 26.8 °C. According to the chain of custody, there was no ice in the cooler.

9. The September 25, 2020, cyanide samples for P001, P002, and P003 were received by the laboratory with a temperature of 30.1 °C. According to the chain of custody, there was ice present in the cooler.

10. The October 25, 2020, cyanide samples for P001, P002, and P003 were received by the laboratory with a temperature of 20 °C. According to the chain of custody, there was ice present in the cooler.

11. The November 11, 2020, cyanide samples for P001, P002, and P003 were received by the laboratory with a temperature of 8 °C. According to the chain of custody, there was ice present in the cooler.

12. The December 15, 2020, cyanide samples for P001, P002, and P003 were received by the laboratory with a temperature of 11 °C. According to the chain of custody, there was ice present in the cooler.

Pretreatment Requirement:
40 CFR §403.12(g)(5) states, "All analyses shall be performed in accordance with procedures established by the Administrator pursuant to section 304(h) of the Act and contained in 40 CFR part 136 and amendments thereto or with any other test procedures approved by the Administrator.

40 CFR §136.3 Table II – Required Containers, Preservation Techniques, and Holding Times identifies that samples collected for Cyanide analysis be preserved by: cool ≤6 °C, NaOH to pH >10, and reducing agent if oxidizer present.

40 CFR §136.3 Table II – Required Containers, Preservation Techniques, and Holding Times identifies that Table 1C-Organic Tests be preserved by: cool ≤6 °C.

Corrective Action:
Ensure 40 CFR Part 136 sampling and preservations requirements are followed, and that cyanide and TTO samples are cooled to ≤6 °C. In your response to the EPA, indicate how the facility manages the samples under their chain of custody, including information about ice usage and sample management prior to delivery to the laboratory because chain of custody records show inconsistent use of ice. Also indicate in the response how the facility has addressed this finding.

Finding #4: The Method 625 parameters in the January 28, 2020 TTO sample of P001 had reporting limits above the reporting limit required in 40 CFR 467.02.
For the January 28, 2020, TTO sampling of P001, the Method 625 parameters had a reporting limit of 0.450 to 0.680 mg/L and a dilution factor of 10. According to 40 CFR 467.02, the reporting limit should be at least 0.010 mg/L, since the TTOs are a sum of the masses or concentrations of each TTO compound found in the discharge at concentration greater than 0.010 mg/L.

Parameter	Reporting Limit for January 28, 2020 sample
3,4-benzofluoranthene	ND RL 0.450 mg/L
acenaphthene	ND RL 0.450 mg/L
acenaphthylene	ND RL 0.450 mg/L
anthracene	ND RL 0.450 mg/L
benzo(k)fluoranthene	ND RL 0.450 mg/L
bis(2-ethyl hexyl)phthalate	ND RL 0.680 mg/L
chrysene	ND RL 0.450 mg/L
diethylphthalate	ND RL 0.450 mg/L
di-n-butyl phthalate	ND RL 0.450 mg/L
2,4-dinitrotoluene	ND RL 0.450 mg/L
2-chlorophenol	ND RL 0.450 mg/L
benzo(a) pyrene	ND RL 0.450 mg/L
benzo(ghi)perylene	ND RL 0.450 mg/L
dibenzo(a,h) anthracene	ND RL 0.450 mg/L
fluoranthene	ND RL 0.450 mg/L
fluorene	ND RL 0.450 mg/L
indeno(1,2,3-c,d)pyrene	ND RL 0.450 mg/L
isophorone	ND RL 0.450 mg/L

napthalene	ND RL 0.450 mg/L
N-nitro sodi phenyl amine	ND RL 0.450 mg/L
p-chloro-m-cresol	ND RL 0.450 mg/L
phenanthrene	ND RL 0.450 mg/L
phenol	ND RL 0.450 mg/L
pyrene	ND RL 0.450 mg/L

On April 12, 2021, Mr. Forchette forwarded an email from the ALS Environmental laboratory regarding TTO samples and reporting limits (RL) stating, "The sample was diluted due to matrix; the level of non-target compounds and to ensure instrument integrity. Weren't able to run without a dilution hence the elevated limits."

Pretreatment Requirement:
Aluminum Forming Point Source Category
40 CFR §467.02(q) states, "The term Total Toxic Organics (TTO) shall mean the sum of the masses or concentrations of each of the following toxic organic compounds which is found in the discharge at a concentration greater than 0.010 mg/1:

> p-chloro-m-cresol; tetrachloroethylene; 2-chlorophenol; toluene; 2,4-dinitrotoluene; trichloroethylene; 1,2-diphenylhydrazine; endosulfan sulfate; ethylbenzene; bis(2-ethyl hexyl)phthalate; fluoranthene; diethylphthalate; isophorone; 3,4-benzofluoranthene; napthalene; benzo(k)fluoranthene; N-nitro sodi phenyl amine; chrysene; phenol; acenaphthylene; benzo(a) pyrene; anthracene; benzo(ghi)perylene; di-n-butyl phthalate; fluorene; endrin; phenanthrene; endrin aldehyde; dibenzo(a,h) anthracene; PCB-1242, 1254, 1221; PCB-1232, 1248, 1260, 1016; indeno(1,2,3-c,d)pyrene; acenaphthene; pyrene"

Corrective Action:
Ensure the contract laboratory analyzing the TTO samples can analyze samples below the reporting limits required in 40 CFR 467.02. Evaluate and investigate potential solutions, such as resampling or alternative contract laboratory support, to ensure the reporting limits required by the regulations are met. In your response to the EPA, indicate how the facility has addressed this finding.

Finding #5: Routine testing for hexavalent chrome each 12-hr shift did not occur on March 7, 2021, resulting in mistreatment and potential slug discharge of chromium to the sanitary sewer.
Golden Aluminum's Slug Discharge Prevention and Control Plan (SDCP) was signed and dated 2/24/2021. The Slug Reporting Procedure section of the SDCP states, "Coating line discharge to the City outfall is compliance monitored for pH, and tested for hexavalent chrome ions each 12-hour shift." On March 8, 2021, EPA received notification about a potential chromium exceedance. The routine testing for hexavalent chrome ions may not have occurred during the regular 12-hour shift interval, and wastewater may have been discharged above the facility's chromium effluent limit. Golden Aluminum representatives stated they are evaluating training and operating procedures because of this incident.

Pretreatment Requirement:
40 CFR §403.8(f)(2)(vi)(D) has the SDCP requirements and states, "If necessary, procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off,

worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment for emergency response."

Corrective Action:
Ensure procedures to prevent adverse impacts from accidental spills and worker training are implemented, in accordance with the SDCP. In your response to the EPA, indicate how the facility will implement the SDCP and address this finding.

Finding #6: Wastewater generated from the cooling of the casting blocks in the casting operation discharges to the City of Fort Lupton is subject to the Aluminum Forming Point Source Category.
Golden Aluminum uses prime aluminum ingots, and scrap material such as flashing and used beverage containers to create aluminum coiled sheets. Aluminum scrap and prime ingots are placed into three smelting furnaces to melt the material into molten aluminum. The molten aluminum is cast into a sheet using copper casters blocks for heat extraction. The caster blocks used to create the sheets are cooled with water sprayed onto the blocks that constantly rotate on the top and bottom of the sheet, similar to a tank tractor wheel. Cooling water is used to cool the blocks and does not touch the aluminum sheets. Cooling water is vacuumed off the caster blocks and collected in two (2) tanks, each 1,500 gallons, located in the basement under the casting operation. One water collection tank is used for the top caster blocks and one is used for bottom caster blocks. The water is recirculated and reused for approximately four casting events, or approximately every 10 days. Occasionally, some contaminants can be vacuumed off the blocks. Operators use visual observations of the water, such as dirt or cloudy appearance, to determine when to discharge a cooling water tank. The entire capacity of the cooling water tank is discharged to the sanitary sewer without treatment.

The casting operation performed at the facility and wastewater generated from the cooling of the casting block was not designated as a categorical pretreatment outfall in the CDPHE permit. Casting is an integral part of the aluminum forming operation. According to EPA's website on Aluminum Forming Effluent Guidelines (https://www.epa.gov/eg/aluminum-forming-effluent-guidelines), the information on casting states, "If the aluminum is a remelted primary aluminum product and is cast at a facility for subsequent forming of aluminum, then the casting of remelted aluminum is subject to the Aluminum Forming Category limitations."

The Aluminum Forming applicability (40 CFR 467.01) states, "Casting aluminum when performed as an integral part of aluminum forming and located onsite at an aluminum forming plant is considered an aluminum forming operation and is covered under these guidelines. When aluminum forming is performed on the same site as primary aluminum reduction the casting shall be regulated by the nonferrous metals guidelines if there is no cooling of the aluminum prior to casting. If the aluminum is cooled prior to casting then the casting shall be regulated by the aluminum forming guidelines."

Ancillary operations regulated under Subpart A- Rolling with Neat Oils subcategory include continuous rod casting, continuous sheet casting, solution heat treatment, and cleaning and etching. The definition in 40 CFR 467.02 states, "Continuous casting is the production of sheet, rod, or other long shapes by solidifying the metal while it is being poured through an open-ended mold using little or no contact cooling water. Continuous casting of rod and sheet generates spent lubricants and rod casting also generates contact cooling water."

Based on the core process of rolling with neat oils and ancillary operation of continuous casting, it appears the wastewater generated from the cooling of the casting blocks in the casting operation is subject to the Aluminum Forming Pretreatment Standards. Currently, the wastewater discharges to the City of Fort Lupton sanitary sewer through an unmonitored and unregulated discharge point in the basement of the casting operations. EPA will be developing a control mechanism for Golden Aluminum that will replace the CDPHE discharge permit. Determination of applicable pretreatment regulations and the accompanying limits will be addressed in the control mechanism.

Pretreatment Requirement:

Aluminum Forming Point Source Category

> 40 CFR §467.01(a) states, "Aluminum forming includes commonly recognized forming operations such as rolling, drawing, extruding, and forging and related operations such as heat treatment, casting, and surface treatments…Casting aluminum when performed as an integral part of aluminum forming and located onsite at an aluminum forming plant is considered an aluminum forming operation and is covered under these guidelines. When aluminum forming is performed on the same site as primary aluminum reduction the casting shall be regulated by the nonferrous metals guidelines if there is no cooling of the aluminum prior to casting. If the aluminum is cooled prior to casting then the casting shall be regulated by the aluminum forming guidelines."

Aluminum Forming Point Source Category, Subpart A – Rolling with Neat Oils Subcategory

> 40 CFR §467.11 has Specialized definitions and states, "(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the rolling operation. The ancillary operations shall include continuous rod casting, continuous sheet casting, solution heat treatment, cleaning or etching."

Aluminum Forming Point Source Category

> 40 CFR §467.02(d) states, "*Continuous casting* is the production of sheet, rod, or other long shapes by solidifying the metal while it is being poured through an open-ended mold using little or no contact cooling water. Continuous casting of rod and sheet generates spent lubricants and rod casting also generates contact cooling water."

Recommendation:

Identify all wastewaters generated from the aluminum forming manufacturing operations in the EPA pretreatment permit application. The control mechanism will be developed by the EPA and the appropriate Pretreatment Standards will be applied at the appropriate discharge locations.