

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

**Purpose:** Pretreatment Industrial User (IU) Inspection

**Facility:** voestalpine Bohler Welding  
6797 Fronius Dr, Ste B  
Portage, Indiana 46368

**Date of Inspection:** March 25, 2021

**EPA Representatives:** Newton Ellens, Pretreatment Program Manager, 312-353-5562  
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**Facility Representatives:** Dr. Alexander Wipplinger, Managing Director, 219-617-6661  
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David Littleton, Wastewater Treatment Supervisor, 219-617-4407

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**Approver Name and Title:** Molly Smith, Section Chief, Water Enforcement and Compliance Assurance Branch

**Approver Signature:** MOLLY SMITH  Digitally signed by  
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**Approval Date:** \_\_\_\_\_

## **Purpose of Inspection**

The purpose of the inspection was to describe, evaluate, and document compliance with the Clean Water Act (CWA) and associated pretreatment regulations with respect to the voestalpine Bohler Welding facility, located at 6797 Fronius Dr., Portage, Indiana (voestalpine facility).

## **Background**

As stated above, the voestalpine facility is located in Portage, Indiana. The City of Portage does not run a Federally approved pretreatment program. In addition, the Indiana Department of Environmental Management (IDEM) does not run an approved State pretreatment program. Therefore, the U.S. Environmental Protection Agency is both the Approval Authority and the Control Authority for the voestalpine facility, as defined in 40 C.F.R. § 403.3(c) and (f).

Although IDEM does not run an approved State pretreatment, it does regulate the voestalpine facility. Specifically, IDEM has issued a permit to the facility and requires self-monitoring reports.

## **Preliminary Activities**

### **Virtual Opening Teleconference**

On March 23, 2021, Mr. Ellens and Mr. Hewitt spoke with Mr. Littleton via teleconference. Mr. Ellens explained the purpose of the voestalpine inspection. Afterwards, Mr. Littleton told Mr. Ellens and Mr. Hewitt the following:

1. Mr. Littleton started with voestalpine about a year ago (March 31, 2020). Prior to that, he was the pretreatment coordinator for the City of Portage, Indiana.
2. The voestalpine facility may have been constructed in 2019.
3. The facility produces three types of welding wire: stainless, unalloyed, and seamless.
4. The facility has about 30 to 35 employees. The company just added a third shift, so the company may have more employees. The majority of employees work during the day shift.
5. Wastewater comes from:
  - a. Rinsing the welding wire. Some lubricant may also be in the process wastewater.
  - b. Spent acid: Phosphoric acid is used on the stainless-steel line. The pH of the wastewater in acid tanks ranged from 2.9 to 10 S.U. There have been a couple cases (around December 2020 to January 2021), when the pH has unusually high or low; once, the pH of the wastewater was 1.9 S.U., and another when the pH was 10 S.U. In both cases, the wastewater was hauled away for disposal. The facility has since installed a new pumping system that allows for treating wastewater with unusually high or low pH and eliminates the need for off-site disposal.
6. The facility usually discharges about 13,000 gallons per day (gpd). On a slow day, the facility has discharged about 3,800 gpd.

7. The facility has a batch discharge system. It treats and discharges 1,900 gallons of wastewater at a time. After treatment, the company tests the pH and copper and phosphorous concentrations of each batch. If tests show that the wastewater characteristics are out of range, then the batch is re-treated. The last time the facility re-treated wastewater was for phosphorus (the sample concentration was 12 mg/L, and the facility threshold was 10 mg/L).
8. The pretreatment process is as follows:
  - a. Wastewater is pumped into a 6,000-gallon holding tank.
  - b. Remaining wastewater from acids is toted and poured into a 3,800-gallon holding tank (an “acid tank,” or “dump tank.”)
  - c. Wastewater from either holding tank is pumped to the 1,900-gallon treatment tank. It is best to treat wastewater from the acid tank separately from wastewater with a higher pH. Here, the pH is adjusted via lime and a polymer is added for flocculation.
  - d. Wastewater is transferred to a filter feed tank (a rotary drum process). Staff adds diatomaceous earth in this step.
  - e. Wastewater is transferred to a discharge tank, where the pH, copper and phosphorous concentrations are checked. If wastewater is within acceptable ranges, then it is discharged. Sewer discharges take about one to two hours.
9. The facility uses a degreaser (Simple Green) to clean the facility floors. A facility floor scrubber discharges dirty water to a floor drain. Discharges from the floor drain route to an oil/water separator, then to the sewer.
10. Mr. Littleton collects wastewater samples (for analysis of most pollutant parameters) every Tuesday and Thursday. ALS Laboratories (Valparaiso, Indiana) provides Mr. Littleton with four bottles, with preservatives added, to use for sampling. Mr. Littleton collects the samples, packages the bottles in a cooler with ice packs. Mr. Littleton then notifies ALS Laboratories to come pick the sample bottles up on the same day of collection.
11. The facility collects total toxic organic (TTO) samples twice per year, in June and December.
12. The facility combines non-contact cooling water with process wastewater in the discharge tank (about 50 gallons per day). The facility does not measure the volume of non-contact cooling water added to the discharge tank.
13. The sample monitoring point is just beyond the discharge tank. Therefore, the facility only monitors treated wastewater from the rinse process and non-contact cooling water.
14. Sample analysis results showed that the facility had copper effluent exceedances in March and April of 2020. The facility has not had any effluent exceedances since then.
15. Mr. Littleton made several changes at the facility since joining last year:
  - a. Ordered batches in the discharge tank to be re-treated if in-house sampling is out of range.
  - b. Had a different flow meter installed (a magnetic meter).

I requested Mr. Littleton to send us a copy of a Safety Data Sheet (SDS) for Simple Green, the cleaning fluid used for the facility floors.

### Preliminary email correspondence

On March 23, 2021, Mr. Littleton emailed a copy of an SDS for Simple Green All-Purpose Cleaner.

On March 24, 2021, Mr. Littleton sent three emails:

1. A facility map for voestalpine Bohler Welding,
2. A count of employees per shift:
  - a. First shift: 34
  - b. Second shift: 16
  - c. Third shift: 3, and
3. A company Power Point presentation.

### On-site activities

Messrs. Ellens and Hewitt arrived at the voestalpine facility on March 25, 2021, at 9:00 a.m. Mr. Watson greeted them at the door. Mr. Ellens presented his credentials to Mr. Watson in the reception area.

Messrs. Wipplinger, Watson, Littleton, Ellens, and Hewitt gathered in a conference room, where Dr. Wipplinger gave a company presentation:

- voestalpine Bohler is an international steel-based tech and capital goods group, based in Austria. It has 50,000 employees and annual sales of \$30 billion, including \$1.5 billion in U.S. revenue.
- The voestalpine facility shares a warehouse space with Fronius, another Austrian-based company, and holds the rights to expand into the full space.
- Equipment for the voestalpine facility was installed in 2018, and operations started in 2019.
- The voestalpine facility has the capacity to produce 22.4 million pounds of wire per year. With the capacity to expand to 35 million pounds in a 24/7 operation. Specifically, the facility has three types of installations for drawing wire:
  - Stainless: There are two stainless drawing lines, with a capacity of 5.5 million pounds per year. The stainless lines run three shifts, five days a week. There is space to add one or two additional stainless lines.
  - Unalloyed: There are two unalloyed drawing lines, with a capacity of 9.6 million pounds per year. The unalloyed lines run two shifts, five days a week. There is space to add one or two additional lines.
  - Seamless: There are three seamless drawing lines, with a capacity of 2 million pounds per year. The seamless lines run two shifts, five days a week. There is space to add two or three additional lines.

## **Plant walkthrough**

### **Stainless**

Following is a description of the drawing process for the two stainless lines:

1. Loading wire spools onto a “cannon” or “payoff,” to feed into the process,
2. Sanding,
3. Dry soap application, to lubricate the wire and prevent it from breaking,
4. Multiple blocks and capstans: the wire’s diameter is reduced by drawing it through multiple dies,
5. Acid tank: phosphoric acid is used to clean the wire.

### **Unalloyed**

Following is a description of the drawing process for the two unalloyed lines;

1. Loading wire spool onto a “cannon” or “payoff,” to feed into the process,
2. Rinsing,
3. Pickling (cleaning with sulfuric acid),
4. Rinsing,
5. Copper sulfate coating,
6. Hot rinse.

### **Seamless**

The seamless, also known as flux cored, wire (FCW) is a hollow cored wire filled with flux ingredients. There are two types of seamless drawing lines: a mid-drawing line and two final wet-drawing lines. Following is a description of the drawing process for the wet drawing lines:

1. Wet hot baths: this lubricates the wire and keeps wire from breaking;
2. Three-stage bath:
  - a. Water rinse,
  - b. Sulfuric acid, and
  - c. Copper sulfate coating.

Following is a description of the drawing process for the mid-drawing line:

1. Loading wire spool onto a “cannon” or “payoff,” to feed into the process,
2. Cleaning scale,
3. Reduce diameter using capstans and blocks,
4. Sulfuric acid,
5. Rinse,
6. Copper coating, and
7. Skim pass (last reduction of diameter)

### **Packaging**

1. Drumming cardboard or cork base drum
2. Metal baskets or plastic spools

### **Wastewater treatment**

A floor washer was sitting near the wastewater treatment area. Staff empty used wash water into a floor drain, located behind the floor washer. Wastewater discharged to the floor drain is neither monitored nor treated.

Five totes of rinse water (from acid tanks) were stored near the wastewater treatment area. Staff usually pumps water from trays by the tanks, but all water cannot be pumped. The remaining rinse water from below the pump line in the trays are transferred to these totes.

Following is a description of the treatment process:

1. Storage tanks: Wastewater is either stored in a 6,000-gallon holding tank (for wastewater with a higher pH, or a 1,900-gallon Acid Tank (or “Dump Tank”). The wastewater from the acid process tanks is stored in the Dump Tank, while other wastewater, with a higher pH is stored in the 6,000-gallon holding tank.
2. Treatment tank:
  - a. Wastewater from either the 6,000-gallon holding tank, or the 1,900-gallon Acid Tank is transferred to a 1,900-gallon treatment tank.
  - b. Wastewater with a low pH is treated with lime, while wastewater with a high pH is treated with wastewater from the Acid Tank.
  - c. A 0.25% polymer solution is added to the tank, and the wastewater is stirred for 15 minutes (or more if flocculation has not occurred).
3. Filter feed tank: This is a 1,900-gallon storage tank.
4. Filter aid media tank: Diatomaceous earth is added in this stage.
5. Rotary drum filter: Solids are separated in this step. Sludge is collected in a bin.
6. Circulation tank
7. Discharge tank: Samples from this tank are analyzed of pH, phosphorous, and copper. If samples fall within acceptable ranges, then the batch is discharged to the sewer. Otherwise, the batch is routed to one of the storage tanks for further treatment.

A pipe that discharges non-contact cooling water connects to the process wastewater discharge pipe, a point beyond the sample point (Attachment B). Also, sanitary sewage is discharged separately—it does not combine with the process wastewater discharge before the sample point.

A sample preparation area is near the wastewater treatment plant. Here, Mr. Littleton stated that he prepares sample bottles for analysis of CBOD, cyanide, ammonia, phosphorous, metals, and TTO. There is a pH analysis station in another area. Here, Mr. Littleton stores two pH meters (one of the meters is routinely calibrated), three pH buffers (for calibration), calibration logs and logs of pH measurements.

### **Closing Conference**

For our closing conference, we made the following preliminary observations:

- There are apparent differences between the wastewater characterization (used to determine alternative categorical limits) as described in the IDEM permit issued to the voestalpine Bohler facility, and the wastewater characterization for wastewater sampled at the discharge point. We intend to discuss these differences with IDEM:
  - The IDEM permit uses the combined wastestream formula (CWF) under 40 C.F.R. § 403.6(e) to determine alternative categorical limits for the facility discharge. The CWF calculation accounts for process wastewater combined with sanitary wastewater and non-contact cooling water. However, facility staff stated

that neither sanitary wastewater nor non-contact cooling water are combined with process wastewater at the sample point.

- The Unalloyed and Seamless process lines are apparently covered by the Metal Finishing Category (40 C.F.R. Part 433) since they include a copper sulfate coating process step. However, the categorization of the Stainless process lines is less clear. Phosphoric acid is used to clean wire in the Stainless process.
- Floor cleaning wastewater is discharged at a floor drain. Floor cleaning wastewater may contain categorical process wastewater. However, staff empty this wastewater down a floor drain, with no monitoring or pretreatment.
- According to a chain of custody form (for samples collected in June 2020), the sample temperature was above 6°C (Attachment C). Samples must be cooled to 6°C for the analysis of certain pollutants under 40 C.F.R. Part 136.
- We were impressed with the pH monitoring area. Mr. Littleton apparently uses buffers to consistently calibrate a pH meter, and he keeps records of calibration and pH measurements.

We asked staff to send us the following records (staff committed to sending these records in a couple of days):

1. Description of what the phosphoric acid does to the wire in the Stainless process line.
2. Facility map showing floor drains and flow
3. Waste Hauling Manifests
4. Laboratory sampling results

We left the facility at 11:45 a.m.

### **Post-inspection activities**

Mr. Littleton sent the following emails to Mr. Hewitt:

1. March 25, 2021 (1 of 2):
  - a. ALS Environmental Reports of Laboratory Analysis, for samples collected at the voestalpine Bohler facility. The reports were for the following monitoring dates:
    - i. January 5, 2021,
    - ii. January 7, 2021,
    - iii. January 12, 2021,
    - iv. January 14, 2021,
    - v. January 19, 2021,
    - vi. January 21, 2021,
    - vii. January 26, 2021, and
    - viii. January 28, 2021.
  - b. Emergency Action and Contingency Plan, voestalpine Bohler USA Technology LLC
2. March 25, 2021 (2 of 2)
  - a. Facility map,
  - b. Uniform Hazardous Waste Manifests (by manifest tracking number):
    - i. 021606036JJK

- ii. 007734460SKS
  - iii. 007734461SKS
  - iv. 021606668JJK
  - v. 021606705JJK
  - vi. 021606747JJK
  - vii. 021606812JJK
  - viii. 021606929JJK
  - ix. 021606971JJK
  - x. 021605536JJK
  - xi. 021605684JJK
  - xii. 021605721JJK
  - xiii. 021605911JJK
  - xiv. 021602665JJK
- c. US Ecology Certificates of Disposal (by manifest number):
    - i. 021606036JJK
    - ii. 021606668JJK
    - iii. 021606812JJK
    - iv. 021606971JJK
    - v. 021605721JJK
    - vi. 021605911JJK
    - vii. 021602665JJK
  - d. AES Environmental Land Disposal Restriction and Certification Form, manifest # 21605536
  - e. Covanta Environmental Solutions, Supplies Delivery, Bill of Lading, dated January 29, 2021
3. April 13, 2021, statement, “The phosphoric acid is used as a cleaning rinse for the wire.” (This was in response from Mr. Hewitt’s question, emailed on April 6, 2021, requesting information about what phosphoric acid does to wire in the stainless process.)

**Attachments**

- A. Photos taken during U.S. Environmental Protection Agency inspection of voestalpine Bohler Welding (March 25, 2021)
- B. Picture of sample point for voestalpine Bohler facility discharge tank, with description of flows in pipes
- C. Chain of custody record for a sample collected at the voestalpine Bohler facility on June 11, 2020