

**REPORT OF COMPLIANCE SAMPLING INSPECTION (CSI) & INDUSTRIAL
STORMWATER**

COMPLIANCE SAMPLING INSPECTION(CSI)

AT

**FLINT HILLS INDUSTRIES
220 Industrial Road
HILLSBORO, KANSAS 67063**

KANSAS PRETREATMENT PERMIT: KSP000033

STORMWATER AUTHORIZATION NO: KSR000879

BY

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 7
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION**

ON

JANUARY 18, 2023

INTRODUCTION

At the request of the Enforcement and Compliance Assurance Division, Water Branch, I conducted a Compliance Sampling Inspection and an Industrial Stormwater Compliance Evaluation Inspection at Flint Hills...on January 18, 2023. The inspection was conducted under the authority of Section 308 of the Clean Water Act (as amended) and in accordance with EPA Region 7 Standard Operating Procedures. This narrative report and attachments present the results of the inspection.

PARTICIPANTS

Flint Hills Industries, LLC

Christian Gerken, Project Manager, 620-947-2039, cmgerken@hillsboroindustries.com

Mike Gerken, Chief Operating Officer, mgerken@hillsboroindustries.com

Michele O'Hare, Manufacturing Engineer, 620-947-2007, mohare@hillsboroindustries.com

U.S. Environmental Protection Agency (EPA), Region 7

Brian D'Alfonso, Biologist, 913-551-5095, dalfonso.brian@epa.gov

INSPECTION PROCEDURES

Facility personnel were not notified prior to the inspection. I arrived at the facility unannounced on the morning of January 18, 2023, introduced myself, presented my credentials to Mr. C. Gerken and Ms. O'Hare, and explained the purpose and procedures of the inspection. I completed the Region 7 Industrial User (attachment 1) and Industrial Stormwater Checklists (attachment 2) and then conducted a walk-through of the manufacturing process, concentrating on the wastewater generation process and stormwater. Photos were taken during my inspection (attachment 3) An exit briefing was conducted with Messrs. Gerken and Ms. O'Hare prior to leaving the facility.

FACILITY DESCRIPTION

The Flint Hills Industries facility manufactures a variety of aluminum trailers and truck beds along with steel truck beds. Raw materials utilized in the manufacturing process consist of aluminum sheet materials, aluminum tubing used as structural framing, and steel sheet materials and tubing. Extruded aluminum materials are purchased only. The materials are cut, bent, then welded together for assembly.

Following the assembly of a trailer or truck bed, the facility performs conversion coating (iron phosphating) on the steel products to prepare for painting and chemical etching of the aluminum products. The facility has one designated outfall according to the facility's Kansas Department of Health and the Environment (KDHE) Pretreatment Permit. The regulated wastes from the facility consist of wastewater generated from the phosphating and chemical etching processes through pressure washing operations conducted in the facility's wash bay. The facility has two pressure washers, one assigned for aluminum products and the second for all steel products.

The facility's wash bay has been in operation since 2005. For aluminum products, the chemical utilized in the chemical etching process consists of citric acid mixed with water. For steel products, a phosphoric acid detergent and a sodium hydroxide degreaser are utilized in the phosphating process.

Each of the solutions are mixed with water (through the pressure washer systems) and utilized in the process to prepare the metal surfaces. After the products are washed, they are rinsed with water. The wash and rinse water from the facility's wash bay is diverted to a sump located in the floor of the wash bay, listed as Outfall #001 in the permit, and then the wastewater is discharged to the City of Hillsboro's publicly owned treatment works (POTW).

Pretreatment of the wastewater is conducted prior to discharging to the POTW through a series of three 1,500-gallon holding tanks. A buffered sodium hydroxide solution is utilized for pH adjustment. The treatment process is controlled by inline pH meters that measure the pH and adjust the chemical feed to ensure the pH is discharged within the permitted levels of 5.0 and 10.0 standard units. Mr. Christian Gerken explained that the facility conducts daily monitoring of the pH levels to ensure that the wastewater meets the pH permitted range. Mr. Gerken explained that the facility discharges approximately one and a half holding tanks per day. Each holding tank is equipped with an individual sampling tap to determine the tank's pH level prior to discharge. The three tanks are connected to one discharge line that drains to the outfall 001 location.

According to Mr. C. Gerken, dirt and debris collected in the bottom of the wash bay sump is removed on a bi-annual basis. The sump is cleaned out and the material is air dried and disposed of with the City of Hillsboro trash service. The amount of debris collected per year combined is approximately two 55-gallon barrels. The material is tested for toxicity characteristic leaching procedure standards prior to disposal.

The facility is subject to the 40 C.F.R. Part 433 Metal Finishing Regulations for new sources.

SAMPLING PROCEDURES

The facility discharges process wastewater daily during production operations, and the facility was discharging at the time of the inspection. Grab samples of the effluent were collected from Holding

Tank #2 which was discharging to Outfall 001, after the facility walk-through was completed. The sample collection location is directly connected to the designated facility outfall and is the facility's compliance monitoring location, prior to wastewater entering the City of Hillsboro's sanitary sewer system. The effluent samples were preserved as appropriate and packed with ice to maintain a temperature below 4°C.

After the samples were collected, I placed the samples I collected on ice in an insulated cooler, sealed the container, and shipped it overnight to the EPA Region 7 Science and Technology Center's laboratory for analysis. Chain-of custody procedures were used for all samples. All appropriate Region 7 standard operating procedures in the collection, packaging, transportation, and handling of the samples were followed. A summary of the results from the sample analysis are provided below in Section 7 (Sample Results) of this report.

On January 18, 2023, I collected grab samples from outfall 001. I collected adequate volumes of sample using a glass sampling container and poured them into clean, pre-labeled polyethylene containers for the analysis of biological oxygen demand (BOD), non-filterable solids (NFS), ammonia (NH₃), total kjeldahl nitrogen (TKN), nitrate/nitrite (NO₃/NO₂), total nitrogen (TN), total phosphorus (TP), cadmium (CD), copper (CU), lead (Pb), nickel (NI), silver (AG) and zinc (ZN). At the time of sampling, I preserved the NH₃, TKN, NO₃/NO₂ and TP samples with sulfuric acid (H₂SO₄), and the metals samples with nitric acid (HNO₃). I collected a separate grab sample from the same location to measure pH and temperature using a field meter. The analyses using the field meter were conducted within 15 minutes of collecting the sample. The pH result collected from Outfall 001, was recorded at 6.54 S.U. The temperature of the effluent was measured at 29.0°C.

FINDINGS AND OBSERVATIONS

1. Permit: A KDHE Pretreatment Permit issued to Flint Hills Industries, LLC became effective on June 1, 2018 and will expire May 31, 2023 (Attachment 4). The permit requires the facility to monitor its effluent for flow, pH, metals (cadmium, chromium, copper, lead, nickel, silver, and zinc), cyanide, and Total Toxic Organics. The permit further requires the facility to sample and analyze the parameters on a quarterly basis and submit discharge monitoring reports (DMRs) to the KDHE on a semi-annual basis, by January 28 and July 28 of each year.

The facility's permit lists one outfall that is required to be sampled (Outfall 001), using a grab sample technique. The permit requires that, *"All wastewater samples shall be collected from any of the three holding tanks that are discharging to the city sewer. These tanks are located in the trailer washroom, at the north end of the facility. At this location, domestic wastes do not mix with regulated, process wastes, so dilution of regulated samples do not occur, therefore the combined waste-stream formula is not necessary."*

The facility was last inspected by KDHE on October 24, 2018 (attachment 5). The facility was found to be in "compliance" but had three "conclusions/recommendations": files were found to be complete; it was suggested that the facility update their Solvent Management Plan (SMP); and it was suggested that the facility document their sampling procedure.

2. Plant Operations: The facility operates one ten-hour shift four days per week, working a fifth day as needed. At the time of inspection, the facility had approximately 70 employees.

3. Discharge Monitoring Reports: I reviewed the facility's DMR compliance status from 2021 through 2022. I found that the facility reporting appeared to be in compliance with the permit limits in each of the reporting periods that were sampled.

However, the facility self-notified on January 14, 2022 (Attachment 6) that they had missed their quarterly sample for the third quarter in 2022. The facility was issued a Notice of Violation from KDHE (attachment 7) and was found to have adequately addressed the issue.

4. Water Balance: After reviewing the facility's records, I was able to achieve an adequate water balance. After the inspection, Mr. C. Gerken provided me with the facility's water purchase records and the facility's water usage records. The facility utilizes the City of Hillsboro as their sole source of water. The facility provided water purchase records from the facility for the time period of December 2021 through December 2022. Water purchased during this time period totaled 708,569 gallons and the facility averaged approximately 21 days of operation per month during that time period. This equals an approximate daily purchase of 2,800 gallons per day (GPD). Reported discharge flows from the facility DMRs from the same time period, averaged approximately 1,700 GPD. The facility is equipped with inline flow meters and flow readings are recorded daily. The facility is equipped with a closed loop floor heating system that the facility estimated used a minimal amount of water. The facility utilizes a small amount of water during cleaning activities which is recorded in the inline flow meter readings. The domestic usage from the 70 employees is estimated at approximately 700-1000 gallons per day. This is within range of 5 to 25 GPD which is considered normal domestic usage.

5. Solvent Management Plan: Because the facility is subject to the Metal Finishing standards, it has a requirement to meet a daily maximum limit of 2.13 mg/l for Total Toxic Organics. However, the facility is allowed to certify compliance with the TTO standard because they have developed and are following a solvent management plan (SMP). Mr. C. Gerken provided me with a current copy of the SMP (Attachment 8).

6. Wastewater Treatment: Treatment of the wastewater from the facility consists of the pH adjustment in a series of three 1,500-gallon holding tanks, listed on the wash bay schematic (Attachment 9) as Holding Tank #1, #2, and #3. The facility conducts pH adjustment with a buffered sodium hydroxide solution that is mixed at an approximate usage rate of 1 gallon per hour. The facility is equipped with inline pH meters that continuously monitor pH levels. pH levels are also checked prior to discharge to ensure levels are within the permitted range. The facility conducts daily verification of the inline pH meters through a handheld pH meter to ensure accuracy.

During my walkthrough of the facility, I observed the facility's pH meter and testing area (photos 16 & 17). The facility is certified with KDHE to conduct pH analysis, lab certification #92386. I observed the facility's pH probe and found that it was stored in a dry crystalized beaker (photo 16). It appeared that the probe storage solution had evaporated from the beaker. I explained to Mr. C. Gerken that the facility must maintain the equipment as designed, including proper storage of

the pH probe to ensure accurate analytical results. This was noted as item #1 on the Notice of Preliminary Findings (NOPF) that was left on-site after the inspection.

While inspecting the wastewater treatment area, I observed the area to be poorly maintained, including multiple empty containers with crystallization on the containers and on the floor (photo 21). This was noted as item #2 on the NOPF that was left on-site after the inspection.

7. Sample Results: Analytical results of the effluent samples collected during this inspection are provided in Table 1 below. I reviewed the effluent sample data in Table 1 and found that all regulated pollutants met the pretreatment permit limits from the samples collected from Outfall 001. Complete analytical results from the inspection are included in Attachment 10.

As described in attachment 10, for results followed by a J, the analyte is acceptable; the reported value is an estimate. For results followed by an L, the quantitation is biased lower due to the results being outside the range of the dilutions performed, thus the actual values are expected to be higher than the reported values.

Table 1. Analytical Results for Effluent Samples Collected During Inspection at Outfall 001

Parameter	(January 18) Sample # 2	Permit Limits ¹ (mg/L)
BOD (mg/L)	111 L	NA
NH3 (mg/L)	2.10	NA
NFS (mg/L)	73.1 J	NA
TKN (mg/L)	17.2	NA
NO3/NO2 (mg/L)	0.633	NA
TN (mg/L)	17.8	NA
TP (mg/L)	91.2	NA
CD (mg/L)	ND	0.07
CR (mg/L)	0.049	1.71
CU (mg/L)	0.225	2.07
PB (mg/L)	ND	0.43
NI (mg/L)	0.055	2.38
AG (mg/L)	ND	0.24
ZN (mg/L)	0.783	1.48
pH (S.U.)	6.54	5.0-10.0
Temp (°C)	29.0	NA

1 Permit limits are monthly averages. Permit limits for pH are minimum followed by maximum

2 “ND” denotes a non-detect result

8. Stormwater: During the inspection, I observed the facility’s stormwater system (photos 1-15). The facility is required to obtain coverage under the KDHE Stormwater Runoff from Industrial Activity General Permit. At the time of inspection, Mr. C. Gerken and Ms. O’Hare provided me a copy of the facility’s Stormwater Pollution Prevention Plan (SWPPP) dated August 1, 2018. An electronic copy of the SWPPP was provided to me after the inspection (attachment 11).

Generally, the north side of the facility’s stormwater surface runoff flows from west to east and discharges in a drainage ditch along the east side of the property, labeled as outfall 003 in the SWPPP.

The facility's parking lot and entrance area slope to the west and discharge stormwater runoff to the road ditch, labeled as outfall 001 in the SWPPP. The majority of the facility's footprint, including the material storage area, is to the south of the facility and the grassed area south of the material storage area, drains to the southeast and discharges to outfall 002 at the south end of the east drainage ditch. The facility's roof runoff is directed to underground piping and flows to outfall 004, which is located in the east drainage ditch just south of outfall 003. The east side of the facility, including material storage, flows to the south and discharges to the east drainage ditch at outfall 005. Outfalls 002 through 005 all flow to the east drainage ditch which leaves the property at the south road ditch. These outfalls and flow patterns can be seen in the facility's site map in their SWPPP.

While conducting my inspection, I observed two pipes in the east drainage ditch discharging water (photos 12 & 14). Mr. C. Gerken stated that these pipes are from the roof stormwater drainage. The facility's SWPPP only shows one of these pipes discharging to the east drainage ditch. The facility's site map did not include other items required by the KDHE general permit, such as, but not limited to, acreage of drainage areas, stormwater conveyances, and the name of the body of water the outfalls discharge to. This was noted as part of item #3 in the NOPF that was left on-site after the inspection.

During my review of the facility's stormwater records, the facility did not have record of any re-evaluations or modifications of the SWPPP. Since the SWPPP has not been reviewed since 2018, the facility needs to re-evaluate and modify the SWPPP to show current operations. This was noted as the second part of item #3 on the NOPF.

During my record review facility's stormwater records, I did not see a copy of the facility's Notice of Intent (NOI). The copy that was emailed to me had a blank copy of the NOI attached, but did not have the original completed version. This was noted as item #4 on the NOPF that was left on-site after the inspection.

While conducting my walk-through around the facility to observe the stormwater system, I observed multiple areas along and in the east drainage ditch that contained trash and debris (photos 10-11). I explained to Mr. C. Gerken that the facility had to keep debris cleaned out of the ditch. This was noted as item #5 on the NOPF that was left on-site after the inspection.

9. Summary: During the exit briefing on January 18, 2023, I went over the facility's rights to claim confidential business information. The facility did not make any claims of confidentiality (attachment 12). During the exit briefing I issued a NOPF for the following (attachment 13):

- 1) Ensure pH meter and probe are maintained adequately.
- 2) Ensure housekeeping in wastewater treatment area is maintained.
- 3) Update SWPPP narrative and site map.
- 4) Ensure facility has a copy of the Notice of Intent (NOI).
- 5) Housekeeping along east stormwater ditch needs to be maintained.

The facility responded to the NOPF on May 13, 2022, via e-mail, addressing the preliminary findings observed during the inspection (attachment 14). The facility's response addressed each of the original findings.

**BRIAN
D'ALFONSO**

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Brian D'Alfonso
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**Moran,
Nicole**

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Nicole Moran
Section Chief, WB/DWIS

Attachments:

1. EPA Industrial User Inspection Checklist (6 pages)
2. Industrial Stormwater Checklist (6 pages)
3. Facility Photos (16 pages)
4. Pretreatment Permit (16 pages)
5. October 28, 2018 KDHE Inspection Report (4 pages)
6. Flint Hills Industries Non-Compliance Notice (1 pages)
7. KDHE Notice of Violation (2 pages)
8. Flint Hills Industries SMP (3 pages)
9. Wash bay Schematic (1 page)
10. Sample Analysis Results for Project BPD 2303 (17 pages)
11. Flint Hills Industries SWPPP (112 pages)
12. Confidential Business Information Form (4 pages)
13. January 18, 2023 NOPF (1 page)
14. February 21, 2023 Facility Response (3 pages)