

**REPORT OF COMPLIANCE SAMPLING INSPECTION (CSI)
and COMPLIANCE EVALUATION INSPECTION (CEI)**

Stryten Manchester, LLC
913 South 10th Street
Manchester, IA 52057
NPDES NO: IA0063533 (wastewater)
IA0347-0237 (storm water)

October 24-27, 2022

By U. S. ENVIRONMENTAL PROTECTION AGENCY
Region 7: Enforcement and Compliance Assurance Division (ECAD)

INTRODUCTION

I performed a Compliance Sampling Inspection (CSI) and Compliance Evaluation Inspection (CEI) at the Stryten Manchester facility in Manchester, Iowa from October 24, 2022, through October 27, 2022. The inspection was authorized by Section 308(a) of the Federal Water Pollution Control Act, as amended. This inspection was conducted in accordance with the procedures described herein and followed all applicable EPA Region 7 Standard Operating Procedures. This narrative report presents the findings of the inspection.

PARTICIPANTS

Stryten Manchester, LLC (Stryten)

Mitch Hermiston, Plant Manager, (563) 927-4501, mitch.hermiston@stryten.com (in-person 10/27/2022)

Matt Witham, Environmental Manager, matt.witham@stryten.com

Jesse Blad, Operations Manager, jesse.blad@stryten.com

Ron Huber, Wastewater Plant Operator

Todd Treybal, Senior Director of Transportation Operations (via phone)

James Capp, Director of Environmental Compliance (via phone)

Motrex, LLC

Lacey Chitwood, Chief Council EHS, lacey.chitwood@motrexllc.com (via phone)

Iowa Department of Natural Resources (IDNR)

Brett Meyers, Environmental Specialist, 563-927-2640, brett.meyers@dnr.iowa.gov (in-person 10/25/2022)

U. S. Environmental Protection Agency (EPA)

Hannah Lewis, Life Scientist (913) 551-7679, lewis.hannah@epa.gov

Caitlin Dix, Physical Scientist (913) 551-7109, dix.caitlin@epa.gov

PROCEDURES

On October 24, 2022, Ms. Dix and I arrived unannounced at the Stryten facility at approximately 2:00 p.m. We met with Mr. Blad and Mr. Witham in a conference room. I introduced myself, presented my credentials, and explained the purpose and procedures of the inspection. These procedures included completing the water compliance inspection report (attachment 1), completing the industrial storm water worksheet (attachment 2), conducting a facility walk-through with photos (attachment 3), reviewing the self-monitoring records, reviewing the Storm Water Pollution Prevention Plan (SWPPP), collecting samples during a discharge, and conducting an exit meeting. Mr. Blad and Mr. Witham led a tour of the production building and outdoor areas. Mr. Huber led a tour of the wastewater treatment plant. Mr. Witham provided documentation during the inspection while Ms. Chitwood provided additional documentation electronically after the inspection was complete. Mr. Meyers attended the inspection only on October 25.

On October 26, 2022, the facility's AS950 Hach automatic composite sampler was used to collect a composite sample of the effluent from the baffle basin during a 5.5-hour discharge event. The sampler was programmed to collect evenly spaced aliquots every 15 minutes into a clean Nalgene bottle, which was refrigerated. I removed the collection bottle, agitated its contents, and poured them into clean, pre-labeled containers for the analysis metals and non-filterable solids. I measured the pH and temperature in a separate grab sample using a field meter.

I also collected grab samples on October 26, 2022, from the baffle basin after the weir using clean, pre-labeled collection containers for the analysis of oil and grease.

The samples I collected were placed on ice in an ice chest and delivered to the EPA Region 7 Science and Technology Center (STC) for analysis on October 27, 2022. I followed Region 7's LSASD standard operating procedures in the collection, packaging, transportation, and handling of the samples. Field Sheets and the Chain of Custody form were electronically submitted following Region 7 procedures. All samples arrived at the STC within proper holding times.

FACILITY DESCRIPTION

The Stryten Manchester facility is owned and operated by Stryten Energy. The legal description of the facility's location is the Township 89 North, Range 5 West, Section 31 within Delaware County, Iowa. The mailing address for the facility is 913 North 10th Street, Manchester, Iowa 52057. Their wastewater National Pollutant Discharge Elimination System (NPDES) Permit IA0063533 was last issued as amended on October 5, 2020, with an expiration date of January 31, 2025 (attachment 7). The authorization to discharge storm water associated with industrial activity under IDNR's NPDES General Permit No. 1 (facility permit IA0347-0237) provides coverage through October 1, 2025 (attachment 8).

The facility manufactures lead acid batteries. During the closed formation process, plates are

charged with sulfuric acid inside the assembled battery. The open formation process allows for charging the plates prior to assembly.

The facility includes a main building for activities such as production, material storage, finished product storage, air handling, reverse osmosis, shipping, and receiving (attachment 4). The facility receives lead ingot and lead oxide by truck and stores these materials in the warehouse section of the main building. Antimony, arsenic, barium, lead, and water priority chemicals in Section 313 of SARA Title III, have been detected in storm water discharge samples and are included in the SWPPP. Hazardous materials handled or stored on-site are also discussed in the SWPPP. The sulfuric acid building is located in the northwest corner and includes secondary containment (photos 20-21). The hazardous waste building and wastewater treatment plant are adjoining buildings located in the northeast corner of the site. Baghouse dust is collected in 55-gallon drums which are housed inside individual metal sheds on the south side of the main building (photo 27).

Process wastewater is produced from battery formation processes, cooling tower blowdown, battery wash, mold release, reverse osmosis reject, floor scrubbers, wash area, air control scrubbers, and respirator room. Sanitary wastewater is produced from the showers and restrooms. Process wastewater is treated by the on-site treatment plant before being discharged to the Maquoketa River, but the sanitary wastewater sources are discharged to the City of Manchester's POTW. The facility purchases water from the City of Manchester through a metered connection. A reverse osmosis (RO) system is utilized to meet the facility's water quality needs.

FINDINGS AND OBSERVATIONS

The following findings were noted during the facility tour and record review. These findings were discussed with all the Stryten and Motrex participants during the exit meeting. A Notice of Preliminary Findings (NOPF) was issued based upon the wastewater permit, and a NOPF was issued based upon the storm water permit (attachment 5).

According to the High Plains Regional Climate Center's CLIMOD website, the area received approximately 1 inch of rain on the evening of October 24, 2022. The weather conditions at the time of the inspection were partly cloudy and windy (35-50°F).

Process Wastewater

At the time of the inspection, the formation operations (fill and charge) and the finishing (sticker application) departments were offline. Thus, the on-site wastewater plant (WWTP) was not receiving the typical quality or quantity of process wastewater. As wastewater enters the WWTP, it passes through a manual bar screen on its way to the primary settling pit (photo 1). The secondary settling pit has a pH meter so the operators can adjust the pH with 20% calcium chloride, if needed (photos 2-4). After the secondary settling pit, flow travels to the T-1 tank where ferrous chloride and 20% caustic are added using an inline injection system (photo 7).

From the T-1 tank, flow travels to a flocculation tank, a clarifier, and lastly a holding tank (photos 5, 6, 8). The holding tank regulates the discharge flow rate to T-6 baffle basin (effluent tank) which discharges to an underground pipe to the Maquoketa River (photos 9-10). A bubbler back pressure flow meter is located in the baffle basin to monitor the discharge flow. An inline pH meter monitors the pH during discharge events. Operators use a handheld pH meter to verify the permanent pH meters.

Solids from the clarifier are pumped to T-5 sludge tank followed by a filter press. Liquid from the filter press is sent back to the influent bar screen. Sludge from the filter press is hauled to Stryten's smelter recycling facility in Forest City, MO. Settled sludge from the primary and secondary settling pits is also hauled to the smelter facility but separately from the filter press sludge.

Storm Water

Well vegetated ditches surrounding the site direct storm water to the southeast corner at outfalls 1 and 2 (photos 29-31). Storm water discharge was occurring at outfall 2 but not at outfall 1 during the inspection. Storm water runoff in the north half of the site flows towards the center where storm inlet grates collect and direct the runoff east to a central vegetated ditch which connects to the east ditch. The central inlet grates needed maintenance due to waste being present on top of the grates as well as sediment and rock deposits inside the inlets (photos 13-14, 16-17, 32-35) (NOPF 5). Storm inlet grates are located at the northwest and southwest loading docks. Drainage from the docks flows through the storm sewer to the west ditch. At the time of the inspection, the dock drainage grates needed maintenance due to being clogged with sediment and vegetation (photos 18, 24) (NOPF 5).

Poor housekeeping was an issue at the site due to plastic ties, wood pallet debris, and other waste being on the ground (photos 15, 26, 28, 32-35) (NOPF 5).

The General Permit No. 1 requires the facility to maintain and implement a SWPPP. The facility provided an electronic copy of a SWPPP which had last been updated on May 9, 2018 (attachment 6). The SWPPP non-storm water discharge certification and the SWPPP Certification statement were not signed (NOPF 2 & 3). The SWPPP site map does not include the storm sewer conveyances from the loading docks or the inlet and conveyances at the hazardous waste building loading area (NOPF 4). Personnel training on the SWPPP during 2020 was condensed to reduce the risk of spreading COVID-19. Training performed in 2021 and 2022 also utilized the condensed version of training. The condensed version does not include all the components listed in Section 4.8 of the SWPPP such as conducting inspections, material management practices, spill response/ prevention/preventative maintenance, pollution control regulations, goals/components of SWPPP, features and operations designed to minimize discharge of section 313 water priority chemicals (NOPF 1). Site inspections required by the General Permit No. 1 were complete and provided for review.

Self-Monitoring Data Review

I obtained a spreadsheet of the DMR data from IDNR for Stryten from January 2018 through August 2022 and reviewed the data. The facility provided an electronic copy of the laboratory analytical results from years 2018-2022. Effluent limit violations for lead occurred in February, April, and December of 2019. The explanation provided for the December 2019 exceedances includes a failed polymer pump. The explanation provided for the April 2019 exceedances includes an incorrect sample collection location. No explanation was provided for the February 2019 exceedances.

The General Permit No. 1 requires sampling of a storm water discharge during a storm event at least once per year plus a record of monitoring parameters. During the inspection, the facility provided laboratory analytical records. The permit also requires monitoring details to be collected during the storm water discharge sampling events. These monitoring records were not provided until after the inspection was complete. Thus, during the exit meeting, NOPF 6 was included but has since been satisfied. The records appear to be complete.

Sample Results

The analytical results from the inspection were received on November 22, 2022, from the Region 7 STC laboratory (attachment 9). This data was not discussed during the exit meeting. The analytical result, from samples collected during the inspection, for copper is 0.053 mg/L which exceeds the permit limit of 0.051 mg/L (NOPF 7). The remaining parameters did not exceed the permit limits for lead, iron, pH, total suspended solids, or oil & grease.

Laboratory

An inline pH meter was installed in August of 2021. Facility personnel verify the inline pH readings with a handheld pH meter. The handheld pH meter is calibrated monthly. During the inspection, expired pH buffer solutions were noted (photo 11). Thus, NOPF 1 was issued on the wastewater NOPF. The inline pH meter reading is used when grab samples are collected under the permit monitoring requirements. At the time of the inspection, pH meter calibrations were not available, thus the wastewater NOPF 1 also includes this finding. Calibration records were provided electronically after the inspection was complete.

The remaining permit-required sample analyses are contracted to Eurofins in Cedar Falls, IA. The Eurofins sample analysis procedures appear to meet the requirements of 40 CFR Part 136.

Summary

Two NOPFs were provided to Mr. Hermiston during the exit meeting. A response to the NOPFs was provided by Mr. Hermiston on November 14, 2022 (attachment 10). NOPF 6 was resolved when documents were provided electronically after the inspection was completed. The following findings were included in the NOPFs (attachment 5):

Wastewater NOPF

1. pH meters' calibration records are not maintained. The pH buffer solutions 7.0 and 10.0 are expired. NPDES permit Monitoring Requirements (b)

Stormwater NOPF

1. Training does not include all the components and goals of the SWPPP. Part III.C.4.B(8)
2. SWPPP Certification statement is not signed. Part VI.G.
3. SWPPP non-storm water discharge certification is not signed. Part III.C.4.B(10)
4. SWPPP is not fully implemented: site map does not include all conveyance required in Section 3.1 of the SWPPP. Part III.C.I.
5. Not operating or maintaining all facilities and systems of treatment and controls to achieve compliance with requirements of the SWPPP: Sections 4.3 and 4.4 of the SWPPP. Part VI.M.
6. All required parameters are not recorded during monitoring. Part V.B.1.A.

The following finding is in addition to the preliminary findings included in NOPFs above and was made after the inspection was complete:

7. The analytical results of the samples collected during the inspection show the effluent permit limit for copper was exceeded. Prior to this sampling event, the effluent permit limits were last exceeded in December 2019.

Hannah Lewis
Life Scientist

Nicole Moran
Section Chief

Attachments:

1. Water Compliance Inspection Report (4 pages)
2. NPDES Industrial Storm Water Worksheet (6 pages)
3. Digital Photographs with Photo Log (15 pages)
4. Facility Layout with Photo Locations (2 pages)
5. NOPFs wastewater and storm water (2 pages)
6. SWPPP (85 pages)
7. IDNR NPDES Wastewater Permit (12 pages)
8. IDNR NPDES General Permit No. 1 (30 pages)
9. Sample Analysis Results for Project HML2301 (12 pages)
10. NOPF Response (5 pages)