

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 5**

**Purpose:** Pretreatment and Industrial Storm Water Compliance Evaluation Inspection

**Facility:** Metalex North  
700 Liberty Drive  
Libertyville, IL 60048

**Permit Number:** ICIS Pretreatment Tracking Number ILP000414 and General  
Stormwater Permit ILR007649

**Date of Inspection:** December 14, 2022

**EPA Representatives:**

Sangsook Choi, Environmental Engineer, 312-353-1869  
Ted Flatebo, Environmental Engineer, 312-886-9420

**Facility Representatives:**

Eric Larsen, Plant Supervisor, 847-309-9208  
Alvaro Fuentes, Purchasing, 262-758-1378  
Steve Adams, Maintenance Lead, 847-362-5400

**Report Prepared by:** Sangsook Choi

**Inspector's Signature:** Sangsook Choi  Digitally signed by  
Sangsook Choi  
Date: 2023.02.13  
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**Approver Name and Title:** Ryan Bahr, Supervisor, Section 2, Water Enforcement and  
Compliance Assurance Branch

**Approver Signature and Date:** Ryan Bahr  Digitally signed by Ryan  
Bahr  
Date: 2023.02.13  
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## **INTRODUCTION AND FACILITY DESCRIPTION**

The purpose of this inspection report is to describe, evaluate, and document compliance with parts of the Clean Water Act (CWA) with respect to Metalex North located at 700 Liberty Drive in Libertyville, Illinois. Metalex North (Metalex) manufactures expanded metals and stamped and perforated metal products (steel, aluminum and copper) with dies and punches. Products include screens, filters and a variety of metal tubes primarily for the fluid filtration industry, and safety grating, running boards, end platforms, brake steps, intermodal platforms and locomotive steps and safe walking surfaces for the railroad freight car industry and for a variety of industrial applications including trucks, tractors, and railroad cars. The Standard Industry Classification (SIC) Code is 3323 Sheet Metal Work Manufacturing (Primary).

Metalex North was originally located at 1530 Artaius Parkway and moved to this new location 700 Liberty Drive by merging with Morton Manufacture in 2016. According to Mr. Larsen, Plant Supervisor, the previous operations moved to this new Morton location and kept whatever was useful and sold all other equipment. The Village of Libertyville publicly owned treatment works (POTW) conducted an Industrial Survey in 2016 and Baxter & Woodman evaluated industrial users within the Village's service to classify each according to the requirement of Special Condition 11 in the Village's NPDES Permit IL0029530. The Pretreatment Activity Report dated May 17, 2016, indicated that all process wastewater is hauled off-site for Metalex. Illinois EPA is not delegated the pretreatment program and the Libertyville POTW does not have an Approved Pretreatment Program, therefore, USEPA Region 5 is the Approval Authority and the Control Authority for the administration of pretreatment programs in Illinois.

Mr. Larsen stated that Metalex does not generate nor discharge any process wastewater, and its operations are all dry operations and Metalex discharges only sink and toilet water to the Libertyville POTW. Since Metalex does not generate nor discharge any process wastewater, Metalex is not subject to Metal Finishing Category 40 CFR 433 based on its operations. Any wastewater generated by cleaning parts in the Hot Tank is hauled off-site by Heritage-Crystal Clean.

At the time of the inspection, EPA's Toxic Release Inventory (TRI) Explorer indicated that waste transfer off-site for further waste management totals 460 pounds of nickel and 344 pounds of copper. EPA's ECHO Database did not identify any ICIS pretreatment number nor general stormwater permit for Metalex. Metalex has an Illinois EPA General Stormwater Permit ILR007649 and Metalex was assigned ICIS pretreatment tracking number ILP000414.

The facility operates Monday through Friday, 3 shifts daily (24-hour operation) and on some Saturdays.

## **SITE INSPECTION**

Around 9 a.m. December 14, 2022, Ted Flatebo and Sangsook Choi entered Metalex facility to conduct an unannounced compliance evaluation inspection with federal pretreatment requirements and any industrial storm water requirements under the Clean Water Act. We showed our credentials to Mr. Larsen, Plant Supervisor and met with Mr. Alvaro Fuentes, Purchasing, and Mr. Steve Adam, Maintenance Lead. We informed the purpose of our unannounced inspection and that our inspection would include walking around, reviewing documents, and taking photos, and then asked for any safety equipment needs at the opening conference.

We asked Metalex to explain about the facility's manufacturing operations and any wastewater processes, any treatment systems installed, chemicals and raw materials used, and waste handling and disposal practices, environmental permits, and any specific sampling and monitoring requirements.

EPA discussed before walking through the site if any of the information discussed or that we are going to see would be Confidential Business Information (CBI). Mr. Larsen requested we ask prior to taking pictures if it may be considered as CBI and we followed his instruction.

### **Facility Walkthrough**

The walkthrough was conducted with EPA personnel Sangsook Choi and Ted Flatebo and facility personnel Eric Larsen and Steve Adams. Alvaro Fuentes did not participate. We walked into the Stamping Department with copper spools of raw material (Photo #1) and looked at the perforation machine and the Stamping machine (Photos #2 and #3) and observed the vanishing oil reservoir for machine 154 and a container of additional vanishing oil on the ground (Photo #4). The production area has concrete floors and does not have floor drains. We looked at a box of engineered scrap copper being collected (Photo #5) and observed the expanded metal machine producing a micromesh product (Photo #6). Certain machines have absorbent material around their base and there are spill kits throughout the facility. There are sanitary sewer manholes in the production area and the area does not have floor drains, and inspectors observed one catch basin. All sewers are cleaned out by removing the manhole covers and the sewer manholes were labeled "Sanitary Sewer" (Photos #7 through #13). We observed new oil storage 55 gallon tanks with secondary containers (Photo #14) and new oil storage 55 gallon tanks on racks (Photo #15). All used oils are collected in a tote (Photo #16). Then we went outside to see industrial storm water activities and saw that scrap metal was collected in 15-yard dumpsters that were not covered. Scrap metal was also observed on the ground next to the dumpsters. It was raining and we observed a flow of discolored storm water entering the storm water drain with scrap metal on the ground (Photos #17 and #18).

The facility has a pallet of oil absorbent material on site for large spills and has not had a large spill in over 10 years. Production area floors are cleaned once every 6 months using a dry scrubber. However, the scrubber can utilize water. Any cleaning water is hauled off site. See attached Spill Kits Locations Map and Spill Cleanup Diagram.

No water is used in the manufacturing process and many metal parts come out of the machine with a vanishing oil which is a mixture of oil and water and dries off as the parts are stored. Mr. Adams said he utilizes approximately 45 gallons of water per week to generate the vanishing oil and he orders 100-200 gallons of new oil monthly.

During manufacturing, engineered scrap metal is produced. Mr. Adams stated that scrap material is collected twice weekly by Base Metals (recycler) and that the facility produces approximately 1,200 ton/month of finished product and about 600 tons/month of scrap metal.

### **Documents Reviewed**

Some documents were available at the facility and other documents were provided as follow-ups after our inspection:

- Facility Layout & Process Diagram
- Raw Material Lists
- The 2021 & 2022 Recycled Metal Breakdown
- The Chemical Inventory List
- Cleaning Wastewater Manifest by Crystal Clean dated August 3, 2022
- Used Oil Manifests by SET Environmental in 2021 and 2022
- Spill Kits Locations Map
- Spill Cleanup Diagram
- SWPPP signed and dated August 30, 2019, and January 5, 2023
- Wet Weather Visual Monitoring Report dated January 6, 2023

### **Raw Material Usage, Recycled and Chemical Inventory Lists**

The raw material lists provided the following metal usage breakdowns with totals in pounds:

| <b>Material Type</b>                | <b>Last 12 Months</b> | <b>Avg/Month</b> |
|-------------------------------------|-----------------------|------------------|
| Zinc coated galvanized steel        | 17,723,559            | 1,476,963        |
| Hot rolled steel, commercial grade  | 4,396,054             | 366,338          |
| Cold rolled steel, commercial grade | 1,689,744             | 140,812          |
| Tin coated steel                    | 1,565,207             | 130,434          |
| Aluminum                            | 439,572               | 36,631           |
| Stainless Steel, grades 304 & 316   | 313,060               | 26,088           |
| Copper & Brass                      | 56,234                | 4,686            |
| <b>Total lbs</b>                    | <b>26,183,430</b>     | <b>2,181,953</b> |
| <b>(Tons)</b>                       | <b>(13,092)</b>       | <b>(1,091)</b>   |

The 2021 & 2022 Recycled Metal Breakdown showed a total of 2,085 tons recycled in 2021 and 1,850 tons in 2022.

The Chemical Inventory List provided the following eighteen (18) items being used for facility operations:

#### **Item Description**

CLG-2 Lithium Grease, 40 Cartridge Case  
 Perchem 1007 Solvent Cleaner  
 Perchem Penetrate #40  
 Perdraw 1041 Industrial Liquid  
 Perdraw 1044 Vanishing Fluid  
 Perdraw 9932-TL Metalworking Fluid  
 Perkool 4365 Lube  
 Perkool 9200  
 Perkut 131 Metalworking Fluid  
 Perlube AW-220 Metalworking Fluid  
 Perlube AW-32 Concentrated Lubricant  
 Perlube AW-46 Metalworking Fluid  
 Perlube AW-476  
 Perlube EP 220 Metalworking Fluid  
 Perlube EP-0 Grease  
 Perlube EP-460  
 Perlube HV-2 Grease  
 Perlube WL-32

In 2021, the facility used a total of 3,470 gallons of fluids including vanishing oil, several metalworking fluids, and other lubricants and grease. 3,865 gallons were used in 2022.

### **SWPPP Implementation**

The Stormwater Pollution Prevention Plan (SWPPP) was signed and certified on August 30, 2019, and January 5, 2023. The certified SWPPP identified to implement the following:

- Conducting Quarterly Benchmark Monitoring
- Conducting Quarterly Visual and Routine Facility Inspection for Control Measures
- Conducting Annual Inspection and Monitoring for Impaired Waterbody Pollutants

The 2019 SWPPP identified the benchmark monitoring for the total aluminum, total iron, total zinc, and nitrate plus nitrite nitrogen be conducted quarterly for four quarters. It also identified the discharge concentrations for the benchmark monitoring:

| <b>Parameter</b>              | <b>Benchmark Monitoring Concentration</b> |
|-------------------------------|-------------------------------------------|
| Total Aluminum                | 0.75 mg/l                                 |
| Total Iron                    | 1.0 mg/l                                  |
| Total Zinc (freshwater)       | Hardness Dependent                        |
| Nitrate plus Nitrite Nitrogen | 0.68 mg/l                                 |

The 2019 SWPPP identified the Annual Discharge Monitoring for Impaired Waterbodies Pollutants as Total suspended Solids (TSS) for Outfalls 01 and 03 and specified that annual sampling is required.

Illinois EPA received the Storm Water Notice of Intent for Industrial Activities on October 4, 2019, and Metalex has an Illinois EPA General Stormwater Permit ILR007649 that requires

Metalex to implement all relevant SWPPP provisions. The facility provided the Wet Weather Visual Monitoring Report dated January 6, 2023.

### **Closing Conference**

The site inspection was completed at approximately 11:45 AM on December 15, 2022. A brief closing conference was held, and we noted that any final areas of concern would be provided in the written inspection report.

### **AREAS OF CONCERN**

#### **SWPPP Implementation**

The facility is required to conduct quarterly benchmark monitoring, quarterly routine facility inspection for control measures, and an annual inspection and annual monitoring for impaired waterbody pollutants per the certified SWPPP. EPA has not received documentation that this monitoring and these inspections were completed.

EPA observed open dumpsters with scrap metal (waste materials associated with industrial activity), scrap metal on the ground exposed to stormwater, and flow of discolored storm water entering the storm drain (Photos #17 and #18).

#### **LIST OF ATTACHMENTS:**

1. Libertyville Pretreatment Activity Report dated May 17, 2016
2. Cleaning Wastewater Manifest by Crystal Clean dated August 3, 2022
3. Spill Kits Locations Map
4. Spill Cleanup Diagram
5. 2019 SWPPP
6. Photo Log

**Metalex**  
**EPA Inspection December 14, 2022**  
**All photos taken by Ted Flatebo, Environmental Engineer, U.S. EPA**  
**Camera: Ricoh WG-4**



1: RIMG0105

Description: Overview of Stamping Department. Note copper spools of raw material in red circle.

Location: Stamping Department.

Date/Time: December 14, 2022, 10:26 AM



2: RIMG0106

Description: Perforation machine. Blue material in foreground is exiting the machine and is coated in vanishing oil.

Location: Southeast corner of the facility.

Date/Time: December 14, 2022, 10:32 AM



3: RIMG0107

Description: Stamping machine. Material in foreground is exiting the machine and is coated in vanishing oil.

Location: Machine 154.

Date/Time: December 14, 2022, 10:36 AM



4: RIMG0108

Description: Vanishing oil reservoir for machine 154. Note container of additional vanishing oil on ground.

Location: Machine 154.

Date/Time: December 14, 2022, 10:37 AM



5: RIMG0109

Description: Box of engineered scrap copper.

Location: East side of the facility.

Date/Time: December 14, 2022, 10:44 AM



6: RIMG0110

Description: Expanded metal machine, producing a micromesh product. Material in foreground is exiting the machine and is coated in vanishing oil.

Location: Machine 182.

Date/Time: December 14, 2022, 10:45 AM



7: RIMG0111

Description: Sewer clean out with cap removed. Flash off. Depth is approximately 2 feet.

Location: Adjacent to Machine 182. Noted presence of oil and grease.

Date/Time: December 14, 2022, 10:48 AM



8: RIMG0112

Description: Additional photo of sewer clean out depicted in Photo 7 with cap removed. Flash on. Depth is approximately 2 feet. Note presense of oil and grease.

Location: Adjacent to Machine 182.

Date/Time: December 14, 2022, 10:48 AM



9: RIMG0113

Description: Overview of sewer clean out depicted in Photo 7 and 8 with cap installed.

Location: Adjacent to Machine 182.

Date/Time: December 14, 2022, 10:49 AM



10: RIMG0114

Description: Manhole within production area. Manhole could not be opened due to equipment location.

Location: Machine 110.

Date/Time: December 14, 2022, 10:55 AM



11: RIMG0115

Description: Opened manhole which was labeled "Sanitary Sewer". Depth was approximately 4 feet. Note presence of water in trough.

Location: Adjacent to Machine 195.

Date/Time: December 14, 2022, 10:57 AM



12: RIMG0116

Description: Opened manhole which was labeled "Sanitary Sewer." Depth was approximately 4 feet. Note presence of water in trough.

Location: Adjacent to Machine 147.

Date/Time: December 14, 2022, 10:59 AM



13: RIMG0117

Description: Overview of manhole which was labeled “Sanitary Sewer.”

Location: Adjacent to Machine 147.

Date/Time: December 14, 2022, 11:00 AM



14: RIMG0118

Description: Overview of new oil storage 55 gal tanks with secondary containers.

Location: East side of the facility.

Date/Time: December 14, 2022, 11:03 AM



15: RIMG0119

Description: Overview of new oil storage of 55 gal tanks.

Location: East side of the facility.

Date/Time: December 14, 2022, 11:03 AM



16: RIMG0120

Description: Tote full of used oil.

Location: East side of the facility.

Date/Time: December 14, 2022, 11:10 AM



17: RIMG0121

Description: Overview of dumpsters used for engineered scrap metal storage. Note active rain during inspection and the flow of discolored storm water entering the storm drain in the red circle.

Location: Outdoor area of facility between north and south branches of the building.

Date/Time: December 14, 2022, 11:19 AM



18: RIMG0122

Description: Discolored storm water entering storm drain adjacent to engineered scrap metal storage. Same storm drain depicted in Photo 17.

Location: Outdoor area of facility between north and south branches of the building.

Date/Time: December 14, 2022, 11:20 AM