



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, ILLINOIS 60604**

**DATE:** *August 3, 2021*

**SUBJECT:** CLEAN AIR ACT INSPECTION REPORT  
Real Alloy Recycling, LLC, Chicago Heights, Illinois

**FROM:** Linda H. Rosen, Environmental Engineer  
AECAB (IL/IN)

**THRU:** Nathan Frank, Section Chief  
AECAB (IL/IN)

**TO:** File

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**BASIC INFORMATION**

**Facility Name:** Real Alloy Recycling, LLC (Real Alloy)

**Facility Location:** 400 East Lincoln Highway, Chicago Heights, IL

**Date of Inspection:** June 4, 7-8, 2021

**EPA Inspector(s):**

1. Sarah Clark, Environmental Engineer
2. Linda Rosen, Environmental Engineer
3. Brianna Fenzl, Environmental Engineer

**Other Attendees:**

1. Daniel Delgado, Illinois Environmental Protection Agency
2. Kevin Matteson, Illinois Environmental Protection Agency
3. Anthony (Tony) Racich, Plant Manager, Real Alloy
4. Brady Myers, Regional Health, Safety & Environment, Real Alloy in Coldwater, Michigan
5. Jeff Ferg, Corporate Health, Safety & Environment, Real Alloy in Beechwood, Ohio
6. Ken Young, Quality Manager, Real Alloy (parts of on-site inspection only)

**Contact Email Address:** anthony.racich@realalloy.com

**Purpose of Inspection:** CAA inspection to assess compliance with the National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production (NESHAP RRR) and Clean Air Act Permit Program (CAAPP) Permit No. 09120016, issued on April 10, 2018 with revision issued August 5, 2020.

**Facility Type:** Secondary Aluminum Production Facility

**Regulations Central to Inspection:** NEHSAP RRR, CAAPP Permit No. 09120016

**Inspection Times:**

**June 4**      **Remote Virtual Conference Start:** 9:30 am  
                 **Remote Virtual Conference End:** 12:00 pm

**June 7**      **Arrival:** 10:00 am  
                 **Departure:** 1:15 pm

**June 8**      **Remote Virtual Conference Start:** 9:30 am  
                 **Remote Virtual Conference End:** 10:00 am

**Inspection Type:**

- ☐ Unannounced Inspection
- ☒ Announced Inspection

**OPENING CONFERENCE**

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☐ Provided Small Business Resource Information Sheet
- ☒ Small Business Resource Information Sheet not provided. Reason: Not a small business.
- ☒ Provided CBI warning to facility

The following information was obtained verbally from representatives of Real Alloy unless otherwise noted.

**Company Ownership:**

Prior to February 2015, the facility was part of Aleris International. In February 2015, the facility became Real Alloy, Inc. In May 2018, the facility became Real Alloy, LLC when the facility exited bankruptcy. The number of employees at this location are about 50 including salary and hourly. The facility operates 24 hours per day, 7 days per week, 363 days per year, taking Christmas Eve and Christmas Day off. There are several other Real Alloy facilities throughout the United States. Some, like this one, are recycle facilities and others are specification facilities that use reverberatory furnaces to create more detailed chemistry in the products.

**Process Description:**

The facility melts aluminum scrap in one of two rotary furnaces and pours the aluminum into either 2000-pound aluminum blocks called sows for the automotive industry or into “deox” products (shot or cone) for the steel industry.

Types of scrap received include drosses, which is a rock-like scrap with 25-65 % aluminum; turnings, which are shredded strings of aluminum; cut outs from stamping plants; clippings; and used beverage cans (UBCs). Drosses and turnings are the facility’s largest categories of scrap. Scrap is sourced from throughout Chicagoland, and Real Alloy has contracts with some suppliers. The facility conducts inspections of every truck of incoming scrap. The facility uses a magnet on the scrap to determine if the iron content is high, medium or low (low is desirable) and also inspects for moisture due to the danger posed by melting high-moisture scrap. For turnings and dross, the facility conducts an assay, which is a small melt in a crucible followed by a chemical analysis. The facility checks for silicon, nickel and other elements that are important to their customers. Real Alloy has scrap rejection criteria and will not accept closed containers, hypodermic needles, fire extinguishers or wet dross.

Rotary Furnaces (RF) 1 and 3 are Group 1 furnaces and operate concurrently. RF 1 has a capacity of 17,000 pounds, and RF 3 has a capacity of 35,000 pounds. The facility also operates two holding furnaces which are Group 2 furnaces. The purpose of the holding furnaces is to hold the melt until it is cast into a deox product. The time in the holding furnace is typically 2 hours but the material can sit overnight or over a weekend. The holding furnace burner is kept on to maintain the metal molten. The rotary furnaces are also kept warm to keep the refractory and the baghouse warm. The rotary furnaces do not keep a heel after pouring but the holding furnaces do keep a small heel.

The melting process is batch with a typical batch length about 3 hours. The length of the batch is material-based with denser materials requiring a longer batch length. Real Alloy also sells furnace time to companies to melt their scrap into sows for a fee. About 60 percent of Real Alloy’s business is tolling with the remainder being deox products and aluminum sows for the automotive industry.

Besides scrap, the only other materials that are added to the rotary furnaces are two fluxes, sodium chloride (NaCl), also known as salt, and potassium chloride (KCl), also known as potash, and alloying agents, including copper and silicon. The two fluxes are either purchased premixed or mixed at the facility prior to being charged into the furnaces. The purpose of the flux is to help separate the aluminum from the impurities, prevent oxidation, and improve recovery. Flux is charged to a furnace immediately after the scrap is charged.

After melting has completed, a slag stopper is put into the mouth of the furnace to hold back the salt cake, a waste product, during pouring. The salt cake is rolled out of the furnace into a special pan, cooled in a dedicated room and then shipped to another one of Real Alloy’s facilities or landfilled. The salt cake room is controlled by two Donaldson Torit circular baghouses (BH 2 and BH 3). The baghouses, which were installed in November 1996 and became operational in December 1996, are positioned in series with one blower for a combined airflow of 70,000 cubic feet per minute.

The scrap and flux are weighed on floor scales. There are two floor scales, one for RF 1 and one for RF 3. The facility previously used a charge cart to load scrap into RF 3 but has not used the charge cart since March 2021 because it is not working properly. It traveled on a track and vibrated to release material from the cart into the furnace. The facility has only used the charge cart on RF 1 once, and that charge cart was removed from the facility six months ago. The “charge hood” reference in the permit pertains to the charge cart hoods, two on each cart, which were vented to their own baghouse (BH 5). The facility is currently using metal scoops on front-end loaders to pick up, weigh, and charge scrap and flux.

The amount of flux to be added is determined by charge size and material composition, including the degree of contamination. The facility uses material description codes (MDC) that are generated through sales and contracts on the purchasing side to determine flux amounts. The flux and charge amounts are inputted into a notebook which is brought to the supervisor’s shack where the values are inputted into an electronic heat sheet along with the starting and ending times of the batch.

In the deox process, alloying agents are charged into the rotary furnaces for customization. RF 1 typically makes deox products but RF 1 can also make sows. RF 3 is typically used to make sows but can also be used to make deox products. RF 1’s melt travels by gravity to Holding Furnaces (HF) 1 and 2 and RF 3’s melt can only go to HF 2 due to the design of the troughing system. No scrap, flux or other materials other than the melt are added to the holding furnaces.

Shot is like an aluminum pebble. Melt from the holding furnaces travels through troughs to trays and then to one of two round tables that spin. Once solid, the shots are screened. In the cone process, troughs from the holding furnaces take the molten aluminum to the “tipper” which pours the aluminum into rows of cone molds. A conveyor brings the cones through cooling after which a hammer knocks the cone off the mold into a bin. The cones come out as 4-6 ounces, 1-inch diameter.

Each rotary furnace has its own dedicated baghouse and there is no common duct or bypasses. RF 1 is controlled by Baghouse (BH) 4 (5 cell) and RF 3 is controlled by Baghouse (BH) 1 (8 cell). BH 1 has a filtering area of 41,328 square feet and an air flow of 57,500 standard cubic feet per minute (scfm). BH 4 has an air flow of 50,000 scfm. Each baghouse is equipped with lime injection. The lime feeder consists of a supersack of hydrated lime that is continuously fed pneumatically into the baghouse duct prior to the filtration system.

Barrel cutting is also an air emission source at the facility. A welding torch is used to cut containers of dross that have hardened. The hood for this operation is quite large; about 120 55-gallon drums can fit underneath it. After cutting, the dross is dumped into a bin. The barrel cutting operation is controlled by a much smaller baghouse, BH 6.

**Staff Interview:**

Real Alloy’s production target is 12-13 million lbs per month and 156-157 million pounds per year. In 2020, annual production was 110 million pounds of aluminum.

The facility staff explained which scrap they consider “clean” and which scrap they consider “non clean,” as follows: Dross can arrive at the facility as either a dust composed of fines (non clean) or as large solid chunks, with significant aluminum content (more clean); Turnings can vary in their level of cleanness: turnings can be clean, oily (non clean), or wet (rejected); Cutouts are typically clean but may have a small amount of oil on them; UBCs are generally clean although there is a range. UBCs come in bales from about 5-6 suppliers and still have the coatings on them.

In September 2004, BH 1 was constructed and began operation in October 2004. At that time, it controlled two furnaces: RF 1 and RF 2. In or around 2011, RF 2 was removed and BH 4 was installed to control RF 1. RF 3 was installed in 2012 with emissions controlled by BH 1. RF 3 was incorrectly referred to as Furnace 2 in early permitting. The furnaces are relined with refractory every 18 months to 2 years. Real Alloy just completed relining RF 1. The facility stated that after a holding furnace is relined, the capacity can reach 20,000 pounds.

The facility described its preventative maintenance, monitoring, and operational activities. For the baghouses, the facility checks the pressure drop on each module of the baghouses, checks the baghouse fan revolutions per minute (rpm), and monitors when the baghouse is on or off using a sensor; however, the facility did not know exactly how the sensor worked but said it could be current-based. The rotary furnace baghouses are each equipped with triboelectric bag leak detection systems (BLDS). The facility conducts an annual calibration of the BLDS and determines the set points for compliance with NESHAP RRR. For the lime feeder system, the facility checks the system every 4 hours to ensure that the lime is free flowing and also checks the feeder setting; however, the facility did not know the units for the feeder setting. Once per month the facility verifies the lb/hour lime injection rate by conducting a “pan test” wherein a pan is placed underneath the lime system for 5 minutes, and then the weight of lime measured is multiplied by 12. The facility measures the rotary furnace capture hood air flows annually. The facility monitors the baghouse inlet temperature using a thermocouple, capturing one-minute and 15- minute values and calculating a 3-hour block average. For the baghouse inlet temperature, the facility changes the thermocouples every six months or sooner if there’s an issue. The facility uses one thermocouple with no redundancy. The temperature limits for the baghouses are 229 degrees Fahrenheit (°F) for BH 4 and 270 ° F for BH 1. The “Ignition” operating system tracks the on/off status of the baghouses, the temperature data and corrective actions. The facility cannot charge scrap when the baghouse is down.

The facility has an Operational, Maintenance, and Monitoring (OM&M) plan as required by NESHAP RRR. The facility’s OM&M plan includes the Startup, Shutdown and Malfunction (SSM) plan and includes the various operating parameter limits established during stack testing. The facility has stack tested in the last 2 years since the permit was issued.

The facility conducts Method 22 readings once per month from two observation points, and if fugitives are observed, Method 9 readings are conducted. Ken Young, Quality Manager, is responsible for the Method 22 readings. Mr. Young was not Method 9 certified at the time of the inspection, but he stated that there are two other Method 9 certified readers at the facility. Initially, the facility staff stated that they did not know of any discrete events that required Method 9 readings outside of the stack testing, but shortly afterwards another staff member

stated that the facility has conducted Method 9 readings in the past couple of months. He said that the opacity was less than 30 percent each time and that the opacity was caused by popped bags on BH 4, which can happen sometimes when the bags are not seated properly.

The facility is investing about \$3 million into this location. Recent projects include/included installing a new vestibule (i.e. enclosure) on RF 1 which is already completed; a new fan on BH 4 (permit refers to BH 4 as BH 2); repairs to the building structure, including shoring up the walls, fixing crumbling bricking and concrete, and installing siding over the concrete; and relining RF 3 which was recently completed. A recent crack in the expansion joint which connects to the ductwork to BH 1 was also repaired. The facility stated that they were aware the concrete was cracked in the area of the joint, and it was on the agenda for replacement when the expansion joint breach occurred. The motor, concrete and expansion joint all required replacement. The facility has recently increased its frequency of preventative maintenance activities.

### **TOUR INFORMATION**

**EPA Tour of the Facility:** Yes

#### **Data Collected and Observations:**

We observed the outside area where scrap is stored (Photo 1). We observed areas where the outside walls of the facility were being repaired (Photo 2). We observed aluminum sows outside (Photo 3). We observed piles of mixed flux inside the facility (Photo 7). We observed fumes rising from hot salt cake as it cooled in the salt cake room (Photos 4 and 8-10). We observed the two air pick up points to the baghouse for the salt cake process: (1) the room itself (Photo 11); and the loadout spout (Photo 12). We observed at least 7 windows in the saltcake room. At least 4 of the windows were open and one was holding a fan. Most of the windows were on the south end of the building and a few were on the west side of the building in the direction of the baghouses. The baghouses (BH 2 and BH 3) that control the salt cake handling operation were not operating at the time of the inspection. Photo 13 shows an opening in the roof.

We observed RF 3 which was operating (Photo 14). The furnace was enclosed on three sides. We observed the moving carts which were not being used (Photo 15) and one of the front-end loader metal scoops used for charging (Photo 16).

We observed HF 1 and HF 2 (Photo 17), including the ductwork to the atmosphere from HF 2 (Photo 18) and the backend of HF 1 and HF 2 (Photo 19).

We observed the floor scales for weighing scrap and flux: Photo 5 shows the floor scale that supports RF 3, and Photo 20 shows a front loader carrying scrap being weighed on the floor scale that supports RF 1 prior to charging scrap to RF 1 (Photos 21-22). Photo 6 was an accidental photograph.

We observed each rotary furnace label located in the supervisor room (Photos 23-25). According to the labels for RF 1 and RF 3, the chlorine injection rates are 387 and 319 lbs/ton, the lime injection setpoints are 30 and 175 (no units identified), the lime injection rates are 31 and 32.5

lbs/hour, and the maximum 3-hour block average inlet temperatures are 235 and 270 °F, respectively. We observed the Ignition control display for each rotary furnace and associated baghouse (Photos 26-29). The live control data displayed for RF 1 and RF 3 included the following readouts, respectively: “BH Inlet temp” read 133.6 °F and 179 °F; ‘Stack Temp,’ which displayed only for RF 3, read 243.27 °F, the “3 Hour Average” read 163 °F and 130.62 °F, “Bag Break Detector” read 0.24 and 0.12, “Bag Break Detector SP” read 4% and 2%.

We briefly looked at the deox operation which was not operating (Photo 30). An overhead duct supplies makeup air (Photo 31).

We observed the lime injection system for RF 3 (Photo 32), including the feeder setting display (Photo 33) and the place where lime is injected (Photo 34). The lime injection system setting displayed 96.7 (no units). At the time of the inspection, the facility did not know what the feeder setting was supposed to be or its units of measurement.

Next, we observed the back of RF 3 where we observed gases leaking from a small opening (Photo 35). The facility was unable to explain the source of these gases.

We observed the lime feeder system on RF 1 (Photo 37) including the lime feeder setting display which read 061.0 but is not discernable from the photo (Photo 36). The lime was moving faster into RF 1 than it was for RF 3. We observed a flexible tube which connected the lime injection system to the baghouse duct (Photos 38-39).

We observed BH 1 and BH 4 (Photo 40). Photo 41 shows the expansion joint on BH 1 controlling RF 3. We looked at the “Baghouse Daily Operation Inspection Log” (Photo 42), where the pressure drop and baghouse fan amps are recorded along with the lime inspections.

On our way back to the parking lot, Tony Racich pointed out the various types of scrap processed at the facility. We observed the following:

- Scalper chips. High purity aluminum with 90 percent recovery (Photo 43);
- Sheet and clippings, which have 90 percent recovery (Photo 44);
- Bales of aluminum siding (50 percent recovery) and briquetted turnings (85 percent recovery) (Photo 45);
- Black siding/screens (50 percent recovery) (Photo 46);
- Turnings (45 to 70 percent recovery). Higher moisture yields lower recovery (Photo 47);
- Dross (20 percent recovery). Dross comes in barrels, tubs and dump trucks (Photo 48);
- UBCs (80 percent recovery, if good) (Photo 49); and
- Pup coils (90 percent recovery). The facility melts these and returns to the supplier (Photo 50).

**Photos and/or Videos:** were taken during the inspection.

**Field Measurements:** were not taken during this inspection.

## **RECORDS REVIEW**

1. List of Emission Units and air pollution control equipment. This list was provided 6/3/2021.
2. Site Map. This was provided 6/3/2021.
3. Lime Feeder Records. Copies were not taken from the facility.
4. Aerial view of facility with labels showing Method 22 observation points. Copies were not taken from the facility, but a copy was requested to be provided later.

## **CLOSING CONFERENCE**

- ☒ Provided U.S. EPA point of contact to the facility

The facility uses various alarms to indicate when there are problems like bag breaks, inlet temperature exceedances and other NESHAP RRR exceedances. The facility personnel are notified by email if alarms are activated, and a general alarm report is generated. The facility also utilizes predictive alarms, but the staff was unable to provide values for the predictive alarms.

We asked about how malfunctions are handled. Real Alloy staff stated that they follow Appendix D of the OM&M plan. Jeff Ferg, Corporate Health, Safety & Environment, explained that Appendix D, "RRR Incident Occurrence Log," which is used for recording malfunctions and parameter deviations, is filled out by operators. Technicians are also responsible for recording corrective actions taken in response to BLDS, or "Bag Break Detector" ("BBD") alarms. Jeff Ferg reviews and vets all Appendix D incidents to determine whether the incidents should be included in the semi-annual report. For example, he explained that the facility experiences many false BBD alarms, so he reviews and determines which alarms are false and which need to be reported on the facility's semi-annual report.

We asked about complaints. The staff said they received a March 2, 2021 visit from Dena Roman of the Cook County Department of Environment and Sustainability regarding a February 27, 2021 complaint. There had been a discharge of fumes from a cracked seal in the expansion joint causing visible smoke. To address the issue, the facility completely replaced the joint. Real Alloy has not received any complaints directly from citizens.

We explained that we would send a copy of the inspection report and photos to Real Alloy representatives.

### **Requested documents by June 15:**

- Aerial view of facility with labels showing Method 22 observation points. Illinois EPA asked the facility to label each stack on the aerial view of the facility.
- OM&M Plan
- BLDS Sensor Setup
- Complete report of most recent annual flow rate measurements, including photos
- Measurement units of the lime feeder setting for each baghouse.

**Concerns:** Kevin Matteson of Illinois EPA pointed out that some of the employee initials on the “Baghouse Daily Operation Inspection Log” sheets spanned multiple rows of readings.

### SIGNATURES

X *Linda Rosen*

Linda Rosen, Environmental Engineer  
Report Author

X Frank,  
Nathan

Digitally signed by  
Frank, Nathan  
Date: 2021.08.06  
09:47:49 -05'00'

Nathan Frank  
Section Chief

**Facility Name:** Real Alloy Recycling, LLC

**Facility Location:** 400 East Lincoln Highway, Chicago Heights

**Date of Inspection:** June 4, 7 and 8, 2021

**APPENDICES AND ATTACHMENTS**

1. Digital Image Log

**Facility Name:** Real Alloy Recycling, LLC  
**Facility Location:** 400 East Lincoln Highway, Chicago, Heights  
**Date of Inspection:** June 4, 7 and 8, 2021

#### **APPENDIX A: DIGITAL IMAGE LOG**

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Inspector Name:</b> Brianna Fenzl | <b>2. Archival Record Location:</b><br><a href="https://usepa.sharepoint.com/:f:/r/sites/R5_Work/r5erc/ecad/AECAB%20Library/Enf_Real%20Alloy%20Recycling%20Inc_IL_21/Enf_Real%20Alloy%20Recycling%20Inc_IL_21_Inspection?csf=1&amp;web=1&amp;e=B16e31">https://usepa.sharepoint.com/:f:/r/sites/R5_Work/r5erc/ecad/AECAB%20Library/Enf_Real%20Alloy%20Recycling%20Inc_IL_21/Enf_Real%20Alloy%20Recycling%20Inc_IL_21_Inspection?csf=1&amp;web=1&amp;e=B16e31</a> |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Image Number</b> | <b>File Name</b> | <b>Date and Time (CDT)</b> | <b>Latitude and Longitude</b> | <b>Description of Image</b>                                         |
|---------------------|------------------|----------------------------|-------------------------------|---------------------------------------------------------------------|
| 1                   | P6070001.JPG     | 2021:06:07 09:46:07        | 41.504047, -87.617173         | Scrap pile outside of facility                                      |
| 2                   | P6070002.JPG     | 2021:06:07 10:42:40        | 41.506023, -87.617337         | Areas where outside walls were being repaired                       |
| 3                   | P6070003.JPG     | 2021:06:07 10:43:15        | 41.505833, -87.617222         | Aluminum sows                                                       |
| 4                   | P6070004.JPG     | 2021:06:07 10:46:06        | 41.505833, -87.617222         | Hot salt cake cooling inside building                               |
| 5                   | P6070005.JPG     | 2021:06:07 10:47:44        | 41.505556, -87.6175           | Floor Scale for RF 3                                                |
| 6                   | P6070006.JPG     | 2021:06:07 10:47:47        | 41.505556, -87.6175           | Accidental photo                                                    |
| 7                   | P6070007.JPG     | 2021:06:07 10:48:45        | 41.505278, -87.617222         | Piles of mixed solid flux                                           |
| 8                   | P6070008.JPG     | 2021:06:07 10:50:54        | 41.505278, -87.617222         | Hot salt cake cooling inside building                               |
| 9                   | P6070009.JPG     | 2021:06:07 10:51:01        | 41.505278, -87.617222         | Hot salt cake cooling inside building                               |
| 10                  | P6070010.JPG     | 2021:06:07 10:51:16        | 41.505483, -87.617552         | Hot salt cake cooling inside building                               |
| 11                  | P6070011.JPG     | 2021:06:07 10:53:07        | 41.505278, -87.6175           | Ventilation pick up point from saltcake room to baghouse            |
| 12                  | P6070012.JPG     | 2021:06:07 10:53:15        | 41.505278, -87.6175           | Ventilation pick up point from solid flux loadout spout to baghouse |
| 13                  | P6070013.JPG     | 2021:06:07 10:57:18        | 41.505278, -87.6175           | Roof opening over salt cake room                                    |
| 14                  | P6070014.JPG     | 2021:06:07 10:58:56        | 41.505278, -87.6175           | RF 3                                                                |
| 15                  | P6070015.JPG     | 2021:06:07 11:00:04        | 41.505556, -87.616944         | Moving charge cart currently not used                               |

**Facility Name:** Real Alloy Recycling, LLC

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|    |              |                     |                          |                                                                       |
|----|--------------|---------------------|--------------------------|-----------------------------------------------------------------------|
| 16 | P6070016.JPG | 2021:06:07 11:00:50 | 41.505362,<br>-87.617145 | Front-end loader charge scoop                                         |
| 17 | P6070017.JPG | 2021:06:07 11:03:36 | 41.50532,<br>-87.617067  | HF 1 and HF 2 and RF 1                                                |
| 18 | P6070018.JPG | 2021:06:07 11:03:51 | 41.505375,<br>-87.61708  | Ductwork drawing gases to atmosphere from HF 2                        |
| 19 | P6070019.JPG | 2021:06:07 11:05:00 | 41.50531,<br>-87.617112  | Backend (Northside) of HF 1 and HF 2                                  |
| 20 | P6070020.JPG | 2021:06:07 11:07:45 | 41.505423,<br>-87.617285 | Front end loader with scrap being weighed prior to charging into RF 1 |
| 21 | P6070021.JPG | 2021:06:07 11:08:58 | 41.505278,<br>-87.617222 | Front end loader charging scrap into RF 1                             |
| 22 | P6070022.JPG | 2021:06:07 11:09:06 | 41.505278,<br>-87.617222 | Front end loader charging scrap into RF 1                             |
| 23 | P6070023.JPG | 2021:06:07 11:12:30 | 41.505278,<br>-87.616944 | Supervisor's office between HF 1 and HF 2                             |
| 24 | P6070024.JPG | 2021:06:07 11:15:46 | 41.505556,<br>-87.616944 | RF 3 label                                                            |
| 25 | P6070025.JPG | 2021:06:07 11:16:35 | 41.505556,<br>-87.616944 | RF 1 label                                                            |
| 26 | P6070026.JPG | 2021:06:07 11:17:14 | 41.505556,<br>-87.616944 | RF 3 control display                                                  |
| 27 | P6070027.JPG | 2021:06:07 11:17:56 | 41.505562,<br>-87.617018 | RF 1 control display                                                  |
| 28 | P6070028.JPG | 2021:06:07 11:18:31 | 41.505278,<br>-87.616667 | BH 4 control display                                                  |
| 29 | P6070029.JPG | 2021:06:07 11:19:08 | 41.505278,<br>-87.616667 | BH 1 control display                                                  |
| 30 | P6070030.JPG | 2021:06:07 11:22:21 | 41.505292,<br>-87.61698  | Deox process (not operating)                                          |
| 31 | P6070031.JPG | 2021:06:07 11:22:29 | 41.505292,<br>-87.61698  | Makeup air vent over Deox process                                     |
| 32 | P6070032.JPG | 2021:06:07 11:27:38 | 41.505338,<br>-87.617013 | Lime injection system                                                 |
| 33 | P6070033.JPG | 2021:06:07 11:30:08 | 41.505338,<br>-87.61699  | Lime injection system, feeder setting, for BH 1, RF 3                 |
| 34 | P6070034.JPG | 2021:06:07 11:31:11 | 41.505,<br>-87.616944    | Lime injection system for BH 1, RF 3                                  |
| 35 | P6070035.JPG | 2021:06:07 11:33:46 | 41.505485,<br>-87.617    | Back of RF 3                                                          |
| 36 | P6070036.JPG | 2021:06:07 11:37:52 | 41.505152,<br>-87.616953 | Lime injection setting BH 4, RF 1                                     |

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|    |              |                     |                          |                                                           |
|----|--------------|---------------------|--------------------------|-----------------------------------------------------------|
| 37 | P6070037.JPG | 2021:06:07 11:38:40 | 41.505,<br>-87.616944    | Lime injection system for BH 4,<br>RF 1                   |
| 38 | P6070038.JPG | 2021:06:07 11:40:16 | 41.505312,<br>-87.616953 | Tube from lime injection system<br>to BH 4 duct from RF 1 |
| 39 | P6070039.JPG | 2021:06:07 11:41:18 | 41.505345,<br>-87.616815 | Tube from lime injection system<br>to BH 4 duct from RF 1 |
| 40 | P6070040.JPG | 2021:06:07 11:45:21 | 41.505278,<br>-87.616667 | BH 4                                                      |
| 41 | P6070041.JPG | 2021:06:07 11:47:46 | 41.505002,<br>-87.616412 | Expansion joint on BH 1                                   |
| 42 | P6070042.JPG | 2021:06:07 12:12:43 | 41.505,<br>-87.616389    | Baghouse daily operation<br>inspection log                |
| 43 | P6070043.JPG | 2021:06:07 13:05:07 | 41.505517,<br>-87.618097 | Scalper chip pile                                         |
| 44 | P6070044.JPG | 2021:06:07 13:05:51 | 41.505305,<br>-87.618125 | Aluminum sheet and clippings                              |
| 45 | P6070045.JPG | 2021:06:07 13:06:04 | 41.505325,<br>-87.618132 | Turning briquettes and bales of<br>siding                 |
| 46 | P6070046.JPG | 2021:06:07 13:07:15 | 41.505052,<br>-87.617968 | Black screens and siding                                  |
| 47 | P6070047.JPG | 2021:06:07 13:07:53 | 41.50475,<br>-87.618003  | Turnings                                                  |
| 48 | P6070048.JPG | 2021:06:07 13:09:00 | 41.504302,<br>-87.61793  | Dross                                                     |
| 49 | P6070049.JPG | 2021:06:07 13:10:01 | 41.504328,<br>-87.617157 | UBCs                                                      |
| 50 | P6070050.JPG | 2021:06:07 13:11:04 | 41.504295,<br>-87.61699  | Pup coils                                                 |