



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO ATTENTION OF
ECW-15J

VIA EMAIL

Mr. Robert Maciel
Environmental Manager
ArcelorMittal Burns Harbor, LLC
250 West U.S. Highway 12
Burns Harbor, IN 46304

Subject: November 16, 2020 and November 19, 2020 Inspection Report for ArcelorMittal Burns Harbor, NPDES Permit Number IN0000175

Dear Mr. Maciel:

Enclosed, please find a copy of the U.S. Environmental Protection Agency Inspection Report that describes, and documents the activities at ArcelorMittal Burns Harbor, LLC on November 16, 2020 and November 19, 2020.

The purpose of the inspection on November 16, 2020 was a Compliance Evaluation Reconnaissance Inspection to observe the introduction of dye to the effluent of the Secondary Wastewater Treatment Plant (SWTP) and the five auto sampler locations that were installed to take samples from the Storm Ditch and from the pathway for the effluent through the lagoons.

The purpose of the inspection on November 19, 2020 was a Compliance Evaluation Reconnaissance Inspection to observe the sampling for dye in the plant at fifteen separate locations.

If you have any questions or concerns regarding this letter, or the inspection report, please contact Joan Rogers at (312) 886-2785 or at rogers.joan@epa.gov.

Sincerely,

Bahr,

Digitally signed by Bahr,
Ryan
Date: 2020.12.10
16:13:01 -06'00'

Ryan J. Bahr
Chief, Section 2
Water Enforcement and Compliance Assurance Branch

Enclosure

cc: Nicholas Ream, Environmental Engineer
Indiana Department of Environmental Management

Jason House, Branch Chief of Wastewater Compliance
Indiana Department of Environmental Management

1. BACKGROUND

The purpose of this report is to describe and document the discussion and site inspection at the ArcelorMittal Burns Harbor facility November 16, 2020 and November 19, 2020. This inspection was performed pursuant to Section 308(a) of the Federal Water Pollution Control Act, as amended.

The ArcelorMittal Burns Harbor (AMBH) facility is one of the largest fully integrated steel mills in North America, with the capacity to produce approximately 5 million tons of raw steel per year. They operate under NPDES Permit No. IN0000175, which was issued on May 27, 2016 and expires on June 30, 2021.

The inspection on November 16, 2020 was a Compliance Evaluation Reconnaissance Inspection to observe the introduction of dye to the effluent of the Secondary Wastewater Treatment Plant (SWTP) and the five auto sampler locations that were installed to take samples from the Storm Ditch and from the pathway for the effluent through the lagoons.

The inspection on November 19, 2020 was a Compliance Evaluation Reconnaissance Inspection to observe the sampling for dye in the plant at fifteen separate locations. The purpose of this part of the dye study was to determine if there were any cross-connections of wastewater to storm sewers that lead to Outfall 002.

2. SITE INSPECTION

Site Entry and Opening Conference

	November 16, 2020	November 19, 2020
Arrival Time:	8:30 A.M.	8:30 A.M.
Presented credentials?	Yes.	Yes.
Credentials presented to whom and at what time?	9:15 A.M to Morgan Swanson.	8:39 A.M to Morgan Swanson.
Was an opening conference held? With whom?	Yes, with Morgan Swanson and Courtney Zunica.	Yes, with Morgan Swanson, Courtney Zunica, and Matt Oxsalida.
If photographs or documents were taken, does the facility consider any to be Confidential Business Information (CBI)?	No.	
Which information does the facility consider to be CBI?	None.	
Was EPA vehicle parked in approved location?	Yes.	
Location where EPA vehicle was parked?	Environmental Services Building.	

See Attachment A for photos taken by EPA.

On November 16, 2020, EPA inspector, Ms. Joan Rogers, followed Ms. Swanson to the Environmental Services Building conference room from the main office where the EPA inspector received her visitor badges. Ms. Swanson and Ms. Zunica explained the procedures for the day. Ms. Rogers discussed safety considerations with the facility personnel. Ms. Swanson stated that the COVID-19 situation at the facility was stable.

Ms. Swanson and Ms. Zunica explained that dye was going to be introduced to the effluent of the Secondary Wastewater Treatment Plant (SWTP) and auto-samplers were going to take samples every hour and the samples would be analyzed for the detection of dye. There were two goals for the dye that was being introduced to the effluent of the SWTP. The first was to determine if there was any cross-connection from the effluent channel to the Storm Ditch and the other goal was to determine the amount of time for effluent to flow from the SWTP to and through the lagoons. Ms. Rogers followed Ms. Swanson and Ms. Zunica to the SWTP.

At 10:13 A.M., the dye was introduced into the effluent channel and the effluent turned pink. By 10:20 A.M., dye could not be observed with the eye in the effluent channel.

Ms. Rogers followed Ms. Swanson and Ms. Zunica to the locations of the five auto-samplers. The locations were:

1. SD-16c = Storm Ditch – 16a, the auto-sampler for sampling water from the Storm Ditch south of Highway 12 and near where the effluent flows into the effluent channel leading to the lagoons;
2. SD-17 = Storm Ditch – 17, the auto-sampler approximately 400' south of SD-16c for sampling water in the Storm Ditch;
3. NLD = North Lagoon Discharge, the auto-sampler for sampling the water discharging from the North Lagoon;
4. SLD = South Lagoon Discharge, the auto-sampler for sampling water discharging from the South Lagoon; and
5. SD-16a = Storm Ditch 16a, the auto-sampler for sampling water from the Storm Ditch approximately 250' north of Highway 12.

After observing location 2, EPA observed that the water in the effluent channel leading to the lagoons was tinted pink. EPA did not observe any pink tint in any of the Storm Ditch locations.

EPA exited the facility on November 16, 2020 at 11:07 A.M.

On November 19, 2020, EPA inspector, Ms. Joan Rogers, followed Ms. Swanson to the Environmental Services Building conference room from the main office where the EPA inspector received her visitor badges. At 8:55 A.M., Ms. Swanson, Ms. Zunica, and Mr. Oxsalida explained the procedures for the day. Ms. Rogers discussed safety considerations with the facility personnel.

EPA followed the AMBH personnel to Sample Location #00 which is Manhole 2114, the Blast Furnace Recycle System (BFRS)/Dirty Industrial Wastewater (DIW) Manhole with the standpipe overflow. At 9:03 A.M., Mr. Oxsalida took a grab sample from the manhole to analyze for the presence and concentration of the dye which was introduced earlier in the morning.

Mr. Oxsalida then noted the BFRS Hot Well level was at 603.3' Above Sea Level, information he observed from the control screen in the lab by the cyanide destruct cells. At 603.3' Above Sea Level, the level of the water in Manhole 2114 was above the seals for the connection pipe to Outfall 002, but below the top of the standpipe. If the seals for the connection pipe to Outfall 002 were sound, there would be no introduction of wastewater to Outfall 002 from this manhole.

EPA followed AMBH personnel to Sample Location #13, the BFRS Recycle Process Water in the Blast Furnace Closed Water Pump Station (BFCWPS). Mr. Oxsalida took a sample from the tap at 9:10 A.M. EPA followed the AMBH personnel to the laboratory.

At the lab, Mr. Oxsalida explained that they introduced a total of 20 pounds of dye in five pounds increments at 6:00 A.M., 6:15 A.M., 6:30 A.M., and 6:45 A.M. When the concentration of dye was analyzed at approximately 8:14 A.M., the concentration was lower than they anticipated, so an additional ten pounds of dye was introduced at 8:30 A.M.

In the lab, Mr. Oxsalida analyzed the two samples taken from Sample Locations #00 and #13 for concentration of dye, conductivity and pH. Mr. Oxsalida used a fluorometer which was calibrated daily against a standard and a blank. EPA observed the calibration logs.

The concentration of dye from Sample Location #00 was 53.9 ppb. This was less than the concentration of dye after the initial introduction of dye, which was at 64 ppb. The concentration of dye from the Sample Location #13 was 84.1 ppb.

EPA then met the two samplers, Mr. Brad Owen and Mr. Charles McAfee, both from ALS Laboratory, and they explained that they each would take samples from approximately half the sample locations each hour for eight hours. EPA planned to follow Mr. McAfee for the first hour to see the sampling from Sample Locations (in this order) #05, #12, #04, #11, #02, #01, #06, and #14. The order of the sample locations was chosen to be the most efficient and to get all the locations sample in one hour. The second hour, EPA would follow Mr. Owen to observe the other seven sample locations. Those Sample Locations, in order, were #00, #13, #09, #08, #03, #07, and #10. Mr. Owen and Mr. McAfee were also instructed to collect an additional grab sample from each location and pour it into a larger bottle stored on ice in a cooler by the sample location in order to create a composite sample.

At 9:34 A.M. EPA, Mr. McAfee, Ms. Swanson, and Ms. Zunica left the lab to begin the sampling at Blast Furnace D, for Sample Locations #05 and #12. Sample Location #05 is from the double block and bleed valve for the D Furnace Lake Water Recycle System.

Sample Location #12 is from the D Furnace Lake Water Non-Contact Cooling Water (NCCW) Header.

At 9:48 A.M., EPA observed the samples taken from Sample Location #04, the double block and bleed valve for the C Furnace Lake Water Recycle System. At 9:50 A.M., EPA observed the sample taken from Sample Location #11, the C Furnace Lake Water NCCW Header. EPA observed that the double block and bleed valve for the C Furnace Lake Water Recycle System was functionally the same as the one at the D Furnace, but there was a hose connected to the valve in the interstitial area between the isolation valves. The hose led to a floor drain where the sample was taken.

Similarly, EPA observed the remaining sampling for this round of sampling for Mr. McAfee. Sample Location #02 is Storm Sewer Manhole 2816 and Sample Location #01 is Storm Sewer Manhole 2316. Sample Location #06 is Outfall 002. At Outfall 002, EPA observed that the Lake Michigan water level was lower than previously observed on other site visits. EPA hypothesized that the strong southwest winds could be the reason.

The last sample for this round of Mr. McAfee's sampling was from Sample Location #14, the Lake Michigan NCCW tap in the Power House. At 10:31 A.M., EPA followed the AMBH personnel and Mr. McAfee back to the lab to drop off the samples.

At 10:43 A.M., EPA, Ms. Swanson, and Ms. Zunica then followed Mr. Owen to his second round of sampling. The first sample was taken from Sample Locations #00 and #13, the same locations that EPA observed Mr. Oxsalida take samples from earlier in the day. EPA noted that water was flowing into the standpipe in BFRS/DIW Manhole 2114 and the water level was 603.4' Above Sea Level, according to the computer screen in the lab by the cyanide destruct unit.

At 11:04 A.M., Mr. Owen took a sample from Sample Location #09, a manhole west of Wastewater Pump Station No. 2, which is downstream of Manhole 2114. At 11:14 A.M., Mr. Owen took a sample from Sample Location #08, the DIW manhole 2014. From this location, EPA observed that three of the cooling towers had been repaired and rehailed. In a previous site visit, only one had been completed.

At 11:27 A.M., EPA observed the sample taken from Sample Location #03, the Storm Sewer Manhole 1015 and then the sample taken from Sample Location #07, the DIW Manhole 1515 at 11:37 A.M.

EPA followed Mr. Owen to Sample Location #10, the #19 Blast Furnace Gas Loop Seal and observed the sampling and then followed Mr. Owen back to the lab, arriving at 11:51 A.M.

At the lab, Mr. Oxsalida relayed the information that the D Furnace was going down sometime during the day, if it was not already down. Although EPA and IDEM expressly stated that they wanted the dye study to be conducted when both blast furnaces were operating, Mr. Oxsalida stated that since the sampling was already ongoing and personnel were in place to complete the study, they planned to continue. He stated that he would

find out the time that the D Furnace was going down or went down and would note it in the report.

Mr. Oxsalida also stated that although BFRS/DIW Manhole 2114 was overflowing into the standpipe, he was not detecting any dye that would indicate that the seals for the connection to Outfall 002 were a problem. In fact, he stated that from the first hour of sampling, he was not seeing dye anywhere it shouldn't have been. And where there was dye, the concentration was less than anticipated. He did not know the cause of this.

Lastly, Mr. Oxsalida explained that the sample from Sample Location #11 was taken from the wrong side of the pump, but the samplers will compensate for that by taking a double composite during the next round.

EPA requested to know which sample locations should not have BFRS water and Mr. Oxsalida put 'x's next to Sample Locations #01, #02, #03, #10, #11, #12, and #14 on a copy of the ArcelorMittal Burns Harbor Blast Furnace Recycle System Dye Tracer Study Field Data Logsheet. For a description of each location, see Attachment C.

EPA drove to the main office and returned the visitor badge and exited the facility at 12:18 P.M.

3. LIST OF DOCUMENTS RECEIVED FROM FACILITY

- ArcelorMittal Burns Harbor Blast Furnace Recycle System Dye Tracer Study Field Data Logsheet with notes on which ALS sampler took which samples and in what order. (Attachment B)
- ArcelorMittal Burns Harbor Blast Furnace Recycle System Dye Tracer Study Field Data Logsheet, one with x's next to "Sites w/o BFRS water if system has Integrity" (Attachment C)

4. INFORMATION TO BE PROVIDED BY FACILITY

Sample analysis of dye study, when complete.

5. AREAS OF CONCERN

The purpose of these inspections was to observe the introduction and sampling for dye rather than to identify particular areas of concern. EPA will review the sample analysis and study results when they are available.

6. LIST OF ATTACHMENTS

- A) Photolog
- B) ArcelorMittal Burns Harbor Blast Furnace Recycle System Dye Tracer Study Field Data Logsheet with notes on which ALS sampler took which samples and in what order.
- C) ArcelorMittal Burns Harbor Blast Furnace Recycle System Dye Tracer Study Field Data Logsheet, one with x's next to "Sites w/o BFRS water if system has Integrity"

Attachment A
ArcelorMittal Burns Harbor
EPA Inspection November 16, 2020 and November 19, 2020
All photos taken by Joan Rogers, Environmental Scientist, U.S. EPA
Camera: Olympus TG-4



1: PB160001

Description: Pouring the dye into a bucket with water before introducing it to the system.

Location: Secondary Wastewater Treatment Plant (SWTP).

Camera Direction: Southeast

Date/Time: November 16, 2020 10:11 A.M.



2: PB160002

Description: Pouring the dye into the effluent channel at the SWTP.

Location: SWTP.

Camera Direction: South

Date/Time: November 16, 2020 10:14 A.M.



3: PB160003

Description: Effluent color is changed from the dye.

Location: SWTP.

Camera Direction: Down

Date/Time: November 16, 2020 10:14 A.M.



4: PB160004

Description: The location of sampler SD-16c in the Storm Ditch.

Location: Storm Ditch south of Highway 12.

Camera Direction: East

Date/Time: November 16, 2020 10:33 A.M.



5: PB160005

Description: The location of sampler SD-17 in the Storm Ditch.

Location: Approximately 500' south of Highway 12.

Camera Direction: East

Date/Time: November 16, 2020 10:38 A.M.



6: PB160006

Description: The color of the effluent in the channel before the lagoons has changed as dye reaches this location.

Location: Wastewater channel to lagoons south of Highway 12.

Camera Direction: Northeast

Date/Time: November 16, 2020 10:43 A.M.



7: PB160007

Description: Location of sampler named North Lagoon Discharge (NLD).

Location: Southeast corner of the North Lagoon.

Camera Direction: North

Date/Time: November 16, 2020 10:46 A.M.



8: PB160008

Description: Location of sampler named South Lagoon Discharge (SLD).

Location: Northeast corner of the South Lagoon.

Camera Direction: Southeast

Date/Time: November 16, 2020 10:46 A.M.



9: PB160009

Description: The color of the effluent in the channel before the lagoons has changed as dye reaches this location.

Location: Midway along the lagoon channel south of Highway 12.

Camera Direction: Southwest

Date/Time: November 16, 2020 10:50 A.M.



10: PB160010

Description: The location of sampler SD-16a in the Storm Ditch.

Location: Storm Ditch north of Highway 12.

Camera Direction: Southeast

Date/Time: November 16, 2020 10:59 A.M.



11: PB190011

Description: Taking a sample from sample location #00 to analyze for concentration of dye. The standpipe overflow is in this manhole. Water was not flowing into the standpipe.

Location: Manhole 2114 – Vault with standpipe overflow.

Date/Time: November 19, 2020 9:05 A.M.



12: PB190012

Description: Lab set up for analyzing for dye, pH, and conductivity.

Location: Lab by Power Station.

Date/Time: November 19, 2020 9:29 A.M.



13: PB190013

Description: Taking a sample from sample location #05.

Location: D Furnace double block and bleed interstitial area between the Blast Furnace Recycle System and Lake Water.

Date/Time: November 19, 2020 9:37 A.M.



14: PB190014

Description: Taking a sample from sample location #12.

Location: D Furnace Lake Water Non-contact Cooling Water Header.

Date/Time: November 19, 2020 9:38 A.M.



15: PB190015

Description: Taking a sample from what was thought to be sample location #04 but it was the wrong location. It was actually sample location #11.

Location: C Furnace Lake Water Non-contact Cooling Water Header.

Date/Time: November 19, 2020 9:49 A.M.



16: PB190016

Description: Taking a sample from correct sample location #04.

Location: Hose from C Furnace double block and bleed interstitial area between the Blast Furnace Recycle System and Lake Water.

Date/Time: November 19, 2020 9:49 A.M.



17: PB190017

Description: Identifying the sample location #04.

Location: Hose from C Furnace double block and bleed interstitial area between the Blast Furnace Recycle System and Lake Water.

Date/Time: November 19, 2020 9:50 A.M.



18: PB190018

Description: Taking a sample from sample location #11.

Location: C Furnace Lake Water Non-contact Cooling Water Header.

Date/Time: November 19, 2020 9:51 A.M.



19: PB190019

Description: The double block and bleed valve for C Furnace. Similar in function to the D Furnace double block and bleed valve, but with a hose attached to the valve from the interstitial area between the isolation valves.

Location: C Furnace double block and bleed interstitial area between the Blast Furnace Recycle System and Lake Water.

Date/Time: November 19, 2020 9:52 A.M.



20: PB190020
Description: Taking a sample from sample location #02.
Location: Storm Sewer Manhole #2816.
Date/Time: November 19, 2020 10:00 A.M.



21: PB190021
Description: Taking a sample from sample location #01.
Location: Storm Sewer Manhole #2316.
Date/Time: November 19, 2020 10:06 A.M.



22: PB190022

Description: Taking a sample from sample location #01.

Location: Outfall 002.

Camera Direction: Northeast

Date/Time: November 19, 2020 10:16 A.M.



23: PB190023

Description: Lake water is lower than usual – probably due to strong southwest winds.

Location: Outfall 002.

Camera Direction: East

Date/Time: November 19, 2020 10:17 A.M.



24: PB190024

Description: Taking a sample from sample location #14. This sample location is for the background levels in Lake Michigan water.

Location: Lake Michigan Non-contact Cooling Water from tap in Power House.

Date/Time: November 19, 2020 10:28 A.M.



25: PB190025

Description: Taking a sample from sample location #00. Water was flowing into the standpipe at this time.

Location: Manhole 2114 – Vault with standpipe overflow.

Date/Time: November 19, 2020 10:46 A.M.



26: PB190026

Description: Taking a sample from sample location #13, Blast Furnace Recycle System recycle process water from high lift pump header.

Location: Basement of the Blast Furnace Closed Water Pump Station.

Date/Time: November 19, 2020 10:54 A.M.



27: PB190027

Description: Taking a sample from sample location #9.

Location: Waste Water Pump Station No. 2 – Downstream of Manhole 2114.

Date/Time: November 19, 2020 11:05 A.M.



28: PB190028

Description: Taking a sample from sample location #08

Location: Dirty Industrial Wastewater Manhole 2014.

Date/Time: November 19, 2020 11:15 A.M.



29: PB190029

Description: Refurbishing of three of the Cooling Towers has been completed.

Location: Dirty Industrial Wastewater Manhole 2014.

Camera Direction: Northwest

Date/Time: November 19, 2020 11:17 A.M.



30: PB190030

Description: Taking a sample from sample location #03.

Location: Storm Sewer Manhole 1015.

Date/Time: November 19, 2020 11:23 A.M.



31: PB190031

Description: Taking a sample from sample location #07.

Location: Dirty Industrial Sewer Manhole 1515.

Date/Time: November 19, 2020 11:36 A.M.



32: PB190032

Description: Sample location #10 is from the #19 Blast Furnace Gas Loop Seal.

Location: #19 BFG Loop Seal west of the Power Station.

Date/Time: November 19, 2020 11:44 A.M.



33: PB190033

Description: Taking a sample from sample location #10.

Location: #19 BFG Loop Seal west of the Power Station.

Date/Time: November 19, 2020 11:44 A.M.

