



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

DEC 06 2019

REPLY TO THE ATTENTION OF
ECW-15J

CERTIFIED MAIL 7019 0140 0000 0721 7634
RETURN RECEIPT REQUESTED

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

Subject: November 7-8, 2019 Compliance Evaluation 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 Reconnaissance Inspection Report that describes, and documents the activities at ArcelorMittal Burns Harbor, LLC on November 7-8, 2019.

The purpose of the compliance evaluation inspection at ArcelorMittal Burns Harbor, LLC was to document the facility's compliance with its NPDES permit and gather information related to ongoing investigations since the pump failure event in August 2019.

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,

A handwritten signature in black ink that reads "Ryan J. Bahr".

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

**CWA COMPLIANCE EVALUATION INSPECTION REPORT
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5**

Purpose:

Compliance Evaluation Inspection

Facility:

ArcelorMittal Burns Harbor, LLC
250 US-12
Burns Harbor, Indiana 46304
Porter County
41.625, -87.117

NPDES Permit Number:

IN0000175

Date of Inspection:

November 7, 2019 – November 8, 2019

EPA Representatives:

Joan Rogers, Environmental Scientist 312-886-2785
Rogers.joan@epa.gov

State Representatives:

Nicholas Ream, Indiana Department of Environmental Management 219-730-1691
Wastewater Inspector
nream@idem.IN.gov

Robert Lugar, Indiana Department of Environmental Management 317-234-6019
RLugar@idem.IN.gov
(November 7, 2019 only)

Aaron Deeter, Indiana Department of Environmental Management 317-691-1915
Adeeter@idem.IN.gov
(November 8, 2019 only)

Facility Representatives:

Teresa Kirk, Environmental Engineer 219-214-2363
Theresa.kirk@arcelormittal.com

Robert Maciel, Environmental Manager 219-787-4961
Robert.maciel@arcelormittal.com

Cary Mathias, Regional Waste Manager 330-659-9124
Cary.mathias@arcelormittal.com

Keith Nagel, Director of Environmental Affairs and Real Estate
Keith.nagel@arcelormittal.com

Rick Balunda, Manager of Operations

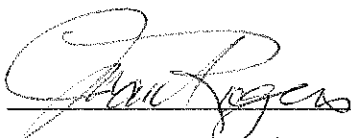
Jeff May, Air Compliance Senior Environmental Engineer

Gary Amendola, Consultant

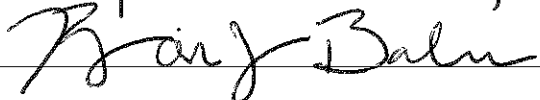
Morgan Swanson, Associate Engineer

Lynn Vo, Notekeeper

Report Prepared by:
Joan Rogers

Inspector Signature:  _____

Approver Name and Title: Ryan Bahr, Section Chief, Water Enforcement and Compliance Assurance Branch

Approver Signature:  _____

Approval Date: 12/6/19 _____

1. BACKGROUND

The purpose of this report is to describe and document the discussion and site inspection at the ArcelorMittal Burns Harbor facility on November 7, 2019 and November 8, 2019. 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.

On August 11, 2019, AMBH had a failure of the pump system for its Blast Furnace Gas Closed Water Recycle System (BFGCWRS) which required the facility to draw in Lake Michigan water to use in the Blast Furnace Gas (BFG) Air Scrubbers. Since the pumps to recycle the BFG Air Scrubber water were not functioning, the water became “once-through” water and the facility discharged many more millions of gallons than during normal operations. The once-through water was not able to be treated due to the high volume and flowed out its internal Outfall 011 and then through its final Outfall 001 to the East Arm of the Little Calumet River.

Due to this pump failure, the Burns Harbor facility discharged cyanide and ammonia-nitrogen exceeding its NPDES permit limit. IDNR determined that 3,000 fish died in the

East Arm of the Little Calumet River near the Portage Marina. Ogden Dunes and the Indiana Dunes National Park closed its beaches in the area and a nearby drinking water intake facility was closed. Following this event, IDEM required the facility to sample at Outfall 002 and results of that sampling showed the existence of pollutants in that wastewater that were not regulated for that outfall, including cyanide, ammonia, boron and phenols.

Previously, EPA Water Enforcement inspector, Ms. Joan Rogers, joined the Indiana Department of Environmental Management inspector, Mr. Nick Ream, for an inspection at the facility on August 22, 2010, and attended a presentation by AMBH on September 26, 2019. Mr. Ream and Ms. Rogers also previously performed a reconnaissance inspection on October 1, 2019 to gather additional information related to the cyanide release in August and to gather information about an AMBH reported overflow and bypass on September 30, 2019. The inspection on November 7-8, 2019 was a Compliance Evaluation Inspection to document compliance with the facility's permit and gather information about the facility's actions to investigate the source of pollution to Outfall 002.

2. SITE INSPECTION

Site Entry and Opening Conference – November 7, 2019

Arrival Time:	9:15 A.M.	
Presented credentials?	Yes	
Credentials presented to whom and at what time?	Badging personnel at the main desk at 9:15 A.M. and then to Teri Kirk and Morgan Swanson at 9:35 A.M.	
Was an opening conference held? With whom?	Yes. Ms. Kirk and Ms. Swanson.	
If photographs or documents were taken, does the facility consider any to be Confidential Business Information (CBI)?	None during the inspection.	
Which information does the facility consider to be CBI?	Some documents provided after the inspection, were labeled as CBI.	
EPA vehicle parked in approved location?	Yes	
Location where EPA vehicle was parked?	Environmental Services Building.	

Records Review

EPA inspector, Ms. Rogers, and IDEM inspectors Mr. Nick Ream and Mr. Robert Lugar followed Ms. Kirk and Ms. Swanson to the Environmental Services Building conference room. IDEM inspector, Mr. Ream, explained that the purpose of the inspection was to document compliance with the NPDES permit, view documents and reports required by the permit, hear any updates on investigations pursuant to the August 2019 release, updates on the investigation into pollutants in Outfall 002, and view specific areas at the facility. Mr. Ream stated that he would like to see all the internal and external outfalls,

the thickeners, the presses in the Reclamation Services Building (RSB) and the Secondary Wastewater Treatment Plant (SWTP).

Ms. Kirk stated that Ms. Vo would be taking notes for AMBH. At 9:58 A.M., Mr. Maciel, Mr. Nagel and Mr. Mathias joined the meeting via telephone.

Mr. Lugar began the discussion with a question about the status of the investigation of Outfall 002. During the September 26, 2019 meeting, AMBH representatives stated that they would have results in two weeks, which they have not met. Mr. Nobel stated that investigations were still ongoing, and they believed that surges of wastewater were contributing to the pollutant levels in Outfall 002. Mr. Mathias stated that there were high flows in the two manholes near the thickeners during the August event and that this could be a contributing factor. With that in mind, AMBH installed two-foot-tall “top hats”, sealed open barriers above the manholes, that prevent flow from flowing out of the manholes.

Mr. Lugar asked if there had been any investigation into cross connection piping into Outfall 002, especially since the SOP on the Cyanide Destruction Unit says that there is a connection to Outfall 002. Mr. Nobel stated that he did not believe that there was a cross connection and that he believed surging was responsible but stated that they would look at the SOPs to figure this out. Mr. Nobel also stated that the facility was open to conducting dye testing to figure out if there were cross connections, but none has been conducted yet. Mr. Lugar emphasized that cyanide and other pollutants are not regulated for Outfall 002 and are unpermitted discharges.

Ms. Rogers asked what other investigations were completed to date. Mr. Mathias stated that the facility has investigated pollutant loadings to the flow from Outfall 002 with respect to rainfall amounts, evaluated sewer diagrams looking for potential cross connections, and ran the Cyanide Destruction Unit for evaluation of its efficiency. AMBH representatives committed to providing preliminary progress reports.

At 10:30 A.M., the phone conference ended with Mr. Maciel, Mr. Nagel, and Mr. Mathias.

Walkthrough of the Facility

See Attachment A for photos taken by EPA.

At 10:30 A.M., EPA and IDEM inspectors followed Ms. Kirk, Ms. Swanson, and Ms. Vo to Outfall 003.

Outfall 003 flows into Lake Michigan and receives the backwash from the #1 and #2 Lake Water Pump Station traveling screens. There is a limit for Total Residual Chlorine from this outfall. Outfall 003 has a levy installed around it to contain the flow and prevent it from flowing freely into Lake Michigan. Years ago, the facility had issues with grease balls at the outfall and the levy kept the grease balls from going into the lake. Since then, the facility identified operational practices that led to the formation of the grease balls and subsequently changed those practices. There has not been a problem with grease balls since the change in practices.

EPA and IDEM inspectors then drove to a manhole that had a “top hat” installed on it. This manhole was located by the C Furnace. There was an additional dirt berm around the manhole. The top hat is intended to prevent flow from surging out of the manhole and to the ground around it.

EPA and IDEM inspectors then requested to observe the level of water in the clarifier for C Furnace. The inspectors climbed the catwalk to the top of the clarifier wall and looked down into the clarifier. They observed that the level of water in the clarifier was not very far below the top of the wall, approximately one foot.

While on the catwalk, the inspectors noticed that some pooled wastewater on the ground had broken through a dirt berm that appeared to have been built recently to contain it. EPA noticed a shovel leaning against the wall and tire tracks from a nearby skid steer around the area of the pooled water. There was also a manhole adjacent to the pooled water. Concerned about the water potentially going into the manhole, EPA and IDEM inspectors notified Ms. Kirk and she called other facility personnel. Later, this was explained to be a release of water from the Quick Dump Sump, which was beneath the manhole. The facility personnel stated that they were aware of this pooled water and that the whole area is concrete underneath so water could not percolate into the groundwater.

EPA and IDEM inspectors then followed facility personnel to the Reclamation Services Building to observe the Final Thickener and the sludge presses.

Flow from the bottom of the Blast Furnace Thickeners is sent to a hydrocyclone. The filtrate from the hydrocyclone goes to the Final Thickener in the RSB and the sludge is pressed on a vacuum belt press. The dried sludge may either be reused or landfilled.

A High Capacity Thickener receives flow from the Basic Oxygen Furnace (BOF) Gas Cleaning. Filtrate from this thickener goes to the Final Thickener and the sludge is either reused or landfilled.

The Final Thickener also receives flow from the Scinter Plant. The filtrate from the Final Thickener goes to the SWTP and the sludge is pressed and then landfilled either on or off site.

EPA and IDEM inspectors then drove back to the Environmental Services Building and then to the SWTP. At the SWTP, EPA and IDEM inspectors had a conversation with Mr. Balunda in his office. The inspectors observed Mr. Balunda pull up SOPs on his computer. Specifically, he opened the SOPs named “Responding to Notification of Hi Top Temps at the Blast Furnace” and “Responding to Positive CN Readings in Cold Well”. The first one would be used if the hi top temps were greater than 700°C and the second one would be used if the cyanide levels in the cold well were high. This SOP number is PU-AGW-04B-P4017. In Section 2.4 of this SOP, it states that if the cyanide levels in the cold well are high, the required action would be to sample for cyanide every two hours.

At 1:30 P.M., EPA and IDEM inspectors went with AMBH personnel to view the Secondary Wastewater Treatment Plant. Mr. May joined the group at this time. The inspectors observed the Cold Mill Side of the plant and the clarifiers, two influent streams, and the thickener for the underflow from the hydrocyclone.

At 2:23 P.M., EPA and IDEM inspectors observed Outfall 002, which discharges directly to Burns Harbor, and then observed Outfall 011 at 2:53 P.M. Outfall 011 is an internal outfall directly after the two 30 million gallon treatment lagoons. The inspection team then drove to observe Outfall 001 and arrived there at 3:13 P.M.

Following the observations at the outfalls, EPA and IDEM inspectors had a phone conference in Mr. May's vehicle with Mr. Amendola and Mr. Nagel about Outfall 002 and the sampling work that has been ongoing since the August event. Mr. Amendola explained that there has been daily sampling from Outfall 002. Some of the parameters they have been sampling for are: COD, ammonium cyanide, phenols, copper, boron, lead, zinc, silver and dissolved iron. The facility has been sampling from 8-10 data points that flow to Outfall 002 and stated that the results, with a short narrative, could be submitted by the end of the next week. Mr. Amendola stated that he thought the pollutants in the flow from Outfall 002 were from storm water and not process water. Mr. Lugar stressed again that these constituents are not permitted for this outfall. Mr. Nagel stated that they will look into dye tracer testing.

EPA and IDEM inspectors exited the facility at 3:55 P.M.

Site Entry – November 8, 2019

Arrival Time:	9:20 A.M.	
Presented credentials?	Yes	
Credentials presented to whom and at what time?	Badging personnel at the main desk at 9:20 A.M. and then to Teri Kirk and Morgan Swanson at 9:30 A.M.	
Was an opening conference held? With whom?	Yes. Ms. Kirk and Ms. Swanson.	
If photographs or documents were taken, does the facility consider any to be Confidential Business Information (CBI)?	None during the inspection.	
Which information does the facility consider to be CBI?	Some documents provided after the inspection, were labeled as CBI.	
EPA vehicle parked in approved location?	Yes	
Location where EPA vehicle was parked?	Environmental Services Building.	

Records Review

EPA and IDEM inspectors met with Ms. Kirk, Ms. Swanson and Ms. Vo in the conference room of the Environmental Services Building. On this day, IDEM's Mr. Lugar was not present but Mr. Deeter was.

Ms. Kirk began the meeting by producing an engineering drawing of the area around the slag pits. The engineering drawing has hatch marks around the catch basin that EPA and IDEM inspectors saw pooled water near the manhole on the previous day. Ms. Kirk stated that the hatched area on the drawing represented concrete, although there is no legend item stating that.

She stated that the area was lined with concrete in 2008.

Ms. Rogers asked for a clarification on the slag quenching process. Ms. Kirk explained that the slag is the impurities from the molten steel. Once isolated, it is brought to an outside pit and quenched with water. That water goes to the Quick Dump Sump and then to thickeners. In August, during the pump failure, the facility stopped quenching slag to possibly minimize the amount of water that had to go through the pump station.

During this meeting, the EPA and IDEM inspectors asked for documents and information to be provided to both agencies. The requested documents and information are:

- Where the filtrate from the plate presses goes
- Copies of the cyanide test results
- Storm Water Pollution Prevention Plan
- Quarterly Routine Inspection Reports for past three years ((October 2016 – September 2019)
- Past three years of toxicity tests
- Pollutant Minimization Plan (PMP) for Total Residual Chlorine (TRC) and Silver
- Annual report for PMP
- Compliance Report for Free Cyanide Compliance Plan
- Past three years of DMRs (October 2016 – September 2019)
- 2019 lab data and the monthly reports from the lab data

Additionally, Mr. Amendola and Mr. Nagel stated that they would provide Outfall 002 sample data and a progress report by November 15, 2019.

Ms. Kirk stated that they have stopped taking grab samples for ammonia from the Storm Ditch. For a month following the August pump failure, they took samples from approximately four sample sites 3 to 5 times per week. She also stated that following the inspection by IDEM and EPA on October 1, 2019, the facility has instituted changes to how they sample for TRC. Sampling personnel now wait until the lab personnel are in the lab and then pull the sample. This ensures that the sample meets holding time as best as possible, since it takes 14 minutes to drive to the lab.

Additionally, they have made changes to the procedure for Oil and Grease (O&G) sampling. Sampling personnel now use a bottle that fits in the dipper, instead of taking the sample from the composite sampler plastic tubing. This will ensure that O&G is not “lost” from the sample by accumulating in the plastic tubing.

Walkthrough of the Facility

At 11:30 A.M., EPA and IDEM inspectors followed the AMBH personnel to the Blast Furnace area and observed the East Cast Furnace. At the time of the inspection, the facility was not casting steel. EPA and IDEM inspectors also observed the Slag Quench Pit adjacent to the East Cast Furnace and the flow from the Slag Quench Pit. The effluent from the Slag Quench Pit flows via gravity to the far end of the pit and to a sump. A pump in the sump pumps the flow to the Quick Dump Sump.

2.3 Closing Conference and Post-Inspection

EPA and IDEM inspectors followed the AMBH personnel to the Environmental Services Building and provided a closing conference in the conference room. The inspectors exited the plant at 12:23 P.M.

3. LIST OF DOCUMENTS RECEIVED FROM FACILITY

No documents were received from the facility.

4. AREAS OF CONCERN

EPA and IDEM inspectors expressed concern that the agencies have not been kept apprised of efforts to identify the sources of pollutants from Outfall 002.

5. LIST OF ATTACHMENTS

A) Photolog

ArcelorMittal Burns Harbor
IDEM/EPA Inspection November 7, 2019 - November 8, 2019
ATTACHMENT A - PHOTOLOG
All photos taken by Joan Rogers, Environmental Scientist, U.S. EPA
Camera: Ricoh TG-4



1: PB070001

Description: Outfall 003 has a levy installed around it to separate it from Lake Michigan.

Location: Outfall 003.

Date/Time: November 7, 2019 10:45 A.M.

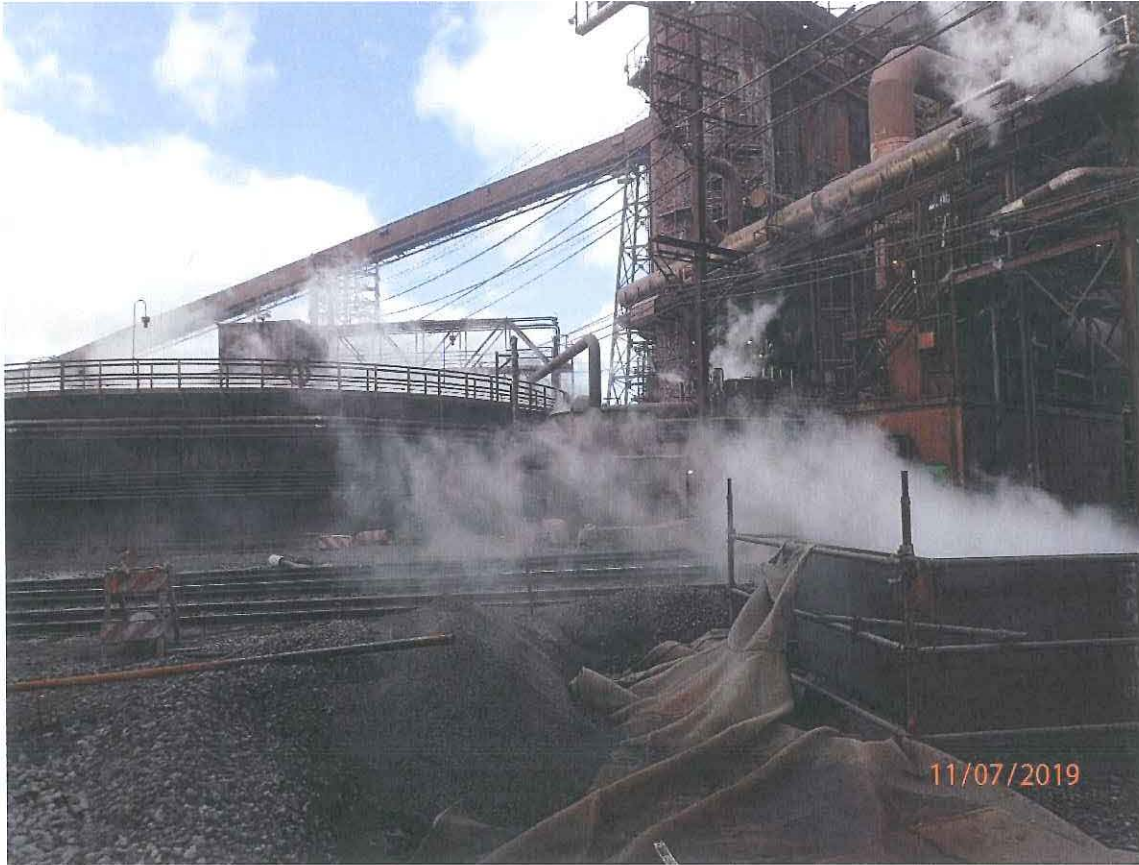


2: PB070002

Description: A manhole with a “top hat” installed on it to prevent releases from the manhole.

Location: By C Furnace.

Date/Time: November 7, 2019 11:04 A.M.



3: PB070003

Description: The “top hat” installed on the manhole was installed to prevent releases from the manhole.

Location: By C Furnace.

Date/Time: November 7, 2019 11:04 A.M.



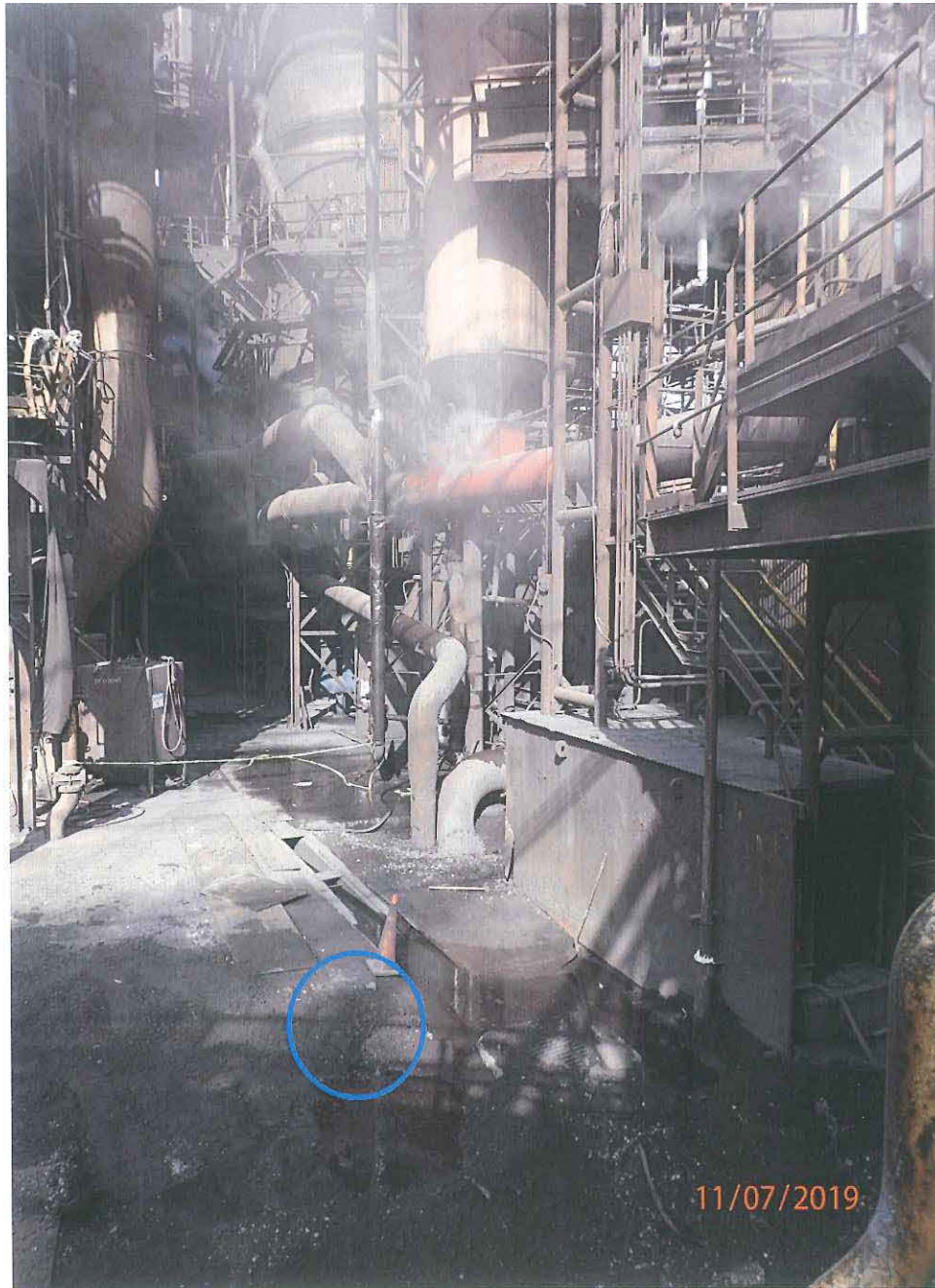
4: PB070004

Description: Pooled water began breaking through a dirt berm and began flowing out of the pooled up area. Break in dirt berm is denoted by a blue circle and water flow is denoted by blue arrows. Facility personnel called other personnel about the flow. Later, this was explained to be a release of water from the Quick Dump Sump. The facility personnel stated that they were aware of this and that the whole area is concrete underneath.

There was flow from the flume channel to this area and the manhole in the photo is elevated from the pooled water area by several inches. EPA observed a shovel, a skid steer, and skid steer tire tracks nearby that indicated recent work had been done in this area. The shovel is leaning up against a wall. A green circle denotes its location in the photo.

Location: On catwalk around the clarifier for C Furnace.

Date/Time: November 7, 2019 11:19 A.M.

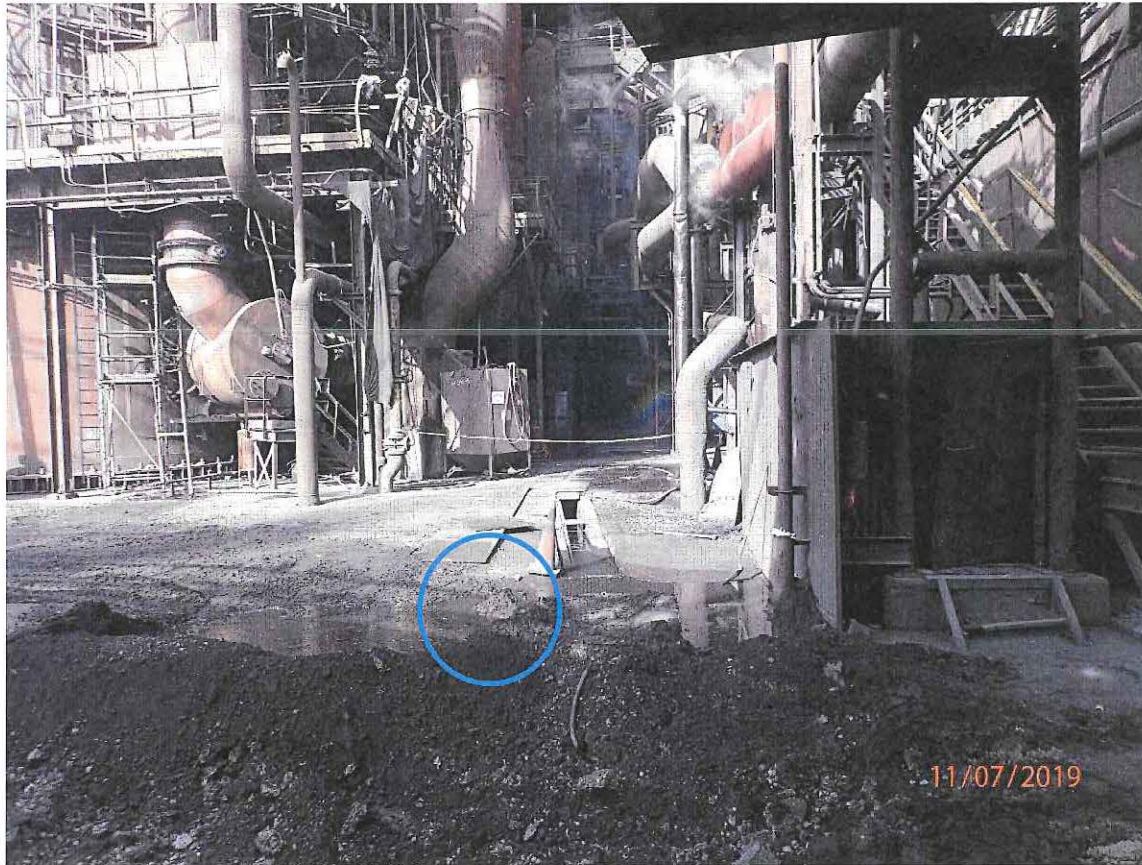


5: PB070005

Description: The leak from the Quick Dump Sump as observed from the ground. The blue circle denotes the location of the breach in dirt berm.

Location: Next to the clarifier for C Furnace.

Date/Time: November 7, 2019 11:21 A.M.



6: PB070006

Description: The leak from the Quick Dump Sump as observed from the ground. The blue circle denotes the location of the breach in dirt berm.

Location: By the clarifier for C Furnace.

Date/Time: November 7, 2019 11:23 A.M.



7: PB070007

Description: Effluent from the Final Thickener goes to the Secondary Wastewater Treatment Plant.

Location: On the catwalk for the Final Thickener.

Date/Time: November 7, 2019 11:59 A.M.

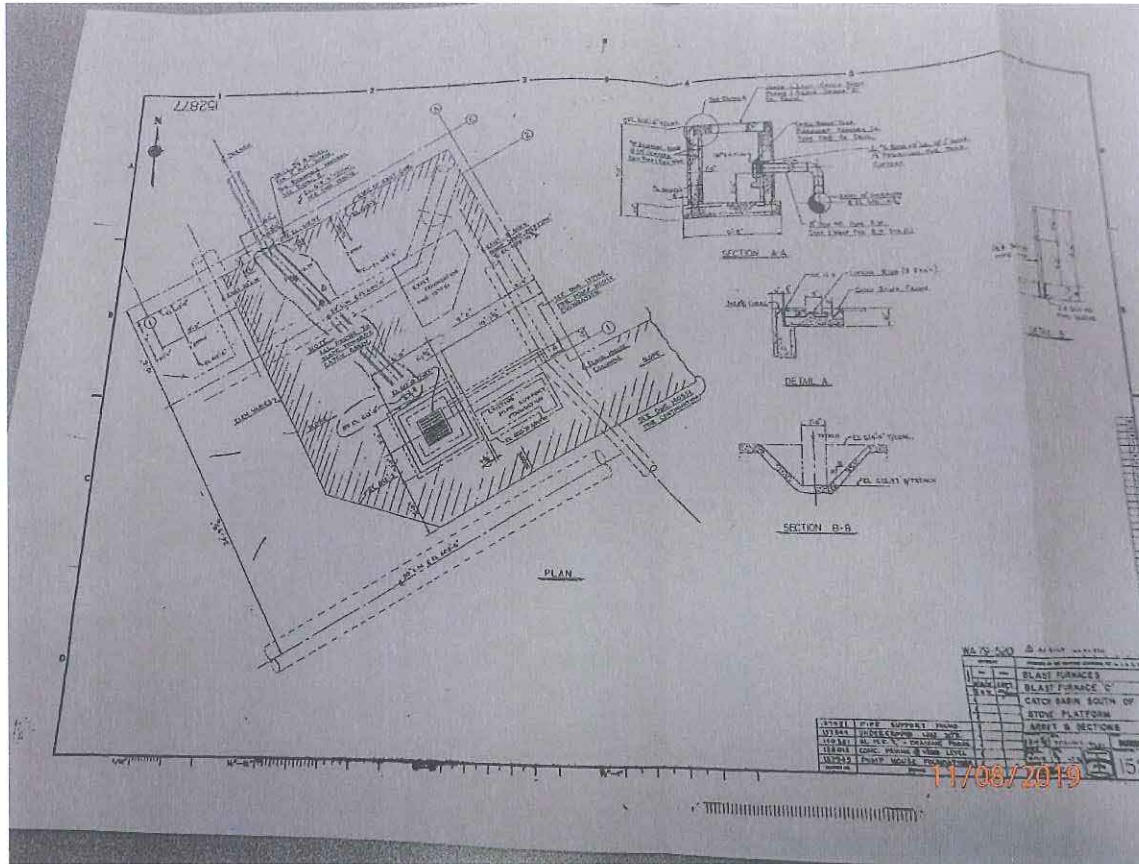


8: PB070008

Description: The Hi Cap Thickener receives Basic Oxygen Furnace scrubber water.

Location: On the catwalk for the Final Thickener.

Date/Time: November 7, 2019 12:00 P.M.

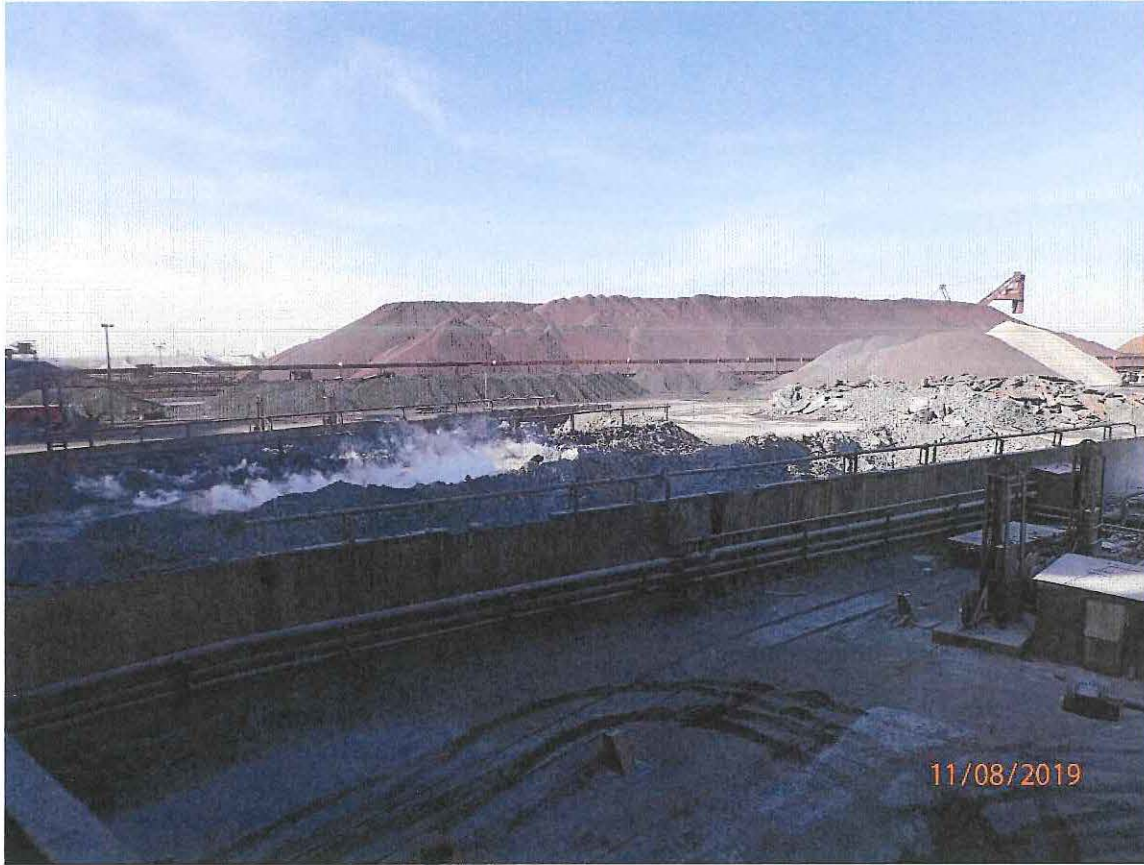


9: PB080009

Description: Facility personnel provided an engineering drawing of the area around the Quick Dump Sump showing that the area was concreted. Facility personnel stated that hatched areas on drawing indicated that there was concrete underneath.

Location: In the Environmental Services Building.

Date/Time: November 8, 2019 11:01 A.M.



10: PB080010

Description: Slag is quenched in the Slag Quench Pit and effluent from the Slag Quench Pit flows via gravity to the far end of the pit and to a sump. A pump in the sump pumps the flow to the Quick Dump Sump.

Location: By the Slag Quench Pit for the East Cast Furnace.

Date/Time: November 8, 2019 11:34 A.M.