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

Purpose:
Compliance Evaluation Reconnaissance Inspection

Facility:
Cleveland Cliffs Burns Harbor, LLC
250 US-12
Burns Harbor, Indiana 46304
Porter County
41.625, -87.117

NPDES Permit Number:
IN0000175

Date of Inspection:
September 10, 2021

EPA Representatives:
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State Representatives:
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Report Prepared by:
Joan Rogers

Inspector Signature: JOAN ROGERS Digitally signed by JOAN ROGERS Date: 2021.11.16 20:04:02 -05'00'

Approver Name and Title: Ryan Bahr, Chief, Section 2, WECAB

Approver Signature/Date: RYAN BAHR Digitally signed by RYAN BAHR Date: 2021.11.18 11:22:22 -06'00'

1. BACKGROUND

The purpose of this report is to describe and document the reconnaissance inspection at the Cleveland Cliffs Burns Harbor facility on September 10, 2021. This inspection was performed pursuant to Section 308(a) of the Federal Water Pollution Control Act, as amended. This was a joint inspection by EPA and the Indiana Department of Environmental Management (IDEM).

The Cleveland Cliffs Burns Harbor (CCBH) 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. It operates under NPDES Permit No. IN0000175, which was issued on May 27, 2016 and expires on June 30, 2021. A permit renewal application has been submitted to IDEM. The facility was most recently previously owned by ArcelorMittal and was known as ArcelorMittal Burns Harbor.

On January 14, 1998, a Consent Decree (1998 CD) was entered with the Northern District of Indiana when the facility was owned by Bethlehem Steel Corporation. The Consent Decree resolved violations of the Clean Water Act and Safe Drinking Water Act resulting from discharges of ammonia, without a permit, into the East Arm of Burns Harbor from fifty-three discrete fissure points in the vertical face of the Ore Dock Wall among other violations. According to the 1998 CD, the CD applies to and is binding on Bethlehem Steel and its successors and assigns.

The 1998 CD requires CCBH to maintain and operate a Dewatering Well System to collect and recover groundwater at the Ore Dock to prevent unpermitted discharges from the Ore Dock into the East Arm of Burns Harbor. The 1998 CD also requires CCBH to measure the total daily volume of groundwater pumped from the Dewatering Well System and to measure the level of the groundwater in each dewatering well and sample the combined groundwater flow monthly for ammonia-N. Additionally, CCBH is required to annually inspect the face of the Ore Dock Wall for discharges.

The inspection on September 10, 2021 was a Compliance Evaluation Reconnaissance Inspection to observe the dewatering wells at the Ore Dock and review records related to the measurement of the groundwater levels and the sample analysis.

EPA inspector Ms. Joan Rogers notified Mr. Tom Maicher and Ms. Morgan Swanson of the inspection on September 1, 2021.

2. SITE INSPECTION

Site Entry and Opening Conference

Arrival Time:	9:35 A.M.
Presented credentials?	Yes.
Credentials presented to whom and at what time?	9:35 A.M. to Tom Maicher, Morgan Swanson, and Joyce Casillas.
Was an opening conference held? With whom?	Yes. Ms. Swanson, Mr. Maicher, Ms. Casillas.

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.

EPA inspector, Ms. Joan Rogers, and IDEM inspector, Mr. Nick Ream, followed Ms. Swanson to the Environmental Services Building conference room from the main office where EPA and IDEM inspectors received their visitor badges. Ms. Rogers presented credentials to Mr. Maicher, Ms. Swanson, and Ms. Casillas. The inspection team explained that the purpose of the inspection was to discuss the 1998 CD requirements and review documents related to it. EPA and IDEM inspectors also stated that they wanted to observe the groundwater wells and the Ore Dock Wall.

Discussion and Records Review Related to the Dewatering Well System

The discussion began with an overview of the Dewatering Well System, which consists of fifteen groundwater wells along the Ore Dock. There are piezometers in each well to measure the level of the groundwater. The 1998 CD requires that piezometer well levels in each well never exceed certain levels above the surface water level in the East Arm of Burns Harbor, depending on the well. The piezometers are numbered P-507 and P-511 through P-524 and they correspond to Dewatering Wells numbered DW-14 and DW-1 through DW-15, respectively. At some point in the history of this consent decree, another piezometer, P-508, was installed. It was associated with Dewatering Well DW-16.

Pumps in each well can be adjusted to control the amount of water removed from the well. The groundwater that is removed from each well is combined into a single pipe and transported and used at the scrubber in the Sinter Plant. When the Sinter Plant is not operating, the groundwater goes to the Reclamation Services Building (RSB). The total groundwater removed is measured daily. Once per month, the combined groundwater flow is sampled for ammonia-N and reported in the quarterly Dewatering Well Report. The 1998 CD requires that if the groundwater level in a well is over the specified level for that well, CCBH must lower it to the required level within ten days.

EPA was in receipt of the 2nd Quarter Dewatering Well Report but requested to go through it with CCBH personnel to understand the abbreviations and data in the report. From the discussion, EPA and IDEM inspectors were told that the abbreviation “F” in the Weekly Status Report for the wells and piezometer data in the quarterly Dewatering Well Reports meant that the well was filled with sand, “X” meant that they were unable to collect groundwater gauging data, “D” meant that it was destroyed, and “W” meant that it was under water.

Ms. Swanson called CCBH’s contractor, Weaver Consulting Group, who comes to the facility every week to conduct the measuring at each piezometer and adjust the well pumps. Ms. Swanson spoke to Ms. Jodi Slough who stated that they know the level that each well is supposed to be at, and they adjust the pumps to maintain that level.

Discussion and Records Review Related to the Annual Dock Wall Observation

The 1998 CD requires that once each calendar year, CCBH shall inspect the full face of the Ore Dock Wall for any discharges to the East Arm of Burns Harbor. If discharges are observed, CCBH shall also report this finding to EPA within 24 hours and submit a report of the observations within 30 days after the completion of the inspection. If any of the discharges have ammonia concentrations of 0.6 mg/L or more, the repairs are to be made within ten days.

EPA received an email from Ms. Swanson on August 27, 2021 stating that the inspection of the Ore Dock Wall had been completed on August 17 and August 23, 2021 and there were seven discernable discharges of flowing water observed. Ms. Swanson stated that the discharges were sampled, and repairs of the Ore Dock Wall would be scheduled as soon as possible. Ms. Swanson stated that a company named Chicago Underwater does the repairs on the Ore Dock Wall.

EPA received the 2020 Annual Dock Wall Observation Report on August 25, 2020. In that report, the observations were conducted on August 10, 2020 and seven discernable discharges were observed. Five of the discharges had ammonia concentrations over 0.6 mg/L. EPA requested the dates when the discharges observed during the Annual Dock Wall inspections were repaired for the years 2016-2021.

Field Observations (See Attachment A – Photolog)

At 10:39 A.M., EPA and IDEM inspectors began the field observations along the Ore Dock. At Dewatering Well Number 1, EPA and IDEM inspectors observed the meter for the well that measured the gallons pumped from that well. They also observed the pressure gauge, power feed and valve for the well. From the south end of the Ore Dock to the north end, there were a series of Dewatering Wells, all with the same configuration as Dewatering Well Number 1.

EPA and IDEM then noted that there were markings near the edge of the Ore Dock Wall that indicated the locations of the discharges identified during the Annual Dock Wall Observation. The discharges identified in 2021 began with the number 21. Previous years' discharge markings were also observed.

Near the north end of the Ore Dock, CCBH personnel found one of the piezometer locations along the ground and opened the top cover. Under the cover was a valve that the contractor from Weaver Consulting Group opened to read the groundwater level.

Ms. Swanson called Ms. Slough again and Ms. Slough provided more detail about the work performed. She stated that CCBH has provided Weaver Consulting Group with a range and maximum level for each well. Using a wrench, the contractor opens the valve on top of the piezometer and uses a water interface probe to read the water level. The contractor will turn the wheel attached to the pump to increase or decrease the amount of water to be pumped from each dewatering well. Ms. Slough says that there are no written procedures, but Weaver Consulting Group has been doing this work for CCBH for many

years and the contractors teach each other how to perform the duties. The contractor from Weaver Consulting Group comes to CCBH every Wednesday.

At 11:55 A.M., EPA provided a closing conference to Mr. Maicher and Ms. Swanson. Ms. Rogers advised Mr. Maicher and Ms. Swanson to read the 1998 CD for compliance requirements and stated that she would send an email requesting electronic documents including and a map for the locations of the dewatering wells and the combined groundwater sample location. Ms. Rogers also stated that she would request more information on the dates that the Ore Dock Wall discharges were repaired. EPA and IDEM left the facility at 12:14 P.M.

3. AREAS OF CONCERN

A. Paragraph 10 of the 1998 CD states that the facility has ten days to repair any malfunctioning well. The Weekly Status Reports from the quarterly Dewatering Well System Report show that piezometers numbered P-523, P-507, and P-508 were destroyed (abbreviated with a "D" on the Weekly Status Report) since at least the first quarter of 2020 and are listed as destroyed every week since then.

B. Paragraph 9 of the 1998 CD states that the facility shall record the level, in terms of mean sea level, of the groundwater at its uppermost point in each of the fifteen Piezometers. Piezometer P-511 is never to exceed six feet above the Surface Water Level in the East Arm of Burns Harbor. The Weekly Status Reports from the quarterly Dewatering Well System Report show that piezometer number P-511 has been flooded (abbreviated with a "F" on the Weekly Status Report) since at least the first quarter of 2020 and is listed as flooded every week since then. No groundwater level has been read in piezometer number P-511 since at least the first quarter of 2020.

C. Paragraph 9 of the 1998 CD states that the facility shall record the level, in terms of mean sea level, of the groundwater at its uppermost point in each of the fifteen Piezometers. Piezometer P-512 is never to exceed six feet above the Surface Water Level in the East Arm of Burns Harbor. The Weekly Status Reports from the quarterly Dewatering Well System Report show that groundwater levels from piezometer number P-512 have not been measured (abbreviated with an "X" on the Weekly Status Report) since at least the first quarter of 2020 and is listed as unable to collect groundwater gauging data every week since then. No groundwater level has been read in piezometer number P-511 since at least the first quarter of 2020.

D. Paragraph 9 of the 1998 CD states that the facility shall record the level, in terms of mean sea level, of the groundwater at its uppermost point in each of the fifteen Piezometers. Piezometer P-513 is never to exceed four feet above the Surface Water Level of the East Arm of Burns Harbor. The Weekly Status Reports from the quarterly Dewatering Well System Report show that groundwater levels from piezometer number P-513 have frequently not been measured due to being under water (abbreviated with a "W" on the Weekly Status Report).

E. Paragraph 37.b. states that for each day after day 10 that there is any unpermitted, discernible discharge of flowing water containing ammonia in concentration of 0.6 mg/L or more through the face of the Ore Dock Wall, the facility is subject to stipulated penalties. EPA received the dates of the repairs to the Ore Dock Wall from 2016-2021. The table below shows the observed discharges, the ammonia concentrations of each discharge, and the date each discharge location was repaired. The discharges with an ammonia concentration of 0.60 mg/L or more are highlighted in yellow. The dates that the repair was unknown or conducted more than 10 days after the observation of the discharge are highlighted in yellow.

2016 – Inspection August 23, 30, and September 6, 2016		
Identification Number	Ammonia Concentration (mg/L)	Date Repaired
16-1	0.66	Unknown
16-2	5.4	01/24/17
16-3	2.4	Unknown
16-4	5.2	01/21/17
16-6	2.7	10/28/16
16-7	2.4	Unknown
16-8	2.8	02/02/17
16-9	2.5	04/13/17
16-10	2.2	Unknown
16-11	1.0	10/19/16
16-12	1.1	10/19/16
16-13	1.2	11/02/16
16-14	1.3	10/18/16
16-15	0.41	02/05/17
16-16	1.7	10/11/16
16-17	1.2	11/01/16
16-18	0.25	11/01/16
16-19	0.6	10/13/16
16-20	0.45	10/18/16
16-21	0.53	02/01/17
16-22	0.33	10/12/16
16-23	2.7	10/25/16
16-24	1.9	12/22/16
16-25	5.0	Cannot be fixed
16-26	4.8	Cannot be fixed
2017 – Inspection October 13, 19, November 2 and 14, 2017		
Identification Number	Ammonia Concentration (mg/L)	Date Repaired
17-1	12	Unknown
17-2	5	Unknown
17-3	4.7	Unknown
17-4	4.1	Unknown
17-5	3	Unknown
17-6	1.1	Unknown
17-7	1.1	Unknown
17-8	2	Unknown

17-9	1.5	Unknown
17-10	3	Unknown
17-11	.075	Unknown
17-12	0.34	Unknown
17-13	0.68	Unknown
17-14	0.27	Unknown
17-15	2.7	Unknown
17-16	1.1	Unknown
17-17	5.2	Unknown
17-18	3.1	Unknown
17-19	0.45	Unknown
17-20	0.72	Unknown
2018 – Inspection August 23, September 6 and 28, 2018		
No discharges observed in 2018		
2019 – Inspection August 27, September 11 and 20, 2019		
Identification Number	Ammonia Concentration (mg/L)	Date Repaired
19-1	1.3	Unable to repair due to safety concerns.
19-2	1.5	
19-3	0.28	
2020 – Inspection August 10, 2020		
Identification Number	Ammonia Concentration (mg/L)	Date Repaired
20-1	1.4	Unable to repair due to safety concerns.
20-2	4.7	
20-3	1.3	
20-4	0.31	
20-5	0.34	
20-6	1.4	
20-7	2.0	
2021 – Inspection August 17 and 23, 2021		
Identification Number	Ammonia Concentration (mg/L)	Date Repaired
21-1	1.6	Not completed yet.
21-2	0.29	
21-3	0.46	
21-4	0.49	
21-5	1.6	
21-6	0.12	
21-7	1.3	

4. LIST OF ATTACHMENTS

A) Photolog
B) 1994 Map of Proposed Locations for Dewatering Wells 1-10