



REGION 3

PHILADELPHIA, PA 19103

Report Title: Clean Water Act Compliance Inspection Report
Inspection Date: 09/25/2024
Regulatory Program(s): National Pollutant Discharge Elimination System (NPDES)
Type of Activity: Industrial Stormwater
Site/Facility Name: Vibrantz Specialty Products
Permittee(s): Vibrantz Specialty Products
Site/Facility Operator: Vibrantz Specialty Products
Site/Facility Address: 610 Pittman Road
Baltimore Maryland, 21226
Latitude: 39.19469 **Longitude:** -76.56416
County/Parish: Anne Arundel
Permit Number: MDR002531
NAICS Code: 325180 **SIC:** 2819
DSB ID: ECAD-6162

Site/Facility Representative(s):	Point of Contact
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I. Introduction

On September 25, 2024, an inspection team composed of staff from the U.S. Environmental Protection Agency (“EPA”) Region 3 (hereinafter, referred to as the “EPA Inspection Team”) and a representative of the Maryland Department of the Environment (“MDE”) conducted an industrial stormwater inspection of the Vibrantz Specialty Products LLC facility (hereinafter, “Vibrantz” or “the facility”). The purpose of the inspection was to observe compliance with the Clean Water Act (CWA) and to verify compliance with the facility’s National Pollutant Discharge Elimination System (NPDES) Permit No. MDR002531 (hereinafter, the “Permit”) and applicable State and Federal regulations. The EPA Inspection Team performed a concurrent industrial wastewater compliance evaluation inspection; however, the following inspection report covers the industrial stormwater inspection only.

A. Inspection Opening Conference

The EPA Inspection Team arrived at the site at est. 10:30 AM for the inspection. Inspectors met with the following facility representatives:

Table 1: Inspection Attendee List

Name	Affiliation	Telephone	Email
EPA Region 3 Inspectors and Contractors			
Shane McAleer	EPA Inspector	(215) 814-5616	Mcaleer.Shane@EPA.gov
Brian Tolton	EPA Inspector	(215) 814-3291	Tolton.Brian@EPA.gov
Site/Facility Representatives			
Bryan Jenkins	Vibrantz	(410) 375-1054	Bryan.Jenkins@Vibrantz.com
Sophia Li	Vibrantz	(610) 618-6350	Sophia.Li@Vibrantz.com
Adam Bates	Vibrantz	(410) 672-9110	Adam.Bates@Vibrantz.com
Doug Crawford	Vibrantz	(410) 636-7155	Doug.Crawford@Vibrantz.com
State or County Representatives			
Wendy Huang	MDE	(443) 934-7737	Wendy.Huang@Maryland.gov

The EPA inspection team displayed their credentials to the facility operator, Mr. Bryan Jenkins of Vibrantz, at the outset of the inspection, and explained the purpose of the inspection was to observe compliance with its Permit. A copy of the Permit is provided in Attachment 1. The EPA Inspection Team informed the Operator that any information that the Facility deemed to be confidential business information (“CBI”) should be identified to EPA representatives during the inspection and it would be handled as CBI according to EPA’s CBI procedures.

B. Weather and Precipitation Conditions

During the inspection, weather was overcast, around 70° F. National Oceanic and Atmospheric Administration (NOAA) National Weather Service precipitation data for the date of the inspection and 5 days prior are provided in the Table 2 below:

Table 2. Precipitation Data

Station Name	Date	Precipitation Amount (inches) ¹
Baltimore Washington International Airport MD US (USW00093721)	9/20/2024	0.00
Baltimore Washington International Airport MD US (USW00093721)	9/21/2024	0.03
Baltimore Washington International Airport MD US (USW00093721)	9/22/2024	0.27
Baltimore Washington International Airport MD US (USW00093721)	9/23/2024	0.11
Baltimore Washington International Airport MD US (USW00093721)	9/24/2024	0.07
Baltimore Washington International Airport MD US (USW00093721)	9/25/2024	0.19

C. Summary of the Facility

Vibrantz Specialty Products, LLC (formerly Erachem-Comilog and Prince Specialty Products, LLC) owns and operates their Baltimore manganese refining facility located on a 70-acre site bounded on the east and north by the Patapsco River and on the west by Curtis Creek. The facility is engaged in multiple types of processes for the manufacturing of over forty manganese products, including manganese chloride, manganese nitrate, and manganese dioxide, lithium manganese oxide, manganese carbonate, and nitrided ferromanganese. The facility processes high-purity manganese ores (mainly imported from Africa) and byproducts into manganese-based products for use as metals alloys, animal feeds, fertilizers, electronics, steel, etc. Operations are continuous, seven days a week, 365 days a year. Operators work 12-hour shifts.

Stormwater generated at the facility flows in two directions. Stormwater from the south and southwest portion of the property, approximately 20% of the property, flows overland and is collected in onsite and offsite swales, where it is directed to the southwest to discharge via Outfall 002 to a grassed swale, which discharges to Curtis Creek.

The central, north and east portions the property, the production and storage areas of the Facility, is within the “main basin” drainage area, which encompasses the remaining 80% of the property. Stormwater runoff generated in the main basin is collected in stormwater trenches or trench drains where it comeslingles with process water and is conveyed to the facility industrial wastewater treatment plant (IWTP) for treatment. The IWTP also receives industrial wastewater and non-contact cooling water (NCCW) from the facility refinery operations. The IWTP discharges via Outfall 001 to Curtis Creek and is permitted under NPDES Permit No.

¹ Source: NOAA National Climatic Data Center (<http://www.ncdc.noaa.gov/>).

MD0001775, the industrial wastewater discharge permit for the facility. The EPA Inspection Team performed a concurrent industrial wastewater compliance evaluation inspection to determine compliance with the industrial wastewater permit; however, the inspection report for the industrial wastewater compliance evaluation inspection is being drafted separately from this industrial stormwater inspection report.

II. Facility Activity

During the inspection, the EPA Inspection Team observed: the manganese process buildings, exterior of the buildings, stockpiles, maintenance and equipment areas, cooling towers, detention basins, IWTP, and in-house laboratory. The EPA Inspection Team was escorted around the Facility by representatives from Vibrantz who described the manganese production process. A photolog containing photographs taken by the EPA Inspection Team is Attachment 2 of this report.

The EPA Inspection Team walked the southwest portion of the property, the drainage area to Outfall 002, at the onset of the facility walkthrough. There are two manganese ore stockpiles that are covered and stored in the southwest portion of the property. The ore piles are contained with concrete jersey barriers and super silt fence on three sides (Photos 1 - 4 of Attachment 2). The EPA Inspection Team observed the Miscellaneous Storage Yard just south of the manganese ore piles, which is used for storage and maintenance of Facility equipment and contained Facility equipment in various states of repair (Photos 39 - 41, see Observation 3 below). The solid waste left over from the manganese refinery process, referred to as “gangue” (Photos 8 - 9), is placed in stockpiles in the west portion of the facility, just north of the manganese ore piles, where it awaits removal for disposal offsite. Stormwater runoff generated in the gangue pile area, manganese ore stockpile area, the Miscellaneous Storage Yard, the rail car area, facility cooling tower area (Photos 5 and 6, see Observation 2), diesel fueling station area (Photos 28 - 30), and central truck loading area (Photos 33 - 34, see Observation 5) flows overland and is collected in onsite swales (Photos 15, 31 and 32) which convey stormwater to the southwest to discharge via Outfall 002. Outfall 002 discharges to a grassed swale that runs through the adjacent US Coast Guard property to the west, and discharges to Curtis Creek. Outfall 002 and the grassed swale downstream of Outfall 002 was observed during the inspection (Photos 35 - 38).

During the refining process, manganese ore is transported to different buildings depending on the manganese by-product that is being manufactured. There is a drain collection system that captures stormwater and potential spills from between the main production area buildings (Photos 11 and 21). Stormwater generated in this area flows to a sump (Photo 12) where it gets pumped to a 20,000-gallon storage tank and then is treated at the IWTP. If the trench drain

sump fails and/or the sump overtops, stormwater and process water drain to the main basin sump, which is a 6,000-gallon sump (Photos 14 and 16) that collects stormwater and is pumped to a 410,000-gallon storage tank (referred to as the mother of all tanks, or MOAT) (Photo 13). Additional stormwater generated by the central, northern and east portion of the property is collected in onsite swales (Photos 10, 15 and 45) and conveyed to the main basin sump and pumped to the MOAT. The stormwater and process water collected in both the 20,000-gallon storage tank and the MOAT is fed over an extended period to the IWTP and treated prior to discharge.

After treatment at the IWTP, treated industrial stormwater and wastewater effluent is conveyed through an underground 4-inch pipe that runs southwest under the facility, under the adjacent U.S Coast Guard property, and discharges through a single-port diffuser at Outfall 001 to Curtis Creek below the water surface. The outfall was not observed during the inspection.

During a large precipitation event, if the flow of stormwater from the main basin exceeds the capacity of the main basin sump pump or the volume of stormwater exceeds the MOAT capacity, stormwater overflows into a vegetated channel (Photos 16 – 18) and is conveyed to three large stormwater detention basins (Photos 18 - 19). The three detentions basins discharge via Outfall 003 to an unnamed tributary to the Patapsco River. Outfall 003 was not observed during the inspection due to overgrowth of vegetation in the basins (See Observation 4).

III. Observations

Permit requirement Part II section G.

G. Requirement to Post a Sign of your Permit Coverage.

You must post a sign or other notice of your permit coverage at a safe, publicly accessible location in close proximity to your facility and at potentially impacted public access areas. You must use a font large enough to be readily viewed from a public right-of-way and conduct periodic maintenance of the sign to ensure that it is legible, viable, and factually correct.

Observation 01:

The EPA Inspection team did not observe a sign or other notice of permit coverage posted.

Permit requirement Part III section B.1.b.1.

b. Non-Numeric Technology-Based Effluent Limits (BPT/BAT/BCT)

i.) Minimize Exposure. You must minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings (although significant enlargement of impervious surface area is not recommended). You must store solid chemical products, chemical solutions, paints, oils, solvents, acids, caustic solutions and waste materials under cover on an impervious surface.

Observation 02:

During the inspection, the EPA Inspection team observed one of the Facility cooling towers leaking water down the side of the cooling tower (Photos 5 and 6). Runoff in the vicinity of the cooling towers drains to Outfall 002.

Observation 02 Facility Response: Facility representatives submitted evidence indicating corrective actions were taken to address the leaking cooling tower by cleaning out the cooling towers trays. The evidence consisted of a letter dated October 8, 2024, a copy of the repair work order, and photos of the cooling tower before and after the repair. See Attachment 5 (Facility Response Documents) and Facility Response Photos 1 and 2 in Attachment 2.

Observation 03:

During the inspection, the EPA Inspection Team observed the Miscellaneous Storage Yard in the southwest corner of the Facility property, which is used for storage and maintenance of Facility equipment and contained Facility equipment in various states of repair. An unlabeled tote, liquids container, storage tank, and other unused or damaged facility equipment was observed (Photos 39 – 41). Runoff generated in the Miscellaneous Storage Yard drains to Outfall 002.

Permit requirement Part IV. Section A.1.d.

A. Corrective Action

1. Conditions Requiring SWPPP Review and Revision to Ensure Effluent Limits are Met
When any of the following conditions occur, or are detected during an inspection, monitoring or other means, or the Department or the operator of the MS4 through which you discharge informs you that any of the following conditions have occurred, you must review and revise, as appropriate, your SWPPP (e.g., sources of pollution; spill and leak procedures; non-stormwater discharges; the selection, design, installation, and implementation of your control measures) so that this permit's effluent limits are met and

pollutant discharges are minimized: pollutant discharges are minimized:

...

d. a required control measure was never installed, was installed incorrectly, or not in accordance with Parts III.A, III. B and/or in Appendix D, or is not being properly operated and maintained;

Observation 04:

During the inspection, the EPA Inspection team observed overgrown vegetation in the detention basins leading to Outfall 003, and access was not maintained. Outfall 003 was not observed due to the overgrowth and lack of access (Photos 18 - 19).

Permit requirement Part IV. Section A.1.a. & e.

A. Corrective Action

1. Conditions Requiring SWPPP Review and Revision to Ensure Effluent Limits are Met
When any of the following conditions occur, or are detected during an inspection, monitoring or other means, or the Department or the operator of the MS4 through which you discharge informs you that any of the following conditions have occurred, you must review and revise, as appropriate, your SWPPP (e.g., sources of pollution; spill and leak procedures; non-stormwater discharges; the selection, design, installation, and implementation of your control measures) so that this permit's effluent limits are met and pollutant discharges are minimized: pollutant discharges are minimized:

a. an unauthorized release or discharge (e.g., spill, leak, or discharge of nonstormwater not authorized by this or another NPDES permit) occurs at your facility;

...

e. whenever a visual assessment (Part V.A.3) shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam).

Observation 05:

During the inspection, the EPA Inspection team observed an oil sheen in the central truck loading area which drains via an onsite swale to Outfall 002 (Photos 31 and 33 - 34).

Observation 05 Facility Response: Facility representatives submitted evidence indicating that a corrective action was taken to clean up the oil sheen, consisting of placing oil absorbent pads on the oil sheen areas. See Facility Response Photos 3 and 4 in Attachment 2.

IV. Records Review

During the opening and closing conferences, the EPA Inspection Team indicated an EPA records request would be submitted to facility representatives after the inspection. The following records were requested by EPA, and provided by the Facility operator via email and the EPA file transfer website on November 4, 2024:

- Current Industrial Stormwater Permit (Attachment 1)
- SWPPP and SWPPP map (Attachment 3)
- Permit Registration Letter (Attachment 4)
- Facility Site Map
- Routine Facility Inspection 2022-2024
- Comprehensive Site Compliance Evaluation 2022-2024
- Quarterly Visual Monitoring 2022-2024
- Corrective action logs
- Annual employee stormwater trainings

Permit requirement Part III. Section C.2.c. (SWPPP requirements)

c. Site map. Provide a map showing:

- i.) the size of the property in acres;*
- ii.) the location and extent of significant structures and impervious surfaces*
- iii.) the location and extent for planned restoration of impervious surfaces, or other nutrient reduction control measures;*
- iv.) directions of stormwater flow (use arrows);*
- v.) locations of all existing structural control measures or BMPs;*
- vi.) locations of all receiving waters in the immediate vicinity of your facility, indicating if any of the waters are impaired and, if so, whether the waters have TMDLs established for them;*
- vii.) locations of all stormwater conveyances including ditches, pipes, and swales;*
- viii.) locations of potential pollutant sources identified under Part III.C.3;*
- ix.) locations where significant spills or leaks identified under Part III.C.3 have occurred;*
- x.) locations of all stormwater monitoring points;*
- xi.) locations of stormwater inlets and outfalls, with a unique identification code for each outfall (e.g., Outfall No. 1, No. 2, etc), indicating if you are treating one or more outfalls as substantially identical, and an approximate outline of the areas draining to each outfall;*
- xii.) municipal separate storm sewer systems, where your stormwater discharges to them;*
- xiii.) locations and descriptions of all non-stormwater discharges identified under Part I.E.3;*

xiv.) locations of the following activities where such activities are exposed to precipitation:

- *fueling stations;*
- *vehicle and equipment maintenance and/or cleaning areas;*
- *loading/unloading areas;*
- *locations used for the treatment, storage, or disposal of wastes;*
- *liquid storage tanks;*
- *processing and storage areas;*
- *immediate access roads and rail lines used or traveled by carriers of raw*
- *materials, manufactured products, waste material, or by-products used or*
- *created by the facility;*
- *transfer areas for substances in bulk; and*
- *machinery;*
- *manufacturing buildings and*

xv.) locations and sources of run-on to your site from adjacent property that contains significant quantities of pollutants.

Observation 06:

The submitted SWPPP (Attachment 3) did not have all the permit-required elements on the SWPPP Map, or the items contained on the SWPPP map were illegible. Most notably, the following items were either missing or illegible: directions of stormwater flow; locations of all existing structural control measures or BMPs; locations of all receiving waters in the immediate vicinity of the facility; locations of all stormwater conveyances including ditches, pipes, and swales; locations of potential pollutant sources; locations of all stormwater monitoring points; locations of stormwater inlets and outfalls; and locations of activities exposed to precipitation in 2.C. xiv.

V. Closing Conference

After the facility walk, the EPA Inspection Team met with the facility representatives for a closing conference. The EPA Inspection Team shared preliminary observations with the facility. The EPA Inspection Team reiterated to the facility representatives that all preliminary observations discussed were not compliance determinations. Any and all preliminary observations shared were subject to further investigation by EPA upon the additional review of records and documentation. Additional observations may be contained in this inspection report that were not identified at the time of the closing conference after EPA reviewed additional materials following the inspection.

The inspection concluded at 14:30

VI. List of Attachments

- Attachment 1: MDE NPDES Industrial Stormwater Permit 20-SW
- Attachment 2: Photograph Log
- Attachment 3: Facility SWPPP
- Attachment 4: MDE Permit Registration Letter for Permit No. MDR002531
- Attachment 5: Facility Response Documents