



**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION III WATER BRANCH, ENFORCEMENT
AND COMPLIANCE ASSURANCE DIVISION
CLEAN WATER ACT
COMPLIANCE INSPECTION REPORT**

for

Name of Facility: AdvanSix Resins & Chemicals, LLC – Hopewell Plant

Facility Address: 905 East Randolph Street, Hopewell, VA 23860

Mailing Address: 905 East Randolph Street, Hopewell, VA 23860

Report Prepared on: 5/27/2021

Date

By: *Cassidy Owen*

Biological Systems Engineer (Eastern Research Group)

Signature

Report Final as of: 06/24/2021

Date

ALLISON
By: GIEDA

Signature

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General Information

Type of Inspection:	Industrial Stormwater
Owner:	AdvanSix Resins & Chemicals, LLC – Hopewell Plant
Operator:	AdvanSix Resins & Chemicals, LLC
Permittee:	AdvanSix Resins & Chemicals, LLC
NPDES Permit No:	VAR052505 (General Permit) and VA0005291 (Individual Permit)
NPDES Permit Effective Date:	July 1, 2019 (VAR052505), August 1, 2016 (VA0005291)
NPDES Permit Expiration Date:	June 30, 2024 (VAR052505), July 31, 2021 (VA0005291)
Receiving Water:	Gravelly Run, Poythress Run, and James River
Latitude and Longitude:	37.30150, -77.27312

On-Site Facility Inspection Overview

On April 27, 2021, representatives from U.S. Environmental Protection Agency (EPA) Region III and EPA's contract inspector from Eastern Research Group (ERG), Inc., (the EPA Inspection Team), conducted a compliance evaluation inspection at the AdvanSix Resins & Chemicals, LLC – Hopewell Plant in Hopewell, Virginia. AdvanSix Resins & Chemicals, LLC is identified as the Permittee and owns and operates the Facility. A representative from the Virginia Department of Environmental Quality (DEQ) also attended the inspection.

Approximate Entry Time: 8:10 AM (EDT) **Approximate Exit Time:** 3:45 PM (EDT)

Unique Project Identifier (UPI): 3E21WN024A

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- Exhibit 5 – November 5, 2019 Consent Order
- Exhibit 6 – Facility SWPPP
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- Exhibit 8 – Detailed Drainage Area Map for Outfall 912
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- Exhibit 10 – Chesapeake Bay TMDL Action Plan and 2019 through 2020 Annual Reports
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I. INTRODUCTION

On April 27, 2021, representatives from U.S. Environmental Protection Agency (EPA) Region III and EPA's contract inspector from the Eastern Research Group (ERG), Inc., (hereinafter, collectively referred to as the EPA Inspection Team) inspected the AdvanSix Resins & Chemicals, LLC (hereinafter, Permittee) advanced manufacturing facility, the AdvanSix Resins & Chemicals, LLC – Hopewell Plant (hereinafter, Facility), in Hopewell, Virginia. The EPA Inspection Team was joined on the inspection by a representative from the Virginia Department of Environmental Quality (DEQ). The purpose of the inspection was to assess the Permittee's compliance with the Virginia Pollutant Discharge Elimination System (VPDES) General Permit for Stormwater Discharges Associated with Industrial Activity (VAR052505, the General Permit). Upon arrival to the Facility, the EPA Inspection Team learned that only one of the Permittee's nine stormwater outfalls (Outfall 912) is permitted under the General Permit. The remaining eight stormwater outfalls (Outfalls 904 through 911), the Facility's three clear water sewer system outfalls (Outfalls 001 through 003), and the Facility's single process waste sewer system outfall (Outfall 004) are Permitted under the Facility's Authorization to Discharge Under the Virginia Pollutant Discharge Elimination System and The Virginia State Water Control Law (VA0005291, the Individual Permit). The Facility's registration statement for coverage under the General Permit (dated June 16, 2020) is included in [Appendix B, Exhibit 1](#). DEQ stated that the Facility began coverage under the General Permit on March 25, 2021, 33 days before the EPA inspection, and that their first electronic discharge monitoring report (eDMR) was not due until January 10, 2022. The Facility's Individual Permit was effective as of August 1, 2016. Facility representatives stated that in the spring of 2020, a consultant had discovered a previously unpermitted outfall (Outfall 912), and that the Permittee subsequently submitted registration for coverage under the General Permit for this outfall. Facility representatives also stated that they plan to incorporate Outfall 912 into the next version of their Individual Permit.

DEQ had previously performed a Recon Inspection of the Facility under the Individual Permit on September 17, 2020, which resulted in three requests for corrective actions all related to the clear water and process waste sewer outfalls (refer to [Appendix B, Exhibit 2](#)). The most recent full DEQ inspection of the Facility under the Individual Permit occurred on May 6, 2019, resulting in eleven requests for corrective actions and three general recommendations (refer to [Appendix B, Exhibit 3](#)). DEQ issued a Warning Letter to the Permittee following the May 6, 2019 inspection on October 10, 2019 (refer to [Appendix B, Exhibit 4](#)). Additionally, the Permittee agreed to pay a civil penalty of \$51,885 as part of a Consent Order signed on November 5, 2019, following an October 12, 2017 release of phenol to Outfall 002, which resulted in a fish kill in Gravelly Run (refer to [Appendix B, Exhibit 5](#)).

The AdvanSix Resins & Chemicals, LLC – Hopewell Plant is an advanced manufacturing company that produces a number of products including caprolactam (a primary component of nylon), ammonium sulfate (fertilizer), cyclohexanone, cyclohexanol, and other specialty chemicals. Intermediate processes at the Facility include the manufacture and/or use of phenol, sulfuric acid, ammonia, natural gas, and hydroxylamine. The Facility falls under standard industrial classification (SIC) codes 2819 (Industrial Inorganic Chemicals), 2869 (Industrial Organic Chemicals), and 2873 (Agricultural Chemicals), and is subject to the additional requirements included in Sector C of the General Permit. At the time of the EPA inspection, Facility representatives stated that the Facility's Stormwater Pollution Prevention Plan (SWPPP), dated February 2021 (refer to [Appendix B, Exhibit 6](#)), had not yet been updated to include information regarding Outfall 912. Facility representatives stated that they planned to update the SWPPP within 90 days of coverage under the General Permit during the next quarterly update.

The Facility encompasses 483 acres, approximately 53 percent of which is used for industrial purposes. The remaining 227 acres of the site is undeveloped; thus, the Facility's SWPPP covers 256 acres. The overall site map is included as [Appendix B, Exhibit 7](#). Outfall 912 is permitted under the General Permit, and receives drainage from an industrial area of 4.13 acres, 2.95 of which is impervious. The drainage area for Outfall 912 is located in the north/central portion of the Facility, and the outfall discharges north of the Facility to Poythress Run (refer to [Appendix B, Exhibit 8](#)). Stormwater in the area generally flows north

and is collected via seven inlets which contain subsurface piping that flows to Outfall 912. The actual discharge point from Outfall 912 is located north of the Facility's north perimeter fence; however, Facility representatives sample the outfall at an upstream manhole located just inside the Facility's perimeter fence. The manhole used for sampling receives stormwater from all seven inlets in the drainage area via subsurface pipes. Activities in the Outfall 912 drainage area include the covered North Maintenance Shop, a covered drum shed in the North Maintenance Shop, a laydown yard for metal parts, and a railyard for train cars. Train cars are not loaded or unloaded in this drainage area, and may be empty or contain ammonium sulfate (fertilizer), cyclohexanone, caprolactam, or other chemicals. Outfall 912 also receives drainage from an employee parking lot. Pages 13 and 14 of the Facility's SWPPP (refer to [Appendix B, Exhibit 6](#)) contain a table of activities and potential pollutants for each of the stormwater outfalls (Outfalls 904 through 911) and the clear water sewer system outfalls (Outfalls 001 through 003) permitted under the Individual Permit. Detailed area maps of stormwater Outfalls 904 through 911 are included in [Appendix B, Exhibit 9](#).

The Permittee first submitted a Chesapeake Bay Total Maximum Daily Load (TMDL) Action Plan to DEQ for approval on March 28, 2019. Facility representatives provided the most recent version of the TMDL Action Plan (dated June 26, 2020) as well as the Chesapeake Bay TMDL Annual Reports for 2019 and 2020 (refer to [Appendix B, Exhibit 10](#)). The Permittee's Chesapeake Bay TMDL Action Plan does not include details on Outfall 912, as the outfall was permitted under the General Permit following the most recent Chesapeake Bay TMDL Action Plan update.

II. INSPECTION PROCESS

Inspection Opening Conference

The EPA Inspection Team arrived at the Facility at 8:10 AM (EDT) for the inspection. Cassidy Owen of Eastern Research Group displayed his Clean Water Act inspector credential to the Facility representatives at the outset of the inspection and explained that the purpose of the inspection was to observe compliance with the General Permit. The EPA Inspection Team informed the Permittee that any information the Facility deemed to be confidential business information (CBI) should be identified to EPA representatives and it would be handled according to EPA's CBI procedures.

Table 1: Inspection Attendee List

Name	Affiliation	Telephone	Email
EPA Region III Inspectors and Contractors			
Cassidy Owen	Eastern Research Group (ERG), Inc.	(703) 633-1686	cassidy.owen@erg.com
Erin Trouba	EPA Region III	(215) 814-2023	trouba.erin@epa.gov
Monica Crosby	EPA Region III	(215) 814-5659	crosby.monica@epa.gov
Shane McAleer	EPA Region III	(215) 814-5616	mcaleer.shane@epa.gov
Virginia Department of Environmental Quality			
Bradford Ricks	Virginia DEQ	(804) 527-5129	bradford.ricks@deq.virginia.gov
Facility Representatives			
Andrew Parker, Senior Lead Environmental Engineer	AdvanSix Resins & Chemicals, LLC	(804) 541-5734	andrew.parker2@advansix.com
Mason McElroy, Senior Environmental Engineer	AdvanSix Resins & Chemicals, LLC	(804) 335-6029	mason.mcelroy@advansix.com

Weather and Precipitation Conditions

During the inspection, the weather was clear and dry. 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
HOPEWELL, VA US USC00444101	04/22/2021	0.00
HOPEWELL, VA US USC00444101	04/23/2021	0.00
HOPEWELL, VA US USC00444101	04/24/2021	0.00
HOPEWELL, VA US USC00444101	04/25/2021	0.43
HOPEWELL, VA US USC00444101	04/26/2021	0.00
HOPEWELL, VA US USC00444101	04/27/2021	0.00

Facility Site Walk

As part of the inspection process, the EPA Inspection Team visually observed the site conditions in the presence of the Facility representatives listed in Table 1. The primary purpose of the inspection was to review industrial processes at the Facility, to review the accuracy and reliability of the Permittee's self-monitoring and reporting program, and to obtain information that will assist EPA in assessing the Permittee's compliance with the requirements of the General and Individual Permit.

Photographs were taken during the inspection by Cassidy Owen. Photographs used to support the observations in this report are included in [Appendix A, Photograph Log](#). Photographs not used are kept on file at EPA, Region III. Documents used to support the observations in this report are included in [Appendix B, Exhibit Log](#).

The EPA Inspection Team began the Facility walk-through in the Outfall 912 drainage area, near the North Maintenance Shop. The EPA Inspection Team observed the three stormwater inlets northeast of the North Maintenance Shop and observed no dry-weather flow (refer to [Appendix A, DSCN 2305](#)). The EPA Inspection Team observed a used oil tote on a spill pallet and a spill kit in the covered drum shed in northeast corner of the North Maintenance Shop (refer to [Appendix A, DSCN 2306](#)). The EPA Inspection Team also observed the equipment laydown yard and the presence of an uncovered scrap metal dumpster (refer to [Appendix A, DSCN 2307](#) and [DSCN 2308](#)). The EPA Inspection Team moved north beyond the railyard and observed the manhole where Facility representatives sample for stormwater drainage to Outfall 912 (refer to [Appendix A, DSCN 2311](#) and [DSCN 2313](#)). The actual discharge point for Outfall 912 is beyond the perimeter fence to the northeast of the manhole. The EPA Inspection Team observed signs of sheet flow and soil erosion around the manhole and beyond the perimeter fence. The EPA Inspection Team observed rip rap and gravel on the ground surrounding the manhole and in some portions of the gully beyond the perimeter fence.

The EPA Inspection Team moved east along the Facility's north perimeter fence into the Outfall 906 drainage area, located in the northeast corner of the Facility. Drainage in the area generally flows north down a concrete slope to a ditch at the base of the slope. The ditch runs around the northeast corner of the Facility to an inlet that is piped to Outfall 906. The EPA Inspection Team observed the rail tracks to follow the Facility perimeter fence to the northeast and observed a steep slope between the rail tracks and the perimeter fence (refer to [Appendix A, DSCN 2317](#)). The EPA Inspection Team observed concrete stabilization on the slope; however, a portion of the concrete had collapsed (refer to [Appendix A, DSCN 2318](#)). Facility representatives stated that the Permittee is planning to remove the existing concrete

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

stabilization and install new stabilization by 2024. The EPA Inspection Team also observed a white powder on the ground underneath a rail car hopper (refer to [Appendix A, DSCN 2319](#)). Facility representatives stated that the white powder was ammonium sulfate fertilizer that had spilled from the rail car. The EPA Inspection Team also observed an accumulation of water containing a white substance in the ditch at the base of the concrete slope (refer to [Appendix A, DSCN 2323](#)). Facility representatives stated that they do not know what the substance is, but they do not believe it is ammonium sulfate fertilizer. They stated that the substance “comes out of the hillside” and that they tested it a few years ago and determined it was not ammonium sulfate fertilizer. The EPA Inspection Team observed this white substance in multiple locations throughout the Facility.

While in the Outfall 906 drainage area, the EPA Inspection Team observed the monitoring location for Outfall 907 (refer to [Appendix A, DSCN 2320](#) and [DSCN 2321](#)). The Outfall 907 drainage area is south of the Outfall 906 drainage area; however, the Outfall 907 drainage area flows via subsurface pipe, beneath the Outfall 906 drainage area, to an outfall north of the Facility along Poythress Run.

The EPA Inspection Team continued following the north perimeter ditch as it curved to the south in the northeast corner of the Facility. The EPA Inspection Team observed two large, covered warehouses in the northeast corner of the Facility that are used to store ammonium sulfate fertilizer (refer to [Appendix A, DSCN 2324](#)). Both of the warehouses had stormwater inlets at the corners with ditches running along the perimeter of each warehouse (refer to [Appendix A, DSCN 2325](#)). The EPA Inspection Team observed white fertilizer staining in the ditch north of the northernmost warehouse. Facility representatives stated that the northernmost warehouse was no longer used. The EPA Inspection Team observed a wooden barricade had been placed in the entryway to the northernmost warehouse (refer to [Appendix A, DSCN 2328](#)). The EPA Inspection Team moved south and observed the entryway to the south fertilizer warehouse, which is still actively used. The warehouse contains large piles of powdered ammonium sulfate fertilizer (refer to [Appendix A, DSCN 2330](#)). Facility representatives explained that dump trucks move into and out of this warehouse to load or unload ammonium sulfate. The EPA Inspection Team observed heavy tracking of ammonium sulfate fertilizer on the ground inside of the warehouse, as well as in the entryway to the warehouse (refer to [Appendix A, DSCN 2329](#) and [DSCN 2332](#)). The entryway to the warehouse contained a storm drain that flows directly to Outfall 906 via subsurface piping. The EPA Inspection Team observed fertilizer tracking in and around the storm drain. The EPA Inspection Team also observed a yellow foreign object debris system in the door to the warehouse (refer to [Appendix A, DSCN 2331](#)). Facility representatives stated that the foreign object debris system is used to reduce the amount of fertilizer track-out on dump truck tires. Facility representatives stated that they have these in all doors to active fertilizer warehouses onsite, and that they clean them quarterly. The EPA Inspection Team observed significantly more fertilizer tracking prior to the foreign object debris system, inside the fertilizer warehouse; however, significant amounts of fertilizer were still tracked out of the warehouse beyond the foreign object debris system. Facility representatives also stated that they sweep the entryways to the fertilizer warehouses weekly to reduce track-out.

The EPA Inspection Team moved east from the ammonium sulfate fertilizer building toward the James River, and observed the end of the long ditch in the northeast corner of the Facility (refer to [Appendix A, DSCN 2335](#) and [DSCN 2336](#)). The EPA Inspection Team observed a buildup of foam on the surface of the water in the ditch. The EPA Inspection Team also observed gravel, rip rap, and rolled inlet protection between the end of the ditch and a stormwater inlet directly upstream of Outfall 906. Another ditch flows to this stormwater inlet from the south of the Outfall 906 drainage area. Facility representatives stated that Outfall 906 is frequently submerged in the James River, so they perform sampling from either side of this inlet to obtain a representative sample of the Outfall 906 drainage area. The EPA Inspection Team observed a sedimentation tank used to remove suspended solids located approximately 40 feet south of the aforementioned stormwater inlet (refer to [Appendix A, DSCN 2333](#)). The EPA Inspection Team moved east and observed two oleum tanks located next to a railcar loading/unloading rack (refer to [Appendix A, DSCN 2338](#)). The EPA Inspection Team observed the oleum tanks to be in secondary containment and no spills were observed. Facility representatives stated that stormwater from the secondary containment area

drains to the process waste sewer system. The EPA Inspection Team continued east to the James River and observed the final manhole upgradient of Outfall 906 (refer to [Appendix A, DSCN 2339 and DSCN 2340](#)). Facility representatives stated the actual outfall was currently submerged in the James River. The EPA Inspection Team observed a small amount of water draining from the manhole structure and running into the James River.

The EPA Inspection Team moved south from Outfall 906 towards the large marine dock (refer to [Appendix A, DSCN 2341](#)). Facility representatives stated that the marine dock is mainly used for loading barges with ammonium sulfate fertilizer, but is also used for unloading barges of oleum and phenol. Facility representatives stated the marine dock has a covered conveyor system for loading marine barges; however, the dock is not used during rain events because rainwater will negatively affect the quality of the fertilizer. Under the marine dock, the EPA Inspection Team observed a small pipe draining a steaming liquid onto the shoreline of the James River (refer to [Appendix A, DSCN 2342](#)). The EPA Inspection Team also observed red staining on the gravel beneath the pipe. Facility representatives stated that this is a low-pressure steam drain. The EPA Inspection Team observed the Outfall 905 discharge point approximately 20 feet south of the marine dock (refer to [Appendix A, DSCN 2343](#)). The EPA Inspection Team observed flow from the outfall, and Facility representatives stated that the flow was from air-conditioning condensate. Stormwater in the Outfall 905 drainage area generally flows to the east. Seven stormwater inlets are located in the drainage area upgradient of the outfall.

The EPA Inspection Team moved south from Outfall 905 and observed the final manhole upgradient of Outfall 904 (refer to [Appendix A, DSCN 2345](#)). Facility representatives stated that the actual outfall was submerged in the James River. Stormwater in the Outfall 904 drainage area generally flows to the east. Thirteen (13) stormwater inlets are located in the drainage area upgradient of the outfall. The drainage area also includes a third, actively used, ammonium sulfate fertilizer warehouse.

The EPA Inspection Team moved northwest of Outfall 904 and observed the final storm drain located upgradient of Outfall 905 (refer to [Appendix A, DSCN 2346 and DSCN 2348](#)). The stormwater inlet receives flow from ditches to the northwest and south. The EPA Inspection Team observed gravel and rolled inlet protection surrounding the inlet. The EPA Inspection Team also observed a small pipe labelled “WTO-HVAC H2O-DISCHARGE” above the inlet with water flowing directly into the inlet (refer to [Appendix A, DSCN 2349](#)). The EPA Inspection Team moved south of the aforementioned inlet and observed a concrete ditch running down the steep slope to the west of the inlet (refer to [Appendix A, DSCN 2351](#)). Facility representatives stated that the six other inlets in this drainage area flow to this ditch before running down the slope. The EPA Inspection Team again observed the presence of an unknown white substance in the ditch at the bottom of the steep slope. The unknown white substance also appeared to be draining from a small pipe built into the side of the steep slope (refer to [Appendix A, DSCN 2350](#)). The EPA Inspection Team continued south along the ditch and observed that it peaked and then began running downgradient towards a different stormwater inlet draining to Outfall 904 (refer to [Appendix A, DSCN 2352](#)). This stormwater inlet received drainage from a ditch to the north and another ditch to the southwest. This stormwater inlet receives drainage from 10 of the 13 stormwater inlets in the Outfall 904 drainage area. Facility representatives stated that they sample from the ditches on either side of this inlet, along with another inlet approximately 25 feet to the west (refer to [Appendix A, DSCN 2355 and DSCN 2356](#)) in order to get a representative sample of flow to Outfall 904. The EPA Inspection Team observed dry-weather flow to the third sampling point upgradient of Outfall 904, which Facility representatives attributed to a possible leak in a subsurface river water intake pipe.

The EPA Inspection Team moved south to the small drainage area contributing to Outfall 911. This drainage area has no stormwater inlets, and only receives stormwater from a single concrete ditch that runs to the shore of the James River. The EPA Inspection Team observed a heavy amount of dry-weather flow emanating from a slope in the drainage area, and flowing via the concrete ditch into the James River (refer to [Appendix A, DSCN 2358](#)). The flow was red in color. Facility representatives stated the flow is constant and attributed it to a possible leak in a subsurface river water intake pipe in the slope. Facility

representatives stated that there is a 66-inch river water intake pipe located approximately 20 feet under the slope. Additionally, Facility representatives stated that they think the observed red color was from metals in the soil. Facility representatives stated they sampled the flow in 2020 and noted the water was not chlorinated, so they did not believe it to be drinking water. In addition to the red flow, the EPA Inspection Team observed that the concrete ditch had been damaged in two places and that gravel and rip rap had spilled into the ditch (refer to [Appendix A, DSCN 2359](#)). The EPA Inspection Team also observed surface sheen in areas of standing water, and observed plastic debris on the ground between the concrete ditch and the James River (refer to [Appendix A, DSCN 2360 through DSCN 2363](#)).

The EPA Inspection Team moved west from Outfall 911 to the south entrance of a third, actively used, ammonium sulfate fertilizer warehouse in the Outfall 904 drainage area. The warehouse did not have stormwater drains in the entryways similar to the aforementioned warehouse; however, the EPA Inspection Team observed a significant amount of ammonium sulfate fertilizer track-out on the pavement in front of the warehouse (refer to [Appendix A, DSCN 2364 and DSCN 2365](#)). This track-out is in an area that would sheet flow east toward a stormwater inlet outside the east corner of the warehouse and directly into Outfall 904. The EPA Inspection Team observed the foreign object debris system in the entryway of the warehouse to be heavily laden with fertilizer (refer to [Appendix A, DSCN 2366](#)). The EPA Inspection Team also observed a fast-closing door had been installed in the entryway to the warehouse; however, it was not functioning (refer to [Appendix A, DSCN 2368](#)). Facility representatives stated that they were piloting the door in this single entryway to prevent ammonium sulfate fertilizer from blowing out of the warehouse; however, Facility representatives stated that a dump truck had recently struck the door and that it was no longer working.

The EPA Inspection Team left the Facility for lunch and returned to visit the equipment lay-down area in the north-central portion of the Facility (refer to [Appendix A, DSCN 2369](#)). The EPA Inspection Team observed the entire area to be inside of a berm, and Facility representatives stated that the entire bermed area drains to the process waste sewer system. The EPA Inspection Team moved east into the Outfall 907 drainage area in the north-central portion of the Facility. According to the detailed site map (refer to [Appendix B, Exhibit 9](#)), drainage in this area flows to four stormwater inlets and then is piped north to Outfall 907, north of the Facility's perimeter fence. The main activity in this area involves dump truck unloading of ammonium sulfate fertilizer into a subsurface pit, which then carries fertilizer via a lift and conveyor system into the nearby warehouse (refer to [Appendix A, DSCN 2375](#)). The EPA Inspection Team observed an unprotected stormwater inlet approximately 20 feet northeast of the fertilizer pit, which was not identified on the Facility's site map. The fertilizer pit had a small bermed area and a cover that slid over the pit during rain events; however, the EPA Inspection Team observed pipes through the berm in two locations (refer to [Appendix A, DSCN 2376 and DSCN 2374](#)). The EPA Inspection Team observed a second stormwater inlet, which was present on the site map, located approximately 10 feet west of the fertilizer pit (refer to [Appendix A, DSCN 2373 and DSCN 2374](#)). The EPA Inspection Team observed improperly placed rolled inlet protection on the stormwater inlet and the presence of fertilizer on the pavement surrounding the inlet.

The EPA Inspection Team moved to the west side of the Facility and observed the ammonia plant located in the Outfall 003 clear water sewer system area. Process and stormwater drainage in this area flows via subsurface pipes approximately 1,000 feet northwest of the area to Outfall 003 along Poythress Run. The subsurface pipe to Outfall 003 runs beneath the adjacent Airgas facility and discharges in a wooded area north of the Airgas facility. The EPA Inspection Team observed an oil/water separator in the area, and Facility representatives stated it is inspected daily (refer to [Appendix A, DSCN 2379](#)). The EPA Inspection Team observed a stormwater inlet in the process area that drains to Outfall 003 (refer to [Appendix A, DSCN 2380](#)). Facility representatives stated that chemicals used in this process area are inside of pipes and other equipment, so there is limited exposure to precipitation. Furthermore, Facility representatives stated that the oil/water separator is intended to remove oil from small oil spills associated with equipment maintenance.

The EPA Inspection Team moved to the south end of the Outfall 001 clear water sewer system area and observed two additional ammonium sulfate fertilizer warehouses (refer to [Appendix A, DSCN 2382](#)). The EPA Inspection Team observed fertilizer track-out on the pavement in front of the warehouses. The area in front of the warehouse contains two inlets that drain to Outfall 001 (refer to [Appendix A, DSCN 2385](#)), as well as an inlet that drains to the process waste sewer system Outfall 004 (refer to [Appendix A, DSCN 2386](#)).

The EPA Inspection Team moved towards the southeast corner of the Facility and observed six dumpsters holding solid waste residue from the Facility's chemical processes (refer to [Appendix A, DSCN 2387](#)). The dumpsters were uncovered, but were located in an area that would drain to the process waste sewer system outfall. The DEQ representative stated that an earlier DEQ inspection found the dumpsters to be located in a position which could drain south into the stormwater Outfall 910 drainage area; however, the Facility had since installed a berm behind the dumpsters to prevent this. The EPA Inspection Team moved to the southeast corner of the facility and observed Outfall 910, which discharges to Gravelly Run (refer to [Appendix A, DSCN 2388](#)). Facility representatives stated that Outfall 910 receives stormwater drainage from a small area located south of the wastewater treatment lagoons. Outfall 910 consists of a wide ditch and contains no stormwater piping. The EPA Inspection Team moved northwest and observed the large clear water sewer system Outfall 001, which discharges to Gravelly Run (refer to [Appendix A, DSCN 2391](#)). Outfall 001 discharges contact and non-contact cooling river water at an average of 65 million gallons per day. Outfall 001 also drains stormwater from a majority of the Facility's process areas; however, Facility representatives stated that stormwater contributes a small fraction of the total flow. The EPA Inspection Team also observed stormwater Outfall 909 located approximately 25 feet downstream of Outfall 001 (refer to [Appendix A, DSCN 2393](#)). Outfall 909 discharges to Gravelly Run and receives stormwater flow from a single stormwater inlet in a small parking lot (refer to [Appendix A, DSCN 2394](#)). The EPA Inspection Team moved to the southwest and observed another small parking lot that drains to stormwater Outfall 908 (refer to [Appendix A, DSCN 2397](#) and [DSCN 2396](#)).

Records Review

The EPA Inspection Team conducted a records review to evaluate the Permittee's compliance with the Permit.

The Facility's eDMR data (refer to [Appendix B, Exhibit 11](#)) as well as DEQ inspection reports and other correspondence were provided electronically by DEQ and reviewed prior to the inspection. Site maps were provided and reviewed during the EPA inspection. The Facility's SWPPP, annual site comprehensive evaluations, employee training records, quarterly visual examinations, best management practice (BMP) table, Chesapeake Bay TMDL Action Plan and annual reports, Whole Effluent Toxicity (WET) testing results, and additional site maps were provided electronically after the inspection on May 11, 2021. The following documents were reviewed:

- General Permit Registration Statement (dated June 16, 2020)
- Facility SWPPP (dated February 2021)
- SWPPP BMP Table
- DEQ Recon Inspection Report (dated September 17, 2020)
- Full DEQ Inspection Report (dated May 6, 2019)
- DEQ Warning Letter (dated October 10, 2019)
- Consent Order (signed November 5, 2019)
- eDMR data for February 2019 through April 2021
- 2020 WET Testing Results (dated September 2020)
- Chesapeake Bay TMDL Action Plan (dated June 26, 2020)
- 2019 and 2020 Chesapeake Bay TMDL Action Plan Annual Reports
- 2018 through 2020 Annual Site Comprehensive Evaluation Reports

- Drainage area maps
- Quarterly Visual Monitoring records (2018 through Q1 2021)
- Routine Site Inspections (2018 through Q1 2021)
- Training records and materials (2018 through 2020)

Summary of Observations

The following section summarizes the EPA Inspection Team’s observations relative to the Permit requirements, including the Permittee’s SWPPP requirements and pollution prevention and good housekeeping.

Stormwater Pollution Prevention Plan (SWPPP) Requirements

Part III.A.2 of the General Permit provides deadlines for SWPPP preparation and compliance for new facilities, facilities previously covered by an expiring individual permit, and existing facilities not currently covered by a VPDES permit. The General Permit states “Owners of new facilities, facilities previously covered by an expiring individual permit, and existing facilities not currently covered by a VPDES permit who elect to be covered under this general permit shall prepare and implement the SWPPP prior to submitting the registration statement.

Observation 1. The Permittee provided a SWPPP (dated February 2021) at the time of the inspection (refer to Appendix B, Exhibit 6); however, the SWPPP does not reference Outfall 912, which is the only outfall permitted under the General Permit. Facility representatives stated that they planned to update the SWPPP within 90 days of coverage under the General Permit during the next quarterly update; however, according to Part III.A.2 of the General Permit, the SWPPP should have been updated to include Outfall 912 prior to submission of the registration statement. The Permittee submitted a registration statement for coverage under the General Permit on June 16, 2020 (refer to Appendix B, Exhibit 1).

Part I.E.2.b(3) of the Individual Permit requires the SWPPP to include “a site map identifying the following:

- (a) The boundaries of the property and the size of the property (in acres);
- (b) The location and extent of significant structures and impervious surfaces (roofs, paved areas and other impervious areas);
- (c) Locations of all stormwater conveyances including ditches, pipes, swales, and inlets, and the directions of stormwater flow (use arrows to show which ways stormwater will flow);
- (d) Locations of all existing structural and source control measures, including BMPs;
- (e) Locations of all surface water bodies, including wetlands;
- (f) Locations of potential pollutant sources identified under Part E.2.c (summary of potential pollutant sources);
- (g) Locations where significant spills or leaks identified under Part E.2.d (spills and leaks) have occurred;
- (h) Locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas; loading and unloading areas; locations used for the treatment, storage, or disposal of wastes, liquid storage tanks; processing and storwage [sic] areas; access roads, rail cars and tracks, transfer areas for substances in bulk; and machinery;
- (i) Locations of stormwater outfalls and an approximate outline of the area draining to each outfall, and location of municipal storm sewer systems, if the stormwater from the facility discharges to them;
- (j) Location and description of all non-stormwater discharges;

- (k) Location of any storage piles containing salt used for deicing or other commercial or industrial purposes; and [sic]
- (l) Locations and sources of runoff to the site from adjacent property where the runoff contains significant quantities of pollutants; and
- (m) Locations of all stormwater monitoring points.

Observation 2. The EPA inspection Team observed the following issues related to site maps (refer to Appendix B, Exhibit 7 through Exhibit 9):

- The unprotected stormwater inlet located next to the ammonium sulfate fertilizer pit was not marked on the site map (refer to Appendix A, DSCN 2375). Based on the site map for the Outfall 907 drainage area (refer to Appendix B, Exhibit 9), the inlet was located directly above a subsurface stormwater pipe that flows to Outfall 907.
- The locations of all existing BMPs were not present on the site maps. For example, the sedimentation tank in the Outfall 906 drainage area was not marked on the site map.
- The site maps did not provide locations of all potential pollutant sources identified under Part E.2.c of the Individual Permit. For example, none of the three ammonium sulfate fertilizer warehouses in the northeast corner of the Facility were marked as potential pollutant sources on the site maps.
- The site maps did not provide locations of all significant spills or leaks identified under Part E.2.d of the Individual Permit. Page 14 of the SWPPP (refer to Appendix B, Exhibit 6) states that spills have occurred at the Facility, and that a list of spills is included in Appendix B of the SWPPP; however, Appendix B of the SWPPP was not provided to the EPA Inspection Team. No historical spill locations were marked on the site maps.
- Locations where various industrial activities are exposed to precipitation were not present on the site map. For example, the transfer area for ammonium sulfate fertilizer from dump trucks to the conveyor pit in the Outfall 907 drainage area was not marked on the site maps.
- Locations and descriptions of all non-stormwater discharges were not present on the site maps. For example, the EPA Inspection Team observed an HVAC pipe discharge into an inlet upgradient of Outfall 905 (refer to Appendix A, DSCN 2349); however, this was not marked on the site map. Additionally, the large non-stormwater discharge into Outfall 911 (refer to Appendix A, DSCN 2358 through DSCN 2363) was not marked on the site map.

Pollution Prevention and Good Housekeeping

Part I.E.2.f(2)(a) of the Individual Permit addresses good housekeeping. The Individual Permit states: “the permittee shall keep clean all exposed areas of the facility that are potential sources of pollutants to stormwater discharges. Typical problem areas include areas around trash containers, storage areas, loading docks, and vehicle fueling and maintenance areas. The plan shall include a schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers.”

Observation 3. The EPA inspection Team observed the following issues related to pollution prevention and good housekeeping onsite:

- Soil erosion from stormwater sheet flow was observed at the north perimeter of the Facility, near the manhole where the Facility samples for Outfall 912 (refer to Appendix A, DSCN 2311 and DSCN 2313).
- A portion of the concrete stabilization of the slope in the northeast corner of the Facility had collapsed (refer to Appendix A, DSCN 2318).
- An unknown white substance was observed in multiple areas at the Facility, including the north drainage ditch in the Outfall 906 drainage area (refer to Appendix A, DSCN 2323), in the ditch directly upgradient of the inlet to Outfall 906 (refer to Appendix A, DSCN 2335 and DSCN 2333), and in the ditch flowing to Outfall 905 (refer to Appendix A, DSCN 2351 and DSCN 2350). All of these areas were directly adjacent to a hillside in the northeast corner of the Facility. Facility representatives stated that they did not know what the substance was, but they did not believe it was ammonium sulfate fertilizer. They stated that the substance “comes out of the hillside” and that they tested it a few years ago and determined it was not ammonium sulfate fertilizer.
- Ammonium sulfate fertilizer was observed in multiple areas at the Facility that were subject to stormwater runoff, including beneath a railcar in the Outfall 906 drainage area (refer to Appendix A, DSCN 2319), adjacent to the north fertilizer storage warehouse in the Outfall 906 drainage area (refer to Appendix A, DSCN 2325), in and around a stormwater inlet in the entryway to the north fertilizer storage warehouse in the Outfall 906 drainage area (refer to Appendix A, DSCN 2329 and DSCN 2332), in track-out south of the fertilizer storage warehouse in the Outfall 904 drainage area (refer to Appendix A, DSCN 2364 and DSCN 2365), in and around the fertilizer conveyor pit and near unprotected stormwater inlets in the Outfall 907 drainage area (refer to Appendix A, DSCN 2373 through DSCN 2376), and in track-out south of the southern fertilizer storage warehouse in the Outfall 001 drainage area (refer to Appendix A, DSCN 2382, DSCN 2385, and DSCN 2386). Page 2 of the October 10, 2019 DEQ Warning Letter (refer to Appendix B, Exhibit 3) states that similar issues were noted in the 2019, 2017 and 2015 DEQ inspections of the Facility.
- A small, unlabeled pipe was observed to be draining a steaming liquid directly onto the shoreline of the James River, under the marine dock (refer to Appendix A, DSCN 2342). The liquid had stained the surrounding gravel red. Facility representatives stated that the flow was from air-conditioning condensate.
- Heavy dry-weather flow was observed emanating from a slope in the Outfall 911 drainage area (refer to Appendix A, DSCN 2358 through DSCN 2363). The flow was red in color. Facility representatives stated the flow is constant and attributed it to a possible leak in a subsurface river water intake pipe in the slope. Facility representatives stated that there is a 66-inch river water intake pipe located approximately 20 feet under the slope. Additionally, Facility representatives stated that they think the red color is from metals in the soil. Facility representatives stated they sampled the flow in 2020 and noted the water was not chlorinated, so they do not believe it to be drinking water. In addition to the red flow, the EPA Inspection Team observed that the concrete ditch had been damaged in two places and that gravel and rip rap had spilled into the ditch (refer to Appendix A, DSCN 2359). The EPA Inspection Team also observed surface sheen in areas of standing water, and observed plastic debris on the ground between the concrete ditch and the James River (refer to Appendix A, DSCN 2360 through DSCN 2363).

Closing Conference

At the conclusion of the onsite inspection, the EPA Inspection Team conducted a closing conference with Facility representatives and shared preliminary observations. The EPA Inspection Team reiterated that all preliminary observations discussed were not compliance determinations. Any and all preliminary observations shared were subject to further investigation by the EPA Inspection Team 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 the additional review of materials following the inspection.

The inspection concluded at approximately 3:45 PM (EDT).

Appendix A

Photograph Log



DSCN2305. View, facing west, of a stormwater inlet near the North Maintenance Shop, in the Outfall 912 drainage area.



DSCN2306. View inside the covered drum shed in the North Maintenance Shop. Note the used oil tote on a spill pallet and the presence of a spill kit.



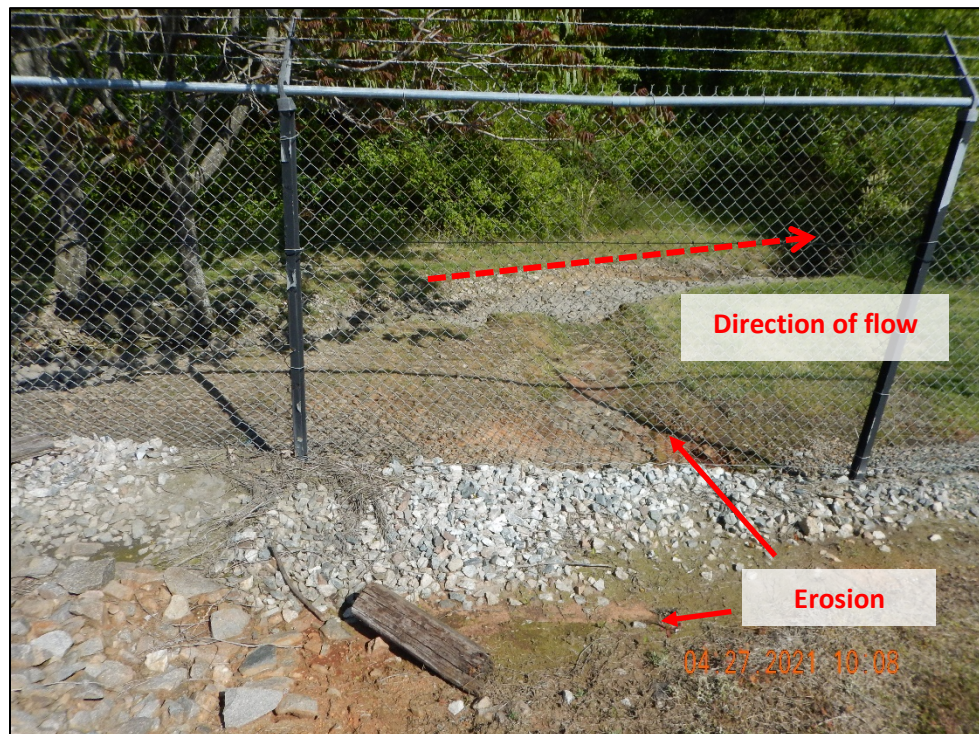
DSCN2307. View, facing east, of the equipment laydown yard in the Outfall 912 drainage area.



DSCN2308. View, facing east, of an uncovered scrap metal dumpster in the Outfall 912 drainage area.



DSCN2311. View, facing northeast, of the manhole where Facility representatives collect samples for Outfall 912. Note the signs of sheet flow beyond the north perimeter fence.



DSCN2313. View, facing north, of soil erosion to the east of the manhole where Facility representatives collect samples for Outfall 912.



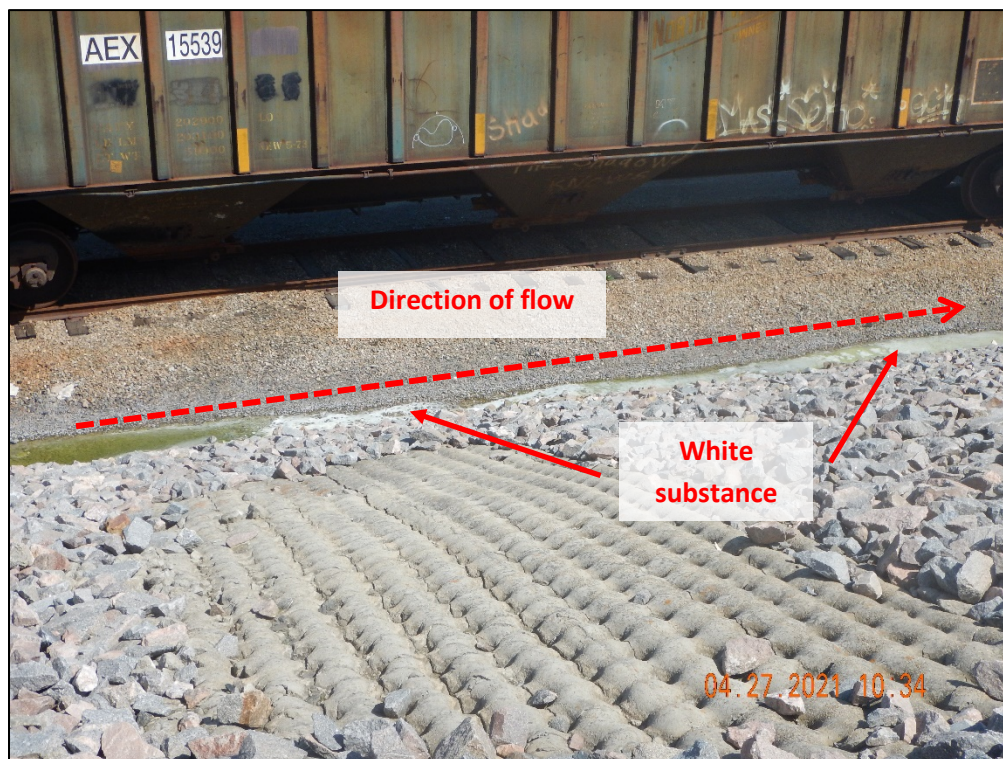
DSCN2317. View, facing east, of the slope between the rail tracks and the north perimeter fence. Note the concrete stabilization on the slope.



DSCN2318. View, facing southeast, of a collapsed portion of the concrete stabilization on the slope between the rail tracks and the north perimeter fence.



DSCN2319. View, facing southeast, of ammonium sulfate fertilizer on the ground beneath a rail car hopper.



DSCN2323. View, facing north, of a white substance in the ditch at the base of the concrete slope. Facility representatives stated that they did not know what it was.



DSCN2320. View, facing northeast, of the sampling location for the Outfall 907 drainage area. The actual outfall is in the woods to the north of the Facility perimeter fence.



DSCN2321. View inside the sampling location for the Outfall 907 drainage area.



DSCN2324. View, facing south, of one of the two main ammonium sulfate storage warehouses in the northeast corner of the Facility. The second warehouse is behind the large white building.



DSCN2325. View, facing east, of the ditch and stormwater inlet at the northeast corner of the northernmost fertilizer warehouse. Note the white fertilizer staining in the ditch.



DSCN2328. View, facing west, of the entryway to the northernmost fertilizer warehouse. Facility representatives stated that this warehouse was no longer used.



DSCN2330. View, facing west, of the inside of the ammonium sulfate fertilizer warehouse. Note the piles of fertilizer and heavy tracking throughout the warehouse.



DSCN2329. View, facing south, of the entryway to the fertilizer storage warehouse. Note the heavy fertilizer tracking over and inside the storm drain in the entryway.



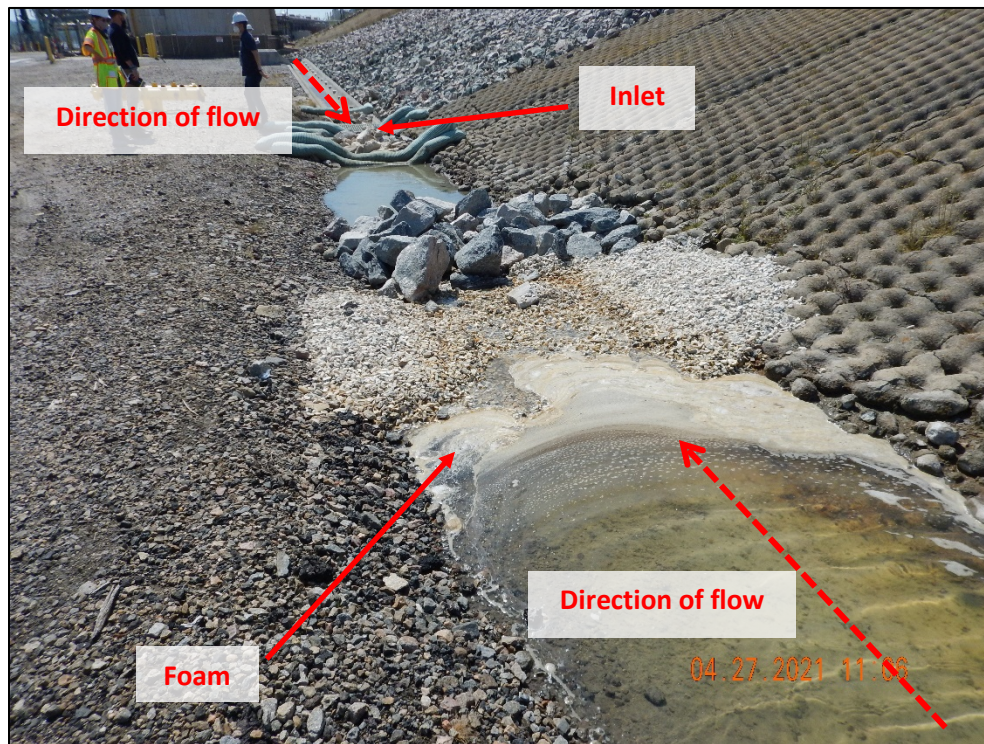
DSCN2332. Alternate view, facing east, of the entryway to the fertilizer storage warehouse. Note the fertilizer in and around the storm drain to Outfall 906.



DSCN2331. View, facing north, of the yellow foreign object debris system in the entryway to the fertilizer warehouse. It is used to reduce the fertilizer track-out on dump truck tires.



DSCN2335. View, facing north, of the stormwater inlet from DSCN2336. Note the presence of the same unknown white substance in the water upgradient of the inlet.



DSCN2336. View, facing south, of the end of the ditch in the northeast corner of the Facility. Note the surface foam buildup, inlet protection, and inlet in the background of the photograph.



DSCN2333. View, facing north, of a sedimentation tank to the south of the stormwater inlet used for Outfall 906 sampling. Note the presence of an unknown white substance in the water.



DSCN2338. View, facing south, of two oleum tanks in secondary containment and a railcar loading/unloading rack.



DSCN2339. View, facing west, of the final manhole upgradient of Outfall 906. The EPA Inspection Team observed a small amount of water draining from the manhole.



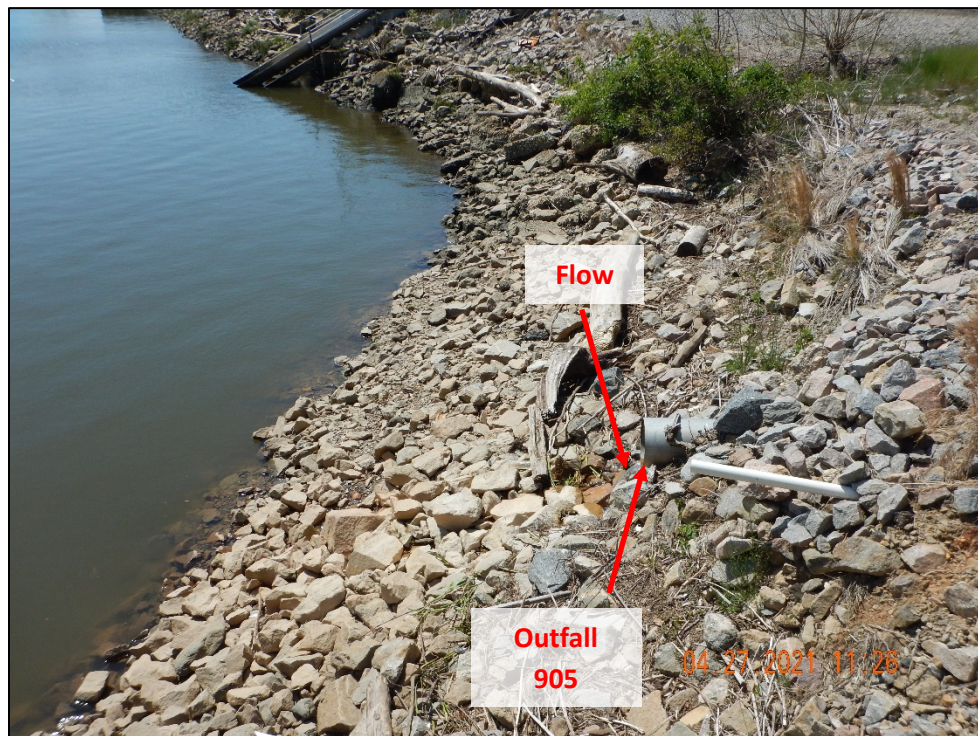
DSCN2340. View, facing east, of the final manhole upgradient of Outfall 906. Facility representatives stated that the actual outfall was currently submerged in the James River.



DSCN2341. View, facing southeast, of the Facility's large marine dock on the James River.



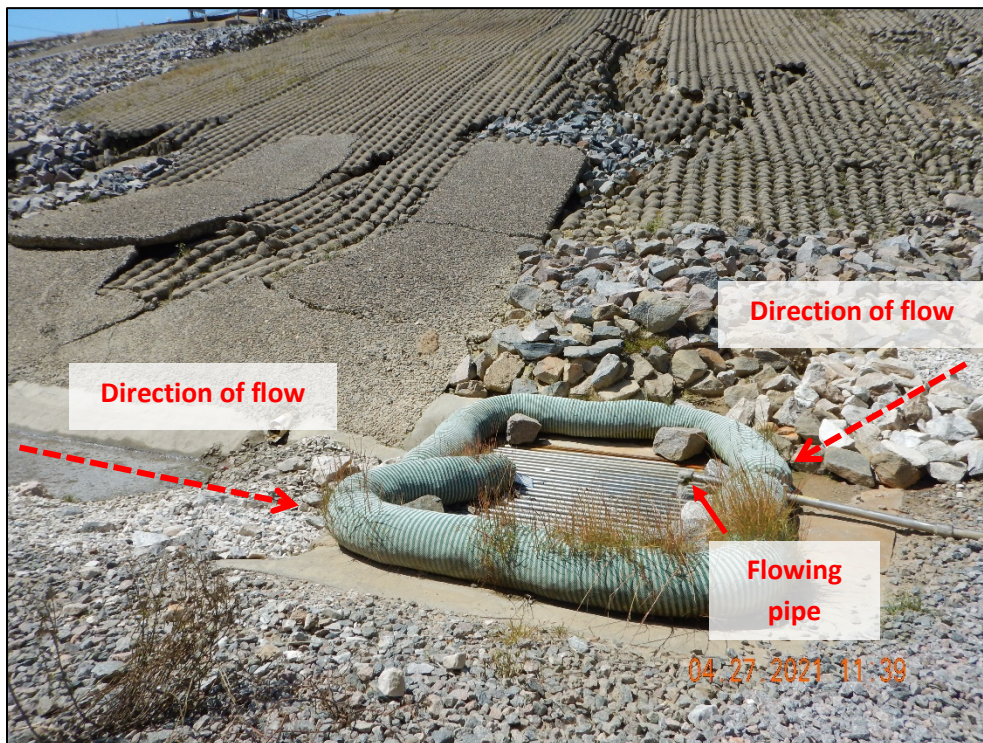
DSCN2342. View of a small pipe draining a steaming liquid onto the shoreline of the James River. Facility representatives stated it was a low-pressure steam drain.



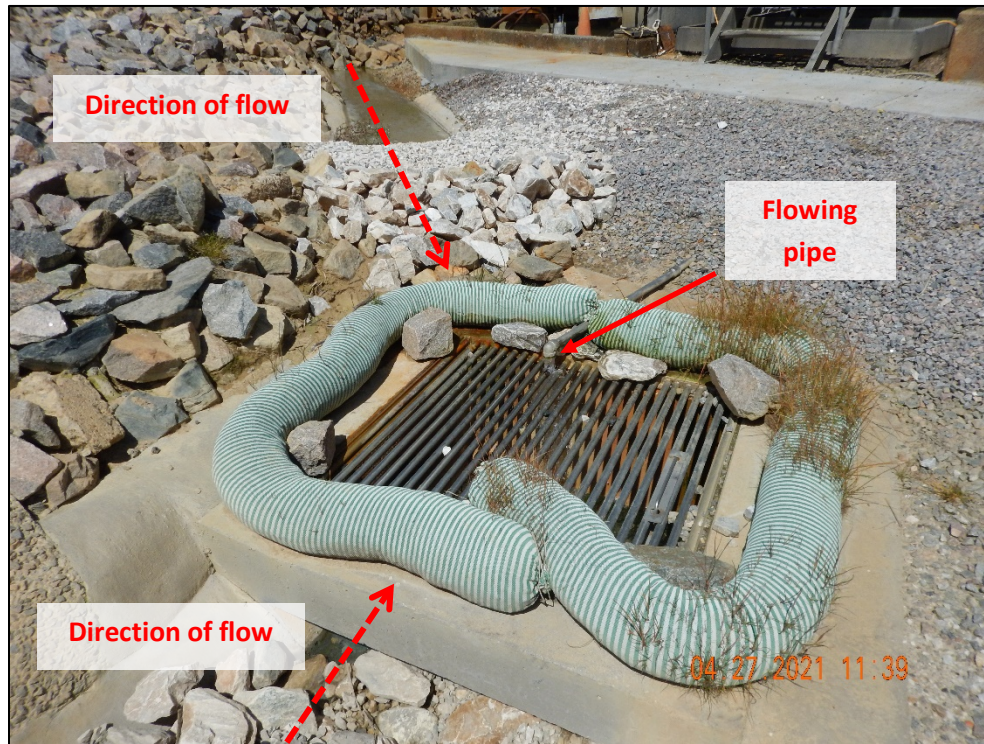
DSCN2343. View, facing south, of Outfall 905 discharging into the James River. Facility representatives stated the flow was from air-conditioning condensate.



DSCN2345. View, facing northeast, of the final manhole upgradient of Outfall 904. Facility representatives stated the actual outfall was submerged in the James River.



DSCN2346. View, facing west, of the final storm drain located upgradient of Outfall 905. The Facility stated they sample from this location for Outfall 905.



DSCN2348. Alternate view, facing northwest of the stormwater inlet from DSCN 2348. Note the ditches on either side and the flowing water from a small pipe above the inlet.



DSCN2349. View of the small pipe labelled “WTO-HVAC H2O-DISCHARGE” flowing into the inlet upgradient of Outfall 905.



DSCN2351. View, facing west, of a concrete drainage ditch running down the steep slope. Note the presence of an unknown white substance in the ditch.



DSCN2350. View, facing northwest, of a small pipe in the side of the steep slope draining an unknown white liquid into the ditch to Outfall 905.



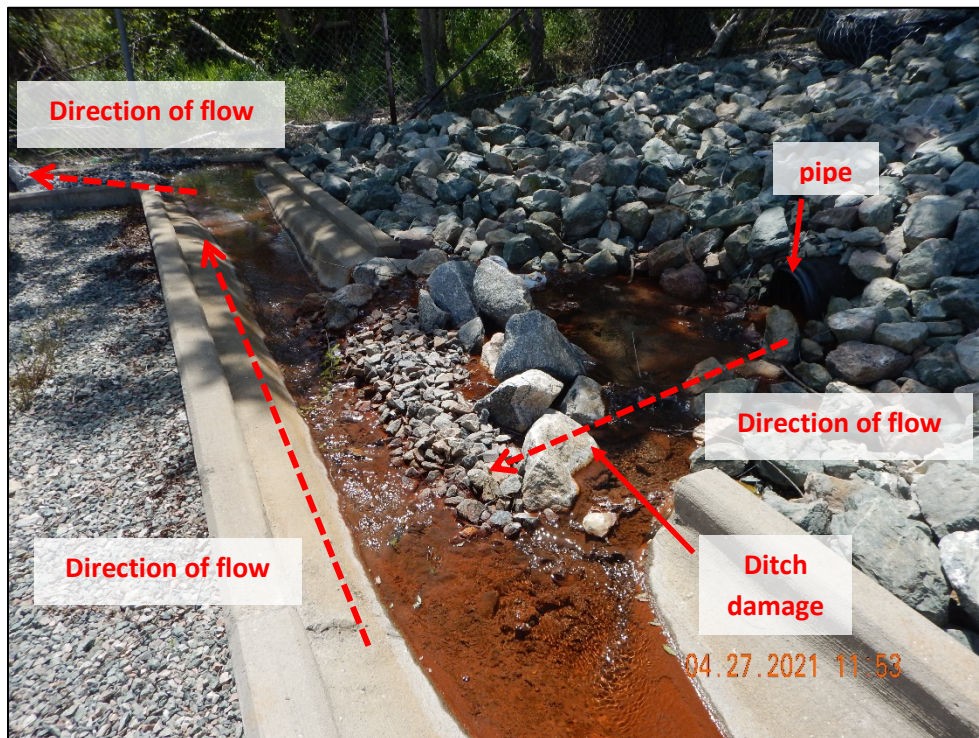
DSCN2352. View, facing south, of a storm inlet upgradient of Outfall 904. Note the rip rap and rolled inlet protection.



DSCN2355. View, facing east, of the third sampling point upgradient of Outfall 904. The EPA Inspection Team observed dry-weather flow to this inlet.



DSCN2356. View, facing southwest, of a ditch with dry-weather flow running to the inlet from DSCN 2355.



DSCN2358. View, facing south, of heavy dry-weather flow with a red color flowing into the concrete ditch upgradient of Outfall 911. Note the damage to the concrete ditch.



DSCN2359. View, facing east, of the red dry-weather flow running into the James River. Note the damage to the concrete ditch and flow spilling over the side of the ditch.



DSCN2360. View of surface sheen at the end of the concrete ditch from DSCN 2358 and DSCN 2359.



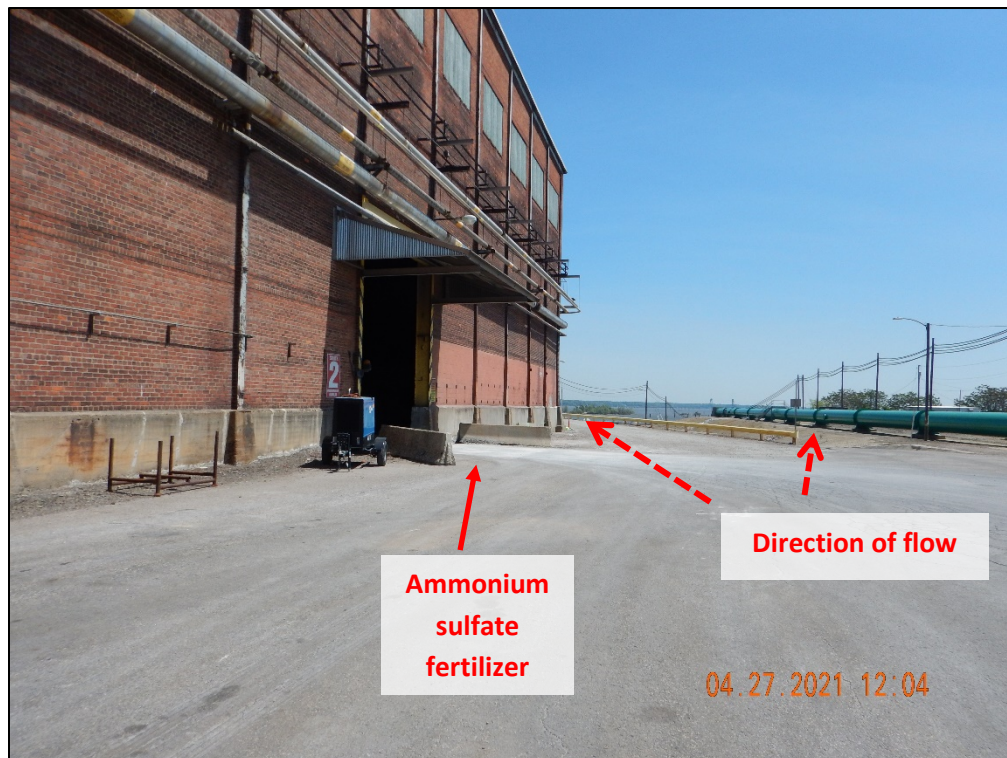
DSCN2361. View, facing southeast, of the area between the end of the concrete ditch and the James River. Note the presence of plastic debris on the ground.



DSCN2362. View, facing south, of the area between the concrete ditch and the James River. Note the presence of plastic debris on the ground.



DSCN2363. Another view of surface sheen in the dry-weather flow to Outfall 911.



DSCN2364. View, facing east, of ammonium sulfate fertilizer track-out in front of a storage warehouse in the Outfall 904 drainage area.



DSCN2365. View, facing west, of ammonium sulfate fertilizer track-out in front of a storage warehouse in the Outfall 904 drainage area.



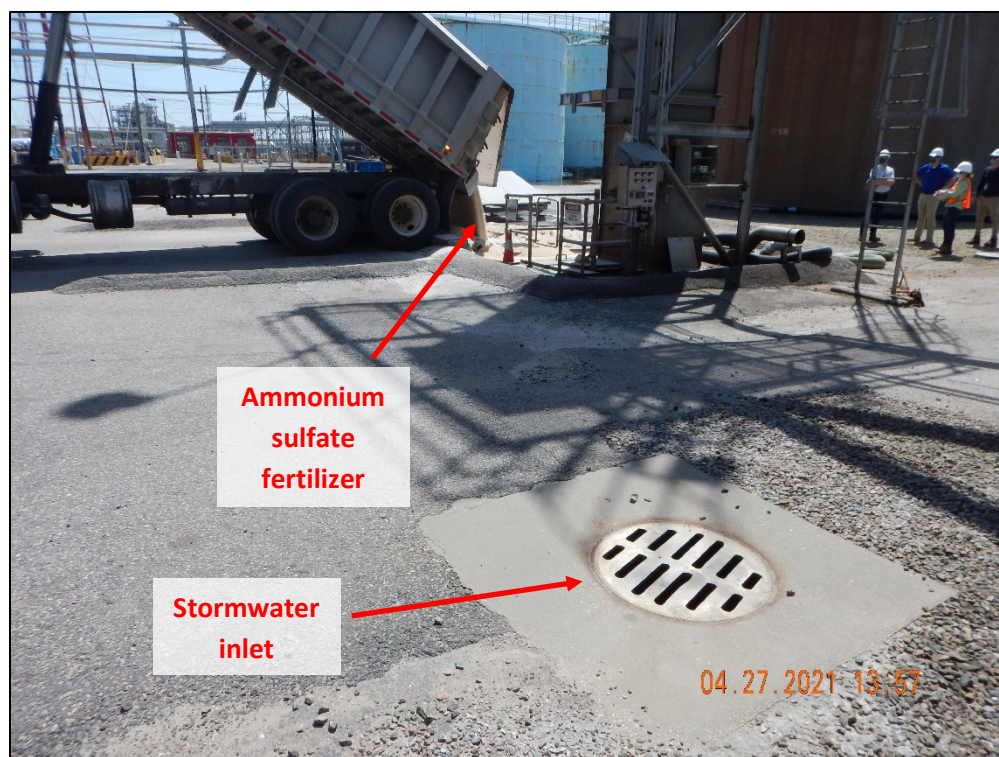
DSCN2366. View of the foreign object debris system in the entryway to the warehouse from DSCN 2364 and DSCN 2365. The debris system was heavily laden with fertilizer.



DSCN2368. View of a fast-closing door in the entryway to the fertilizer warehouse. Note that it was not functioning at the time of the EPA inspection.



DSCN2369. View, facing southwest, of the bermed equipment lay-down area. Facility representatives stated this area drains to the process waste sewer system.



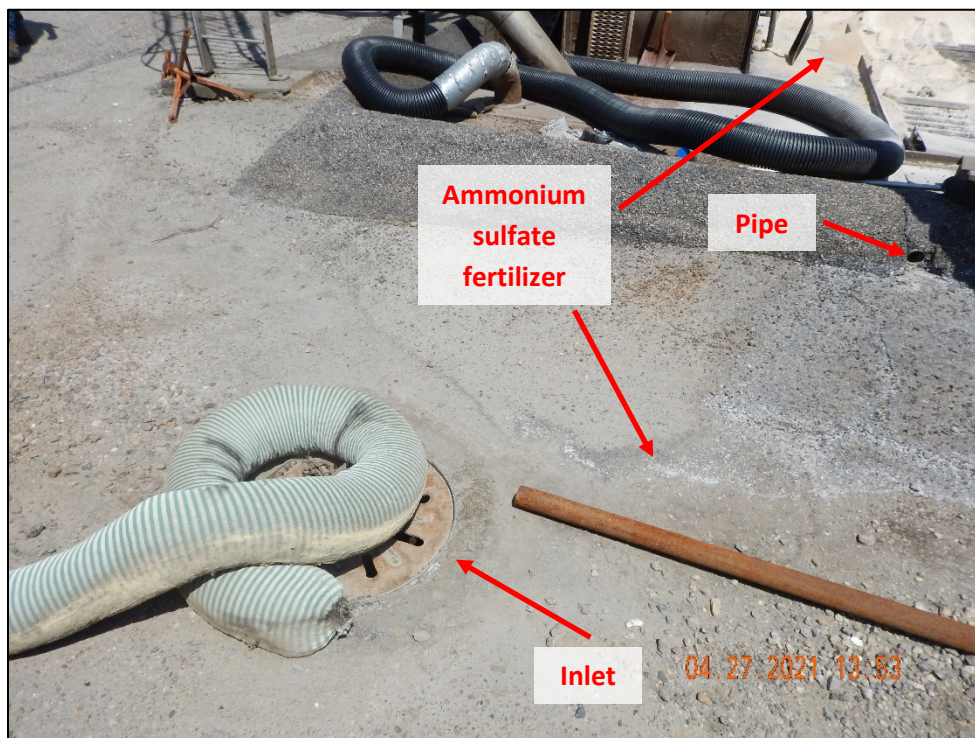
DSCN2375. View, facing southwest, of a dump truck unloading fertilizer into a subsurface pit. Note the presence of a nearby unprotected stormwater inlet that was not on the site map.



DSCN2376. View, facing south, of ammonium sulfate fertilizer pit with a small pipe through the bermed unloading area. Note the presence of fertilizer on the ground in the area.



DSCN2373. View, facing southeast, of another stormwater inlet located approximately 10 feet from the ammonium sulfate fertilizer pit.



DSCN2374. View, facing east, of improperly placed rolled inlet protection at the inlet located 10 feet from the fertilizer pit. Note the small pipe through the fertilizer pit berm.



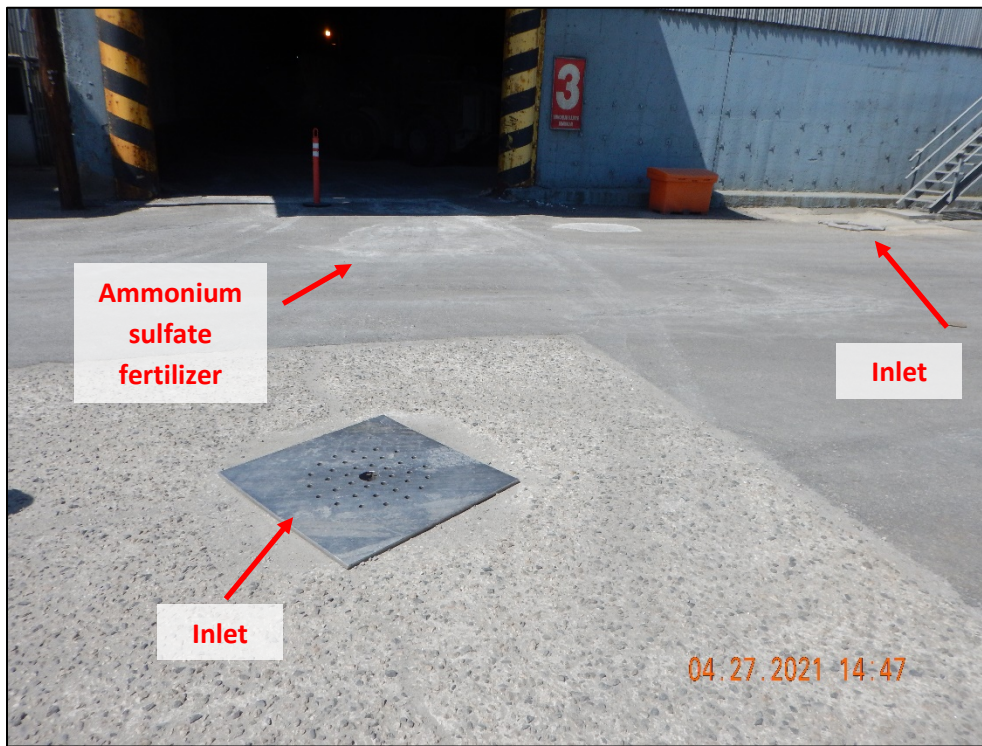
DSCN2379. View, facing east, of an oil/water separator in the Outfall 003 clear water sewer system area.



DSCN2380. View, facing southeast, of a stormwater inlet in the Outfall 003 clear water sewer system area.



DSCN2382. View, facing northeast, of two additional ammonium sulfate fertilizer warehouses located in the Outfall 001 clear water sewer system area. Note the fertilizer track-out.



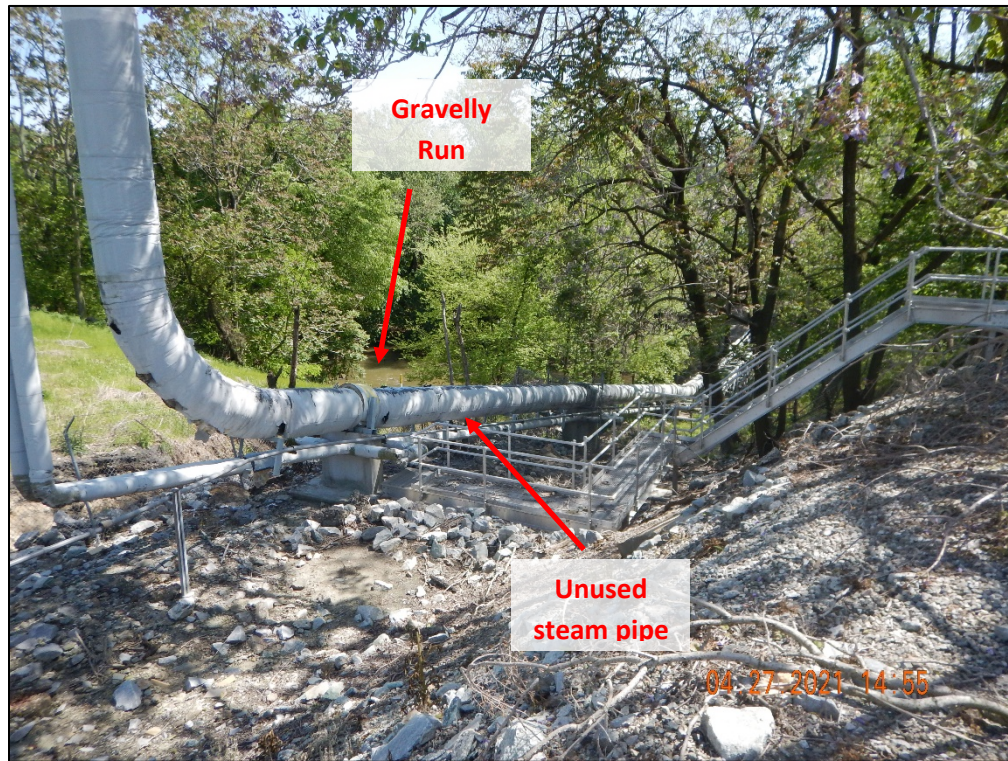
DSCN2385. View, facing north, of an inlet flowing to Outfall 001. Note the presence of ammonium sulfate fertilizer on the ground surrounding the inlet.



DSCN2386. View, facing east, of an inlet flowing to Outfall 004. Note the presence of ammonium sulfate fertilizer on the ground surrounding the inlet.



DSCN2386. View, facing southeast, of six uncovered dumpsters holding solid process waste. A berm had been installed behind the dumpsters to prevent runoff from reaching Outfall 910.



DSCN2388. View, facing south, of the Outfall 910 drainage ditch to Gravelly Run. Note the large pipe is an old, unused steam pipe.



DSCN2391. View, facing east, of the large clear water sewer system Outfall 001. Outfall 001 drains stormwater, contact cooling water, and non-contact cooling water to Gravelly Run.



DSCN2393. View, facing south, of Outfall 909 to Gravelly Run. Outfall 909 receives stormwater from a single stormwater inlet in a small parking lot.



DSCN2394. View, facing north, of the single inlet draining to Outfall 909.



DSCN2397. View, facing east, of a stormwater drain in the parking lot of the drum unloading area. This drain flows to the nearby stormwater Outfall 908.



DSCN2396. View, facing north, of the wooded area containing stormwater Outfall 908. Outfall 908 discharges to Gravelly Run in the wooded area beyond the guard rail.