

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B169655477

FACILITY: Kalamazoo Water Reclamation Plant		SRN / ID: B1696
LOCATION: 1415 N Harrison St., KALAMAZOO		DISTRICT: Kalamazoo
CITY: KALAMAZOO		COUNTY: KALAMAZOO
CONTACT: Jim Cornell , Wastewater Division Manager		ACTIVITY DATE: 08/19/2020
STAFF: Monica Brothers	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Announced scheduled inspection		
RESOLVED COMPLAINTS:		

This was an announced scheduled inspection. Staff, Monica Brothers, arrived on-site at 9:00 am and met with Jim Cornell, Wastewater Division Manager, Ron Janssen, Wastewater Operations Superintendent, Steve Helmer, Treatment Operations Supervisor, and Melissa Swartz, Third Shift Supervisor. First, we went to a conference room to discuss some questions that I had about the facility. This facility was last inspected in June 2010, and they were in compliance at that time. Kalamazoo Water Reclamation Plant currently has about 70 employees and operates 24/7.

They have two active permits, PTI# 105-13 and PTI# 220-00, however, Jim told me that the equipment for both of these permits has either been dismantled and removed or decommissioned. PTI# 105-13 was for a granulated activated carbon adsorption odor control unit for controlling the foul air from the four sludge thickeners and four belt filter presses. This permit was originally needed because they were processing odors from thermally treated sludge. However, they no longer thermally treat the sludge and will be getting four new carbon scrubbers in the near future to mitigate odors from many parts of the plant. These new scrubbers will decentralize their odor control and will not require a PTI. The carbon scrubber that was in PTI# 105-13 was decommissioned in June 2020. PTI# 220-00 was for an alkaline sludge stabilization process, which included two single stage odor control scrubbers. This process was only run when they were producing Class A solids to be land-applied. They no longer do this and now just send the sludge to a landfill. This process ceased operation in 2009, and the equipment has been removed.

Jim talked a bit about the Envirosuite system they currently have in place to assess odors from the facility. They have a number of H₂S monitors on their property and are using them to track odors and figure out where improvements need to be made. We saw a few of these monitors while on the facility tour.

Tour:

Our first stop was to the raw pump building. There are five interceptors that go to the raw pump building where bar screens filter out larger objects in the water before it goes to a venturi meter and subsequent screening and filtering. We looked at the two identical emergency generators (STWW1 and STWW2) that they have on-site. They are Generac units, which each have a rating of 300 kw. They were installed in 2005. The hour meter for STWW1 read 447.7 hours, and the hour meter for STWW2 read 179.5 hours. Jim said that they run every Monday for half an hour for testing purposes.

Next, we went to the sludge loading area. Jim said that this is the area that he believes has the most odor-producing potential at the facility. As we approached the sludge bunkers, I could smell a fecal-type odor in this area, but it did not seem to travel very far. Jim said that they haul the sludge away every day and that there are usually about 4 to 5 trucks that come each day. He also mentioned that they had begun using a new odor suppressing product that they spray on the sludge in the trucks as they are loading. He said that this product has significantly reduced the odors coming from this portion of the process. Jim said that they have used about 1375 gallons of this product from when they started using it in 2019 to present for controlling odors at the sludge bunkers. They dilute the product, 100:1, using city water.

Next, we went to what used to be called the "stabilization building", however they no longer run this process. This was permitted under PTI #220-00. The sulfuric acid tank that was associated with this process is now empty, and the building is now only used for conveying. We observed the only parts washer on-site, which is a Greymills unit that uses mineral spirits. The SDS for the mineral spirits is attached to this report. The lid was closed, and the rules were posted.

On our way to look at the fine-screens process, Jim showed me the powdered slurry carbon system that is used to treat the water. The tanks that hold the powder have baghouses for particulate control during loading. Jim said that they do not keep records of the differential pressure, but that there is a differential pressure monitor that runs on an automatic timer to blow air across the bags to keep them clear of dust. Filters and/or bags are changed on an as-needed basis.

After the water is treated with carbon, and goes through the "fine screens process", the water goes through final clarification and tertiary sand filtration. They chlorinate the solution with bleach, and then it gets dechlorinated with sodium bisulfite. The fine screens process also uses the same odor minimization product that they use during sludge loading. Jim said that they have used about 550 gallons from 2019-2020 and that they dilute the product, 100:1 with city water, before it is sprayed onto the sludge from this process. In the blower room, they have two Lochinvar natural gas boilers that are used to heat that building. They were installed in 2015 and are both rated at 1 MMBtu/hr. These boilers would be considered exempt under Rule 282(2)(b).

After going through the process, we stopped at Industrial Chamber #1 and #3, which are both located on the Kalamazoo Water Reclamation Property. Industrial Chamber #1 has been a source of odors in the past, but the Kalamazoo Water Reclamation Plant has recently put a cover on top of this chamber to try to mitigate odors. During the tour, I could smell a bit of odor when I was standing very close to the chamber, but I could not smell any odors from even just a few feet back.

Records:

As previously stated, the processes that are permitted by PTI #105-13 and PTI #220-00 have ceased operation or have been completely removed. Jim did send me historical records that showed that they were keeping the appropriate records for each PTI. They were required to monitor and record the H₂S inlet and outlet concentrations for the carbon scrubber, which controlled odors from the thermally treated sludge thickening process. They no longer thermally treat the sludge and the carbon scrubber has been removed. Jim showed me that they were keeping records of maintenance on the system, as well as the dates they replaced the activated carbon.

Jim also showed me that they were keeping the required records for PTI #220-00. They were required to monitor and record the pH of the scrubber liquid, as well as have a Preventative Maintenance Plan that they follow. Jim showed me that they were keeping those records and had a Preventative Maintenance Plan in place.

The facility seemed to be in compliance at the time of the inspection.

NAME Monica Brothers

DATE 8-25-2020

SUPERVISOR Rex Lane