Grande Cheese, Juda WI, Wastewater Biothane Digester Pipe Failure

WI SPILL #17429 ID 20220221SC23-2 - WASTE SLUDGE [WASTEWATER]

Final Report & Letter of Compliance -- 3/29/2022

On behalf of Grande Cheese and pursuant to §§ NR 708.05(6) and NR 708.09(1), Wis. Admin. Code, this is a compilation of the spill response activities and documentation constituting a Final Report and Letter of Compliance documenting that the immediate response action is complete, and no further action is necessary concerning the Immediate Action Grande implemented in response to the above-captioned spill. Based on the information provided herein and the immediate action implemented, no further site investigation is warranted pursuant to § NR 708.09(2), Wis. Admin. Code and we respectfully request the Department issue a No Further Action letter and otherwise close this spill matter.

Summary

2/20/2022

At 2:00 pm no leak was observed from the pipe that experienced the failure.

2/21/2022

At 7:00 am a waste water treatment plant (WWTP) operator found sludge coming out of the Biothane Digester through a broken pipe on the recirculation loop (picture 1). The Associate immediately shut off the loop to prevent additional leakage. The sludge came out of the pipe, traveled Southwest toward Highway 11/81 onto neighbor #1's property, continued southwest onto neighbor #2's property where it came to a rest. The total path was approximately 0.49 miles (Map 1). Based on the drop of the seed sludge in the tank viewed via sight glass, the estimated loss was 8,000 - 8,500 gallons.

Grande promptly made initial contact with neighbor 1 to assess the impact of the spill and discuss plans for containment. Initial contact with neighbor 2 was with a tenant of the property. Grande also contacted E & N Hughes, a water and sewer contractor, for support containing and removing the spill.

The WWTP operator verified the WWTP system showed no issues with performance connected with the spill. The WWTP operator temporarily reduced the flow from 176,000 gallons per day (gpd) to 160,000 gpd as a precautionary measure.

Hughes arrived onsite to assess the extent of clean up required and to emplace barriers to ensure proper containment.

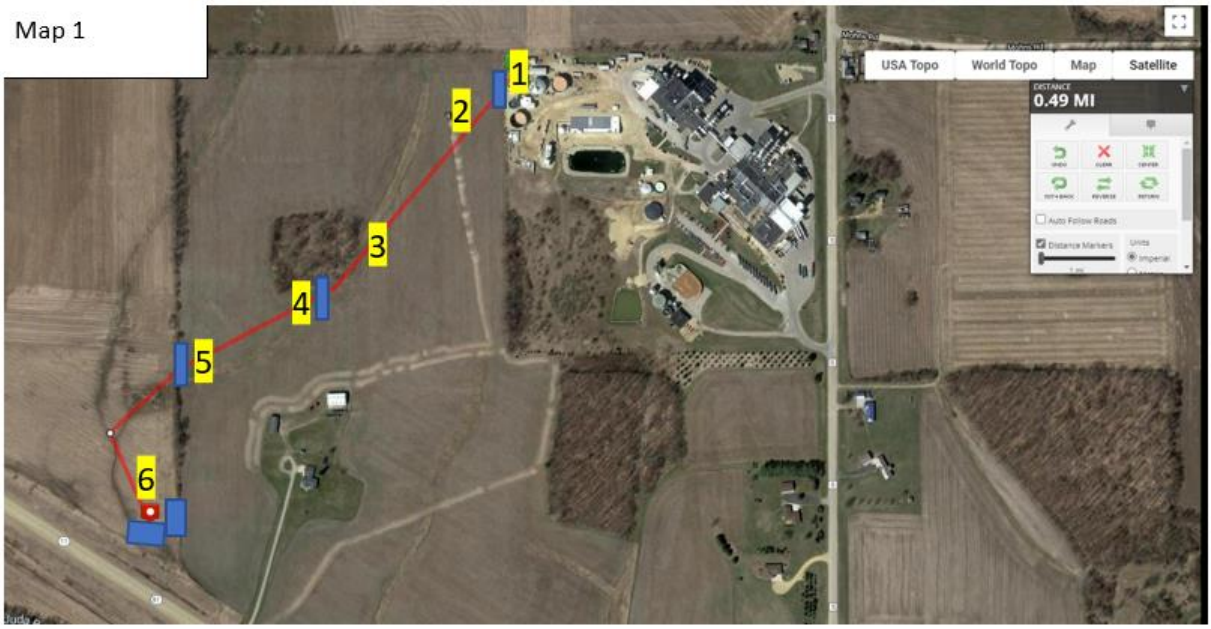
Grande's maintenance team found that the root cause was a blown fuse on the heat trace circuit which resulted in the heat trace failing and the pipe freezing and cracking. Maintenance repaired the broken line and verified the heat trace is working properly.

The map shows the flow of the sludge (red line) and where straw wattles were set.

Straw bales, barricades to stop flow

Yellow number indicates location of pictures on pages below

Map 1



Picture 1a and b, digester on the left; arrow indicates location of pipe break 2/21/2022. Second picture shows cleanup on 3/2/2022

Picture 2, neighbor #1's field where flow left Grande property on 2/21/2022

Picture 3a and b, middle of neighbor #1's property 2/21/22 and post clean-up on 3/4/22

Picture 4 Flow toward second neighbor’s property on 2/21/2022

Picture 5a and b, fence line between first and second neighbor's property 2/21/2022 and post-cleanup on 3/2/2022

Pictures 6a and b, area where flow stopped at bottom of the hill on 2/21/2022 and final vacuuming of the site on 3/2/2022

2/21/2022 continued

The spill hotline was contacted. Given that the active spill had ceased, the straw wattles had been placed, and the forecasted cold weather would assist in cleanup, it was agreed with the spill coordinator to wait until 2/23/22 to begin the cleanup when temperatures would be much colder.

In addition to the spill hotline, Grande reported the spill to Nathan Wells, Grande's WPDES waste water contact, per permit requirements.

2/22/2022

The weather turned colder, and the area received some ice and several inches of snow. Consequently, the sludge was frozen and not moving. Straw wattles were in place. Some cleanup began on the Grande property. Information was submitted to the Mallard Ridge Landfill to get the residual sludge/dirt approved for disposal. Updates and pictures were submitted to the spill coordinator.

2/23/2022

The freeze occurred as predicted. There was no flow off the fields. The cleanup efforts began on the neighbors' property. The sludge was able to be scraped off and was either put into a dump truck or staged in piles for disposal while awaiting landfill approval.

2/24/2022

The cleanup efforts/sludge recovery continued while awaiting landfill disposal approval. An update and photos were provided to the spill coordinator.

2/25/2022

Mallard Ridge Landfill in Delavan approved disposal of the frozen sludge/dirt and eight loads totaling 79.84 tons were hauled to and disposed of at Mallard Ridge. See attached receipts. Cleanup of the neighbors' property was completed.

The five-day follow-up report was submitted to Nathan Wells per permit requirements. The spill coordinator was copied.

The spill coordinator called and was updated on progress. A follow up email was sent.

A vacuum truck was brought on site for any cleanup needed as temperatures warmed. They were put on 24/7 standby.

2/28/2022

The weather warmed. About 1:00 pm the temperatures were warm enough that snow began to melt, and a flow was created off the field and into the culvert. The vacuum truck was deployed and recovered approximately 3,000 gallons of snowmelt. Most of the snow melted during this afternoon melt. The water removed from the culvert was disposed of at DNR #74640 Field A, designated as only for winter emergency use. It was land applied via vacuum truck and splash pan using lime for vector/pathogen reduction. The snow on the hill all melted and the flow had substantially slowed by 6:00pm and no foam was present at the culvert. The vacuum truck left the site.

There was no runoff from the field observed given colder temperatures.

3/1/2022

The vacuum truck was deployed to the neighbor's property to recover solids on the neighbor's property that came down during the February 28 melt to recover this snowmelt. The spill coordinator was given an update.

3/2/2022

The vacuum truck was on site to remove the remaining snowmelt and site cleanup was completed. A final volume of an additional 1,840 pounds of sludge, dirt, and corn stubble was disposed at Walter and Son Waste Hauling -N3368 US Highway 14, Darien, WI, WPDES Permit No. WI-0064653-03-0

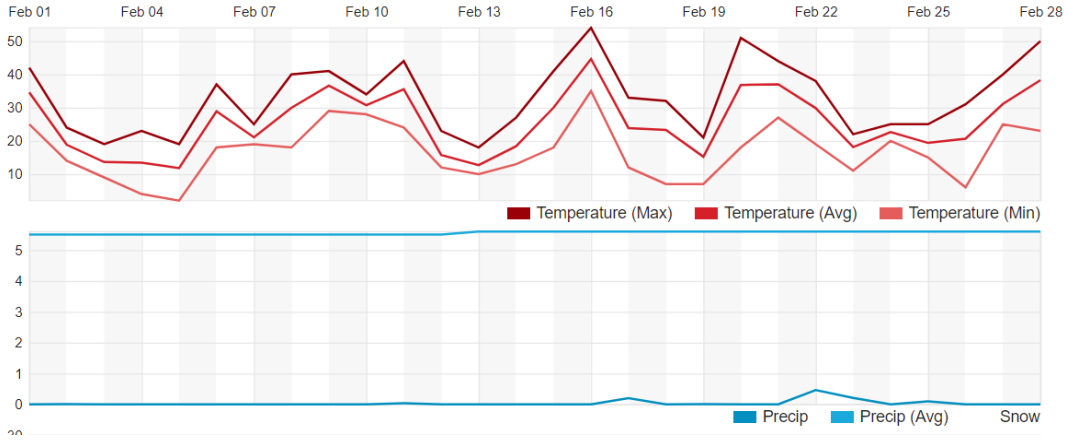
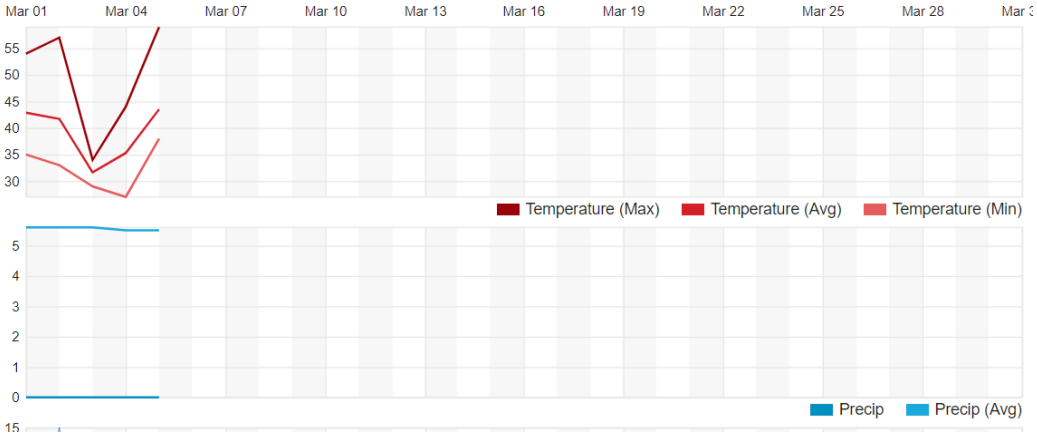
The spill coordinator was provided an update with an estimate that 99% of the sludge had been removed from the spill.

3/4/2022

The spill coordinator was provided an update. Grande's interactions with the neighbors indicate that they were satisfied with the cleanup efforts.

Follow-up items to prevent reoccurrence:

Live circuit indicator lights are being added to the heat trace circuits to allow operators to easily see on a 24/7 basis if heat trace is working during cold weather. Video cameras are also being added for remote monitoring. Other improvements to track flows and provide alarming are being evaluated. An evaluation of the longevity of the heat trace circuits will be conducted and repair or replacement conducted, if needed.

Straw wattles will remain in place until required to be removed for spring tillage.

Temperatures and Precipitation in Monroe, WI February and March 2022