REGION 5
CHICAGO, IL 60604

MEMORANDUM

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Gage Products Co., Ferndale, Michigan

FROM: Laura Neudorf, Environmental Engineer
AECAB (MI/WI)

THRU: Sarah Marshall, Section Supervisor
AECAB (MI/WI)

TO: File

BASIC INFORMATION

Facility Name: Gage Products Co. (the "Facility")

Facility Location: 625 Wanda Avenue, Ferndale, MI 48220

Date of Inspection: June 3-4, 2024

EPA Inspectors:

1. Laura Neudorf, Environmental Engineer
2. Alexandra Letuchy, Environmental Engineer

Other Attendees:

1. Brenna Harden, Director of EHS and Community Relations, Gage Products Co.
2. Matthew McCoy, Assistant Vice President of Operations, Gage Products Co.
3. Andrea Seychel, Environmental Manager, Gage Products Co.
4. Jason Fluary, Re-Man Operator, Gage Products Co.
5. Iranna Konanahalli, Senior Environmental Engineer, Michigan EGLE
6. Clayton DeRonne, Environmental Quality Analyst, Michigan EGLE

Contact Email Address: bharden@gageproducts.com

Facility Name: Gage Products Co.
Facility Location: 625 Wanda Avenue, Ferndale, MI 48220
Date of Inspection: June 3, 2024

Purpose of Inspection: To observe the stack test required by the EPA's June 2023 Section 114 Information Request (EPA's 114 Request), and to assess compliance with the Clean Air Act (CAA) and Gage Products Co.'s air permit [Permit to Install (PTI) 64-18B].

Facility Type: Chemical manufacturing facility

Regulations Central to Inspection: NSPS Subpart Kb, at 40 C.F.R. Part 60, Subpart Kb; NSPS Subpart VV, at 40 C.F.R. Part 60, Subpart VV; and NSPS Subpart NNN, at 40 C.F.R. Part 60, Subpart NNN.

Arrival Times: 9:40 AM ET on June 3; 11:00 AM ET on June 4
Departure Times: 4:10 PM ET on June 3; 1:45 PM ET on June 4

Inspection Type:
☒ Unannounced Inspection
☐ Announced Inspection

OPENING CONFERENCE

☒ Presented Credentials
☒ Stated authority and purpose of inspection
☒ Provided Small Business Resource Information Sheet
☐ Small Business Resource Information Sheet not provided
☒ Provided CBI warning to facility

The following information was obtained verbally from facility representatives unless otherwise noted.

Process Description:
See the August and October 2022 inspection reports issued by the EPA for a comprehensive process description.

Gage Products Co.'s solvent recovery (re-man) operation involves separating solvent mixtures using a thin film evaporator, a distillation column, a reboiler, and/or a still. The Facility uses a condenser to control emissions from the re-man operation (re-man condenser). The Facility uses a different condenser to control emissions from a portion of its storage tanks (fuels condenser). Tank vapors are routed to a condensate collection tank, and vapors from this tank are routed to the fuels condenser.

Staff Interview:
On April 19 and 22 of 2024, a third party performed Method 21 on the tanks connected to the fuels condenser, as required by the EPA's 114 Request, and 12 leaks greater than 500 ppm were found. The Facility attempted repairs on the leaking components, and severe leaks found on tanks 661, 662, and 663 warranted bringing these tanks out of service. On June 3, 2024, a third party performed Method 21 again on the tanks connected to the fuels condenser, as required by the EPA's 114 Request. The EPA was informed that the third party found the following leaks: tank 69 – vacuum breaker, 12,000

ppm; tank 209 – vacuum breaker, 8,729 ppm; tank 212 – flange seal, 871 ppm; tank 220 – conservation vent, 5,089 ppm; and tank 229 – vacuum breaker, 12,000 ppm. Additional leaks were found by the third party on June 3 after the EPA left the Facility. On June 4, the EPA was informed by facility representatives that repairs on tanks 661, 662, and 663, which were out of service during the EPA's June 3, 2024, inspection, were prioritized over repairing the additional leaks found on June 3.

The Facility was in the process of power washing and installing new insulation on the fuels condenser on June 3 and the morning of June 4. On June 4, a third party began a stack test, as required by the EPA's 114 Request, to determine the VOC control efficiency of the fuels condenser. Methods 1, 2C, 3A, 4, and 25A were used, and samples were taken at the inlet and outlet of the fuels condenser (see Appendix A, Images 6 and 7). The third party calibrated to 100% propane, used a 100:1 stack gas dilution factor, and did not use an analyzer to directly measure oxygen and carbon dioxide, instead using a sample bag to obtain these values. Run 1 of 3 began at 1:00 PM ET.

Facility representatives informed the EPA that the thin-film evaporator, reboiler, and distillation column operate by adding raw material and withdrawing product simultaneously, and none of these units are charged with a fixed amount of material that is distilled at one time. The still is charged with a fixed amount of material and is distilled at one time.

Facility representatives informed the EPA that the re-man condenser is taken out of service annually for maintenance and that, for 2024, this out of service period will begin at the end of June 2024. Facility representatives informed the EPA that an attempt would be made to ask the third party about sample locations for an emissions test on the re-man condenser while the third party was on-site, which would allow the Facility to add ports during the re-man condenser's out of service period that are needed for future emissions testing. Facility representatives informed the EPA that the Facility's goal is to complete an emissions test on the re-man condenser in September or October of 2024.

TOUR INFORMATION

EPA Toured the Facility: Yes

Data Collected and Observations:
The EPA observed significant emissions from components on tanks 8, 10, 19, 204, 206, 207, 209, 211, 232, and the condensate collection tank using optical gas imaging (OGI) (see Appendix B). The EPA also observed emissions from the fuels condenser inlet and outlet stack test sample ports during the stack test using OGI. Additionally, the EPA observed that tank 70, a fixed roof tank without an internal floating roof, does not have a vapor header line, and therefore, its emissions are not routed to a control device (see Appendix A, Images 2-4). The EPA observed the Facility steam out tanks 661, 662, and 663 on June 3.

Photos and/or Videos: were taken during the inspection and are listed in Appendices A and B.

Facility Name: Gage Products Co.
Facility Location: 625 Wanda Avenue, Ferndale, MI 48220
Date of Inspection: June 3, 2024

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the Facility

Requested documents:

- Results of the April 2024 Method 21 survey that shows the components monitored, leaking components, and repairs that were attempted and/or completed.

Concerns:

- Severe fugitive emissions were observed by the EPA using OGI and by a third party using Method 21 on tanks connected to the fuels condenser, many of which are subject to the 500 ppm emissions limit and design standard of NSPS Subpart Kb (including, but not limited to, tanks 69, 204, 206, and 207);
- Facility personnel prioritized the repair of empty/out of service tanks over the repair of actively leaking tanks; and
- Per the Facility's PTI, Tank 70 is subject to NSPS Subpart Kb, and Tank 70's emissions are not routed to a control device.

DIGITAL SIGNATURES

Report Author: LAURA NEUDORF Digitally signed by LAURA NEUDORF Date: 2024.06.17 13:49:30 -05'00'

Section Supervisor: SARAH MARSHALL Digitally signed by SARAH MARSHALL Date: 2024.06.20 13:14:32 -05'00'

APPENDICES

1. Appendix A: Digital Image Log
2. Appendix B: OGI Video Log

Facility Name: Gage Products Co.
Facility Location: 625 Wanda Avenue, Ferndale, MI 48220
Date of Inspection: June 3, 2024

APPENDIX A: DIGITAL IMAGE LOG

Inspector Names: Laura Neudorf and Alexandra Letuchy
Archival Record Location:
https://usepa.sharepoint.com/:f:/r/sites/R5_Work/r5erc/ecad/AECAB%20Library/Enf_GageProductsCo_MI_22/Enf_GageProductsCo_MI_22_Inspections/June%202024/Photos?csf=1&web=1&e=k4drmN

Image Number	File Name	Date	Description of Image
1	IR_3408.jpg	6/3/24	Accidental photo
2	DC_3415.jpg	6/3/24	Tank 70 uncontrolled
3	DC_3416.jpg	6/3/24	Tank 70 uncontrolled
4	DC_3417.jpg	6/3/24	Tank 70 uncontrolled
5	IR_3418.jpg	6/3/24	Accidental photo
6	DC_3426.jpg	6/4/24	Fuels condenser stack test inlet sample port
7	DC_3428.jpg	6/4/24	Fuels condenser stack test outlet sample port
8	DC_3429.jpg	6/4/24	Stack test meter box 1
9	DC_3430.jpg	6/4/24	Stack test meter box 2
10	DC_3431.jpg	6/4/24	Stack test VOC analyzers

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APPENDIX B: OGI VIDEO LOG

Inspector Names: Laura Neudorf and Alexandra Letuchy
Archival Record Location:
https://usepa.sharepoint.com/:f:/r/sites/R5_Work/r5erc/ecad/AECAB%20Library/Enf_GageProductsCo_MI_22/Enf_GageProductsCo_MI_22_Inspections/June%202024/FLIR%20Videos?csf=1&web=1&e=qvZAYj

Video Number	File Name	Date	Description of Video
1	MOV_3409.mp4	6/3/24	Tank 204 – emissions from vacuum breaker
2	MOV_3410.mp4	6/3/24	Tank 207 – emissions from vacuum breaker
3	MOV_3411.mp4	6/3/24	Tank 207 – emissions from conservation vent
4	MOV_3412.mp4	6/3/24	Tank 206 – emissions from vacuum breaker
5	MOV_3413.mp4	6/3/24	Tank 206 - emissions from conservation vent
6	MOV_3414.mp4	6/3/24	Tank 209 – emissions from vacuum breaker Tank 211 – emissions from vacuum breaker
7	MOV_3419.mp4	6/3/24	Tank 209 – emissions from vacuum breaker Tank 211 – emissions from vacuum breaker
8	MOV_3420.mp4	6/3/24	Tank 19 – emissions from center
9	MOV_3421.mp4	6/3/24	Tank 232 – emissions from agitator
10	MOV_3422.mp4	6/3/24	Tank 8 – emissions from vacuum breaker
11	MOV_3423.mp4	6/3/24	Tank 10 – emissions from vacuum breaker
12	MOV_3424.mp4	6/3/24	Tanks 661, 662, and 663
13	MOV_3425.mp4	6/4/24	Condensate collection tank – emissions from vacuum breaker. Emissions from fuels condenser inlet and outlet stack test sample ports.