

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection

N087860040

<b>FACILITY:</b> HAVILAND ENTERPRISES, INC		<b>SRN / ID:</b> N0878
<b>LOCATION:</b> 421 ANN ST NW, GRAND RAPIDS		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> GRAND RAPIDS		<b>COUNTY:</b> KENT
<b>CONTACT:</b> Brittany Albin , Environmental Engineer		<b>ACTIVITY DATE:</b> 08/26/2021
<b>STAFF:</b> Kaitlyn DeVries	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b> The purpose of this inspection was to determine compliance with Permit to Install (PTI) No. 71-17E, Consent Order AQD-2018-01 and other applicable air quality rules and regulations.		
<b>RESOLVED COMPLAINTS:</b>		

On Thursday August 26, 2021, Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) Staff Kaitlyn DeVries (KD) and Remediation and Redevelopment Division (RRD) staff Dave Wierzbicki (DW) conducted an announced, scheduled inspection of Haviland Enterprises located at 421 Ann Street (East Building), 521 Ann Street (West Building) and 2168 Avastar Parkway (North Building), in Grand Rapids and Walker, MI. The purpose of this inspection was to determine compliance with Permit to Install (PTI) No. 71-17E, Consent Order AQD-2018-01 and other applicable air quality rules and regulations.

KD and DW arrived in the vicinity of the site around 9:00 am and surveyed the area for odors and opacity prior to entering the building; none were noted. EGLE staff then met with Mr. Ben Gaeth, Vice President of HEI Services, Ms. Laurel Flythe, Director of HSE, and Ms. Brittany Albin, Environmental Engineer. Ms. Flythe and Ms. Albin accompanied EGLE Staff on the inspection of the facilities with Mr. Gaeth joining for the opening and closing meetings.

**Facility Description**

Haviland Enterprises, Inc. (Haviland) receives, repackages, blends, and dilutes various products including caustics, phosphates, acids, bleaches, and algaecides. The main facility is comprised of an east campus, a west building, and a north building. The east campus has several buildings located on the vicinity including the corner building, the laboratory building, west building (of east campus) and several rooms within the main building.

**Regulatory analysis**

Haviland currently has one (1) permit through AQD, Opt-Out PTI No. 71-17E. Haviland also relies on Rule 201 permitting exemptions for much of the facility; more specifically Rule 290 and Rule 291 for a majority of the processes. KD had previously discussed the possibility of Haviland being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart VVVVVV for Chemical Manufacturing Area Sources as well as 40 CFR Part 63 Subpart BBBB for Area Sources: Chemical Preparations Industry. KD previously requested that Haviland make an applicability determination as part of previous inspection. KD again asked this question and Ms. Albin indicated that Haviland thinks there may be some processes subject to these regulations, and they are currently working with a consultant on this issue. Ms. Albin is hopeful that the applicability determination of these regulations should be completed by the end of the calendar year. KD will continue to follow up with Haviland Staff on the applicability of these regulations.

Haviland is currently a synthetic minor source of Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs). Haviland is also under Consent Order (CO) 2018-1 with AQD.

## **Compliance Evaluation**

### PTI No. 71-17E

#### *EUCHROME BLEND*

This emission unit covers the chrome blending process located in the manufacturing area of the East building. The process consists of a blending tank, a blender, a reactor, a sparger, and treatment tanks. Emissions from the blending tank, the blender, the reactor, and the sparger are controlled by a wet scrubber. The area was not in production at the time of the inspection.

Particulate Matter (PM) emissions are limited to 0.01 gr/dscf and to 0.17 pounds per hour (pph). PM<sub>10</sub> and PM<sub>2.5</sub> emissions are also limited to 0.17 pph, individually. While PM, PM<sub>2.5</sub>, and PM<sub>10</sub> stack testing has not been requested at this time, Haviland is tracking PM<sub>10</sub> and PM<sub>2.5</sub> emissions in order to demonstrate compliance with these limits. The highest daily PM emissions were 0.016 pph, from September 8, 2020. The PM<sub>2.5</sub> Toxic Air Contaminants (TACs), and the PM<sub>10</sub> TACs are limited to  $1.6 \times 10^{-2}$  pph and 0.17 pph, respectively. These limits are also based upon stack testing and the TACs are defined as part of PTI No. 71-17E EUCHROME BLEND Special Condition I.5 and I.6 footnotes b and c. Haviland is properly tracking the baseline emissions of each of these TACs with the highest emitted at  $1.12 \times 10^{-5}$  pph. Hexavalent chromium is limited to  $6.07 \times 10^{-6}$  pph based upon the most recent stack test conducted in July 2018. Total fluoride emissions, which applies to the combination of all fluoride compounds, is limited to  $9.19 \times 10^{-5}$  pph, based upon stack testing. Additional stack testing for fluoride compounds is not being requested at this time.

As part of the Malfunction Abatement Plan (MAP), Haviland is tracking the differential pressure of the scrubber. Records indicate the scrubber operates around 0.5 inches water column (WC). Haviland also tracks other operational parameters of the scrubber including the recirculation flow rate. If Haviland is processing any product in this area, the scrubber becomes inaccessible, without proper PPE. Since no manufacturing was occurring at the time of the inspection, the scrubber was accessible, and indicated that it was operating at a pressure drop of 0.5 inches WC.

The stack parameters, while not explicitly measured, appeared to be of correct dimensions. The rooftop was accessed during the inspection to observe the scrubber. No operational issues regarding the scrubber were noted.

#### *EUCORNER SCRUB*

This emission unit covers the bagging and blending process located in the corner building of the East Campus. This line processes nickel containing compounds and consists of two (2) baggers and a fill line. The emissions from the baggers and the fill line are either controlled by a wet scrubber or are internally vented to a portable dust collector, depending on the materials being processed. The bagging line was in operation at the time of the inspection. Other equipment is also located in this

building but will be discussed later in this report in the miscellaneous exempt equipment section, under the corner building.

Table 1 (below) outlines the emission limitations for this emission unit, including the observed values. Testing may be required to verify the emission rates of nickel, total nitrilotriacetic acids, total persulfates, PM, PM<sub>10</sub>, and PM<sub>2.5</sub>, but testing has not been requested at this time.

**Table 1: Emission limits for EUCORNERSCRUB**

Pollutant	Limit	Observed Value	Notes
PM	0.01 gr/dscf	Verifiable through stack testing. Visible emissions and proper operation of the control device are also an indication of compliance with the emission limit.	Stack testing not requested at this time.
PM, PM <sub>10</sub> , and PM <sub>2.5</sub>	0.12 lb./hr	0.082 lb./hr	Limit applies to each, individually. Highest observed value from September 2, 2020
Nickel	$1.78 \times 10^{-3}$ lb./hr	$1.78 \times 10^{-3}$ lb./hr	This limit is for Nickel and Nickel containing compounds and is a baseline calculation based upon the nickel content of the products produced.
Total Nitrolotriacetic acids	$3.0 \times 10^{-5}$ lb./hr	$3.0 \times 10^{-5}$ lb./hr	Baseline Calculation
Total Persulfates	$1.35 \times 10^{-2}$ lb./hr.	0.0031 lb./hr	Highest pound per hour emission on September 15, 2020.
Total boric acids	0.03 lb./hr	0.0098 lb./hr	Highest pound per hour emission on January 12, 2021.
PM <sub>2.5</sub> TACs	0.03 lb./hr	0.030 lb./hr	Highest pound per hour emission on September 20, 2021.
PM <sub>10</sub> TACs	0.12 lb./hr	0.00078 lb./hr	Highest pound per hour emission August 12, 2020.

This emission unit also has several material limits. Table 2 (below) outlines the material limits and either the 12-month rolling observed value as of July 2021, or the highest throughput per 8-hour

time period. Some materials are used in multiple locations at the facility and may have a combined limit with another emission unit.

**Table 2: Material Limits for EUCORNERSCRUB**

Material	Limit	Observed Value	Notes
Ethylenediamine tetra-acetic acid, tetrasodium salt	5,310,153 pounds <sup>A</sup>	714 pounds	
Aluminum Sulfate	7,671,975 pounds <sup>A</sup>	0 pounds	No aluminum sulfate was processed in the last 12-month time period
Total Nitrolotriactic Acids	5,256 pounds <sup>A</sup>	1 pounds	
Disodium tetraborate	48,000 pounds <sup>B,C</sup>	0 pounds	No material was vented out SV-6 during this time frame.
Disodium tetraborate	21,664 pounds <sup>B,D</sup>	0 pounds	No material was vented out SV-7 during this time frame
Total Boric Acids	24,000 pounds <sup>B,C</sup>	8,484.6 pounds	Highest 8-hour usage on January 6, 2021,
Total Persulfates	8,007 pounds <sup>B,C</sup>	880.2 pounds	Highest 8-hour usage on February 17, 2021
Total Persulfates	2,400 pounds <sup>E</sup>	880.2 pounds	This product was exhausted through SV-6 and SV-8 on March 11 and April 19.
Cobalt	1,601 pounds <sup>B,C</sup>	421 pounds	Highest 8-hour usage was on February 2, 2021.
Cobalt	1,367 pounds <sup>B,F</sup>	596 pounds	Highest 8-hour usage on July 27, 2021

<sup>A</sup> Limit and observed value are based upon a 12-month rolling time period.

<sup>B</sup> Limit and observed value are based upon an 8-hour time period.

<sup>C</sup> This limit applies per 8-hour time period when exhausting only through SV-6, the scrubber associated with this emission unit.

<sup>D</sup> This limit applies per 8-hour time period when exhausting through SV-6 (the scrubber associated with this emission unit) and SV-7 (the powder blending wet scrubber associated with FGWESTPOWDER)

<sup>E</sup> This limit applies per 8-hour time period when exhausting through SV-6 (the scrubber associated with this emission unit) and SV-7 or SV-8 (the powder blending wet scrubber or the powder blending dust collector associated with FGWESTPOWDER)

<sup>F</sup> This limit applies per 8-hour time period when exhausting through SV-6 (the scrubber associated with this emission unit) and SV-8 (the powder blending dust collector associated with FGWESTPOWDER)

Verification of the emissions rates via stack testing, is not being requested at this time.

KD was able to see the display area for the scrubber, and observed the pH was 7.8. with a conductivity of 344.8, and a pressure drop of 0.1" WC. Ms. Albin supplied KD with the appropriate pressure drop readings for the scrubber. The pressure readings are taken every three (3) hour block, at least 1.5 hours apart. The MAP specifies that the scrubber should be operating at a pressure drop of 0.0 – 3.0" WC with a flow of greater than 5 gpm. Per the records, the scrubber operates at a flow rate around 8 gpm, and the pressure drop ranges from 0.2 – 0.6" WC. The scrubber most recently had preventative maintenance conducted on June 29, 2021, in which the belts were replaced.

Some emissions from processes in this area are exhausted via the wet scrubber, while others are exhausted internally via a portable dust collector. The dust collector is similar to that of a shop-vac and was not in use at the time of the inspection. Haviland is appropriately tracking which compounds are exhausted to which control device.

The stack dimensions were not measured during this inspection but appeared to be of correct dimensions.

#### *FGWESTPOWDER*

This flexible group covers EUWESTPOTPERM, EUWESTPOW, and EUWESTCEMMIX, all located in the West Building. EUWESTPOTPERM is a powder blending process that processes potassium permanganate containing compounds, consisting of a blender, and filling line. The emissions from the blender and filling line are controlled by a wet scrubber. The emissions from the double planetary mixer associated with this process, also exhaust through an internally vented portable dust collector, depending on the materials that are being processed. However, per Ms. Albin, Haviland no longer has this mixer on site. EUWESTPOW is a powder blending process in a powder room that processes nickel containing compounds, consisting of two (2) blending tanks. The emissions from the blend tank and the paddle powder blend tank are controlled by the same wet scrubber for EUWESTPOTPERM or a dust collector, depending on the type of materials being processed. EUWESTCEMMIX is a powder blending process in the manufacturing area that processes acidic and caustic containing compounds. The emissions from this process are controlled by the wet scrubber for this area or an internally vented portable dust collector, depending on the materials being processed.

This flexible group has numerous emission limits, which are outlined in Table 3. As a result of the Fiscal Year 2018 Inspection, the Wet Scrubber associated with this flexible group was tested for PM emissions; the results are in table 3, below.

**Table 3: Emission Limits for FGWESTPOWDER**

<b>Pollutant</b>	<b>Limit</b>	<b>Observed Value</b>	<b>Notes</b>
PM	0.04 gr/dscf <sup>A</sup>	The January 25, 2019, Stack Test results indicated emissions of 5.40e <sup>-3</sup> gr/dscf	No additional stack testing is requested at this time.
PM, PM <sub>10</sub> , and PM <sub>2.5</sub>	1.7 lb./hr <sup>A</sup>	1.01 lb./Hr	The limit applies per pollutant, and the highest value was observed on February 18, 2021
Total Subtilisins	2.92 x 10 <sup>-4</sup> lb./hr <sup>A</sup>	0.002917 lb./hr	Baseline Calculation
Total nitrolotriacetic acids	1.04 x 10 <sup>-1</sup> lb./hr <sup>A</sup>	1.04 x 10 <sup>-1</sup> lb./hr	Baseline Calculation
Total persulfates	1.50 x 10 <sup>-1</sup> lb./hr <sup>A</sup>	0.016 lb./hr	Highest hourly emission observed on March 31, 2021
PM	0.01 gr/dscf <sup>B</sup>	Verifiable through stack testing. Visible emissions and proper operation of the control device are also an indication of compliance with the emission limit.	Stack testing not requested at this time.
PM, PM <sub>10</sub> , and PM <sub>2.5</sub>	0.27 lb./hr <sup>B</sup>	0.00105 lb./Hr	The limit applies per pollutant, and the highest value was observed on April 28, 2021
Nickel	7.1 x 10 <sup>-4</sup> lb./hr <sup>B</sup>	7.1 x 10 <sup>-4</sup> lb./hr	Baseline Calculation
Total Persulfates	3.33 x 10 <sup>-3</sup> lb./hr <sup>B</sup>	9.5 x 10 <sup>-4</sup> lb./hr	Highest hourly emission rate observed March 30, 2021
Total Silica	1.19 lb./hr <sup>A</sup>	0.3333 lb./hr	Baseline Calculation
Total Fluorides	0.501 lb./hr <sup>A</sup>	0.501 lb./hr	Baseline Calculation
Total Fluorides	3.33x10 <sup>-3</sup> lb./hr <sup>B</sup>	3.3x10 <sup>-3</sup> lb./hr	Baseline Calculation
Total Boric Acids	0.501 lb./hr <sup>A</sup>	0.083 lb./hr	Highest hourly emission rate observed on March 31, 2021
Total Boric Acids	3.33x10 <sup>-3</sup> lb./hr <sup>B</sup>	2.26x10 <sup>-4</sup> lb./hr	

			Highest hourly emission rate observed on July 27, 2021	A
PM 2.5 TACs	1.03 lb./hr <sup>A</sup>	0.63 lb./hr	Highest hourly emission rate observed on February 4, 2020	
PM 2.5 TACs	1.81 x 10 <sup>-2</sup> lb/hr <sup>B</sup>	0.004834	Baseline Calculation	
PM10 TACs	1.7 lb./hr <sup>A</sup>	0.048 lb./Hr	The limit applies per pollutant, and the highest value was observed on June 16, 2021	
PM10 TACs	0.27 lb./hr <sup>B</sup>	0.27 lb./hr	Baseline Calculation	

This limit applies for equipment exhausting through SV-7, the wet scrubber associated with this flexible group.

<sup>B</sup> This limit applies for equipment exhausting through SV-8, the dust collector associated with this flexible group

Table 4 outlines the material limits that are applicable to this flexible group. Emissions from some processes using certain materials may only exhaust through one (1) of the two (2) control devices associated with this flexible group, either the wet scrubber or the dust collector. Additionally, some materials limits are applicable when concurrently running with EUCORNERSCRUB.

**Table 4: Material Limits for FGWESTPOWDER**

Material	Limit	Observed Value	Notes
Ethylenediamine tetra-acetic acid, tetrasodium salt	973,528 pounds <sup>A,C</sup>	6,395 pounds	
Ammonium dihydrogen phosphate	3,162,340 pounds <sup>A,C</sup>	127,515 Pounds	
Sodium sulfite	885,455 pounds <sup>A,C</sup>	161,169 pounds	
Sodium ligno sulfonate	3,162,340 pounds <sup>A,C</sup>	1,485 pounds	
Sodium percarbonate	5,375,977 pounds <sup>A,C</sup>	31,916 pounds	
Oxirane, methyl-, polymer with oxirane, 8-methylnonylether	3,162,340 pounds <sup>A,C</sup>	1,389 pounds	
Benzenesulfonic acid, mono-C10-13-alkyl derivs., sodium salts	3,162,340 pounds <sup>A,C</sup>	0 pounds	Records indicate none of this compound has been produced.
Total nitroloacetic acids	858,480 pounds <sup>A,C</sup>	1,228 pounds	
Potassium iodide	3,301 pounds <sup>B,C</sup>	3.5 pounds	

			Highest 8-hr usage on September 30, 2020
Potassium permanganate	2,257 pounds <sup>B,C</sup>	2,162 pounds	Highest 8-hr usage on September 9, 2020
Potassium permanganate	49,914 pounds <sup>B,E</sup>	0 Pounds	Records indicate none of this compound was exhausted through the dust collector
Disodium tetraborate	33,006 pounds <sup>B, C</sup>	0 Pounds	Records indicate none of this compound has been used.
Disodium tetraborate	24,076 pounds <sup>B, D</sup>	0 pounds	Records indicate none of this compound has been used.
Ferrous Sulfate heptahydrate	33,006 pounds <sup>B,C</sup>	6 Pounds	Highest 8-hr usage on September 30, 2020
Total Boric Acids	33,006 pounds <sup>B, C</sup>	6,629 Pounds	Highest 8-hr usage on September 20, 2020
Total Boric Acids	23,113 pounds <sup>B, D</sup>	6,629 Pounds	Highest 8-hr usage on September 20, 2020
Total Persulfates	3,301 pounds <sup>B, C</sup>	1,322 Pounds	Highest 8-hr usage on September 14, 2020
Total Persulfates	2,316 pounds <sup>B,D</sup>	1,322 Pounds	Highest 8-hr usage on September 14, 2020
Total Persulfates	53,344 pounds <sup>B,E</sup>	3,215 Pounds	Highest 8-hr usage on December 22, 2020
Total Persulfates	51,317 pounds <sup>B, F</sup>	3,215 Pounds	Highest 8-hr usage on December 22, 2020
Cobalt	5,176 pounds <sup>B,E</sup>	596 Pounds	Highest 8-hr usage on July 27, 2021
Cobalt	2,145 pounds <sup>B,F</sup>	596 Pounds	Highest 8-hr usage on July 27, 2021
Alcohols, C12-16, ethoxylated	3,162,340 pounds <sup>A,C</sup>	0 Pounds	Records indicate none of this compound has been used.
Dimethyl silicone polymer with silica	3,162,340 pounds <sup>A,C</sup>	0 Pounds	Records indicate none of this compound has been used.

<sup>A</sup> The limit is based upon a 12-month rolling time period and are current through July 2021

<sup>B</sup> The limit is per 8-hour time period

<sup>C</sup> This applies when exhausting through SV-7 only

<sup>D</sup> This applies when exhausting through SV-6 (EUCORNERSCRUB Wet Scrubber) and SV-7 simultaneously



<sup>E</sup> This applies when exhausting through SV-8 only

<sup>F</sup> This applies when exhausting through SV-6 (EUCORNERSCRUB Wet Scrubber) and SV-8 simultaneously

The scrubber associated with this process was not operating at the time of the inspection, but Milo Fortier, West Building Supervisor, turned the scrubber on so that KD could see that Haviland has implemented a wash down of the scrubber so that any excess PM in the stack could be washed back down the stack into the scrubber water. This was observed on the rooftop. Ms. Albin showed KD the pressure drop indicator and how Haviland is tracking the pressure drop. Records indicate the scrubber operates in the range specified in the MAP, and had a pressure drop of 1.6" WC at the time of the inspection. Per the records, the Scrubber operates around 1.9 - 3.1" WC with a recirculation flow rate around 156 gpm. Haviland is properly tracking the pressure drop for the dust collector as well.

Roof-top observations were made on the West building, and the areas surrounding the scrubber and the dust collector were clean. Visible observations of the scrubber did not show any foaming or discoloration. However, KD noticed a large hole in the ductwork from the dust collector (Photo 1). There was also evidence that the whole had previously been attempted to be repaired, as seen by some tape on the ductwork. The hole in the bottom of the ductwork appeared to be extensive and KD told Haviland staff that this should be replaced, the tape on the ductwork did not appear to be effective. Haviland staff asked if production could continue while they ordered and repaired the ductwork, KD advised that this would not be appropriate as the previous attempt to repair the ductwork did not appear to be sufficient and operating the unit could result in excess emissions. Haviland staff ensured KD that this ductwork would be replaced expeditiously. KD requested photographic evidence that the ductwork was replaced, and that evidence was received that the ductwork has been replaced (Photo 2).

Haviland is not allowed to exhaust any boric acid, potassium permanganate, or any persulfate compound simultaneously through the scrubber (SV-7) and the dust collector (SV-8). Records indicate they are not exhausting simultaneously. Haviland is not allowed to process any hydroquinone in the Pot Perm Powder blender of the Pot Perm filling line, and records show no hydroquinone was processed in this area. Haviland is properly keeping baseline calculations for all compounds processed through the scrubber and the dust collector.

#### *FGFACILITY*

This flexible group covers all process equipment source-wide including equipment covered by other permits, grand-fathered equipment, and exempt equipment. Haviland has properly labeled all equipment on site, as per PTI No. 71-17E.

The facility has an individual HAP limit of 8.9 tons per year (tpy) and an aggregate HAP limit of 22.4 tpy, both based upon 12-month rolling time periods. Records indicate aggregate HAP emissions of 4 tons, as of July 2021. Methyl Ethyl Ketone had the highest individual emissions during the time period at 2 tons. VOC emissions are limited to 45 tpy, based upon a 12-month rolling time period. Records indicate that as of July 2021, the 12-month rolling VOC emissions were 5 tons. Haviland is adequately tracking VOC and HAP content, as well as emissions.

The facility is required to implement and maintain a Malfunction Abatement Plan (MAP) for all permitted equipment, for which they are following.

### Miscellaneous Exempt Equipment

The remainder of compliance evaluation portion of this report is evaluated based on the building, area, or room it is located in. All of this equipment relies on Rule 201 permitting exemptions to demonstrate compliance.

#### *East Campus*

The east campus is the largest production site of the three (3) production campus's (North, East, and West). It is located at 421 Ann Street and contains several different areas which rely on Rule 201 permitting exemptions which will be described below.

The industrial packaging and repackaging area, or the West Manufacturing area, is controlled by a wet scrubber located on the roof. This same scrubber also controls some (not all) of the tanks from the North Tank farm. There are six (6) exhaust points that are all controlled by the common acid room scrubber; four (4) are caustic tanks and two (2) are battery acid tanks. The products made, diluted, mixed, and filled in this area include nitric acid, sulfuric acid, hydrochloric acid, phosphoric acid, sodium bisulfite, magnesium bisulfite, and various caustics. The control panel for this scrubber showed a pH of 9.42 and a pressure drop of 0.7" WC. During the 2020 inspection, it was mentioned that Haviland was looking to replace this scrubber, for which during this inspection Ms. Albin informed KD that the scrubber was replaced. KD observed the new scrubber from the roof. This new scrubber was installed under Rule 201 permit exemption Rule 285(2)(d). Maintenance was last done on the scrubber on July 2, 2021. Rule 290 records are used for all of these processes; records are attached. Records indicate that the emissions for each of the contaminants, are below what is allowed, based upon their screening levels.

The two (2) battery acid storage tanks are exempt from Rule 201 permitting under Rule 284(2)(h).

The Upper and Lower Manufacturing Areas are located near the Chrome blend area. These areas are primarily used for packaging, but there are some reactor vessels. All of the mixing tanks in this area exhaust to the common East Manufacturing scrubber. At the time of the inspection, the scrubber was running with a pH of 3.64. The tanks associated with both the upper and lower manufacturing areas of the Manufacturing area also rely on the Rules 290 and 291 permitting exemptions to demonstrate compliance. Records show that the emissions are below what is allowed based upon the screening levels for the compounds. The East Manufacturing scrubber most recently had maintenance conducted on it in May 2021.

A small tank farm, consisting of four (4) tanks, is located directly outside of the manufacturing area. These tanks hold acids such as hydrogen peroxide, bleach, and sodium bisulfite. These tanks use Rule 201 permitting exemption Rule 284(2)(k).

There are also some other tanks in the East building that rely on Rule 291 to be exempt from Rule 201 permitting. The uncontrolled Potential to Emit (PTE) calculations show that the potential for all air contaminants, including VOC's and contaminants with various screening levels are below the allowable PTE.

The Resin Room is a semi-self-contained room that does resin blending. This is controlled by a dust collection system with two (2) air-vey vacuum exhausters. The pressure drop reading for the dust collection system was 0.8" WC at the time of the inspection. The Resin room relies on Rule 290 to demonstrate compliance. Particulate emission calculations show that monthly PM is compliant with Rule 290(2)(a)(iii)(A). KD viewed the area where the dust collection systems were housed and noticed particulate in and around the area. Ms. Albin showed KD that the collection hoppers were full and went on to state that since this area is only accessible when the chrome area is not in operation, these hoppers cannot be emptied until the production of the chrome is complete and it is safe to re-enter that area. Ms. Albin went on to say that since they had done Chrome production the day prior, the resin room was just now accessible and would be cleaned up and reassured KD that room is regularly cleaned. During rooftop observations, no particulate was noted at the exhaust point of the dust collection system.

A larger North Tank Farm is located on the north end of the facility and feeds the contents of the tanks back to the acid room, which is subsequently controlled by the west manufacturing scrubber, however, not all of the tanks are controlled by the scrubber. The seven (7) tanks contain various acids, such as sulfuric acid and nitric acid, and are either filled via truck or rail. The tanks exhausting to ambient air are exempt from Rule 201 permitting under Rule 284(2)(h) and 284(2)(i). The tanks that exhaust to the scrubber utilize Rule 290 to demonstrate compliance and are associated with the Rule 290 records that were mentioned above for the Acid Room.

There is also one (1) 1,527,000 BTU/Hr natural gas boiler in this building as well. This is exempt from Rule 201 permitting under Rule 282(2)(b)(i). One (1) 20 kw (68,242 BTU/Hr) natural gas emergency generator is also located on the east campus. This is exempt from Rule 201 under Rule 285(2)(g).

### *Corner Building*

Aside from the permitted process in the corner building, there is a bromine tablet line that is exhausted to an externally vented dust collector; this line was in use at the time of the inspection. Rule 201 permitting exemption, Rule 290, is used for this process. Records indicate compliance with the PM limit established in Rule 290(2)(a)(iii)(A), with maximum monthly emission of less than two (2) pounds per month.

This building also has a V-Blender used for mixing powder material. Rule 201 permitting exemption, Rule 290, is used for this process. Records indicate compliance with the PM emission limit established in Rule 290(2)(a)(iii)(A) with a maximum monthly emission of 515.68 pounds, which is less than the 1000-pound limit for non-carcinogenic materials.

### *Laboratory Building*

The Laboratory building is used for bench type lab work. The lab benches all have hoods and are externally exhausted. This is exempt from Rule 201 permitting under Rule 283(2)(b). Within this building, there is also a small pilot plating line. The line consists of several bucket sized tanks. This also is exhausted externally. This process is exempt from Rule 201 permitting under Rule 283(2)(a).

### *West Building*

The west building is located at 521 Ann Street, Grand Rapids Michigan. This building is directly to the west of the main East campus. Aside from FGWESTPOWDER, which is permitted and has already been described above, the rest of the equipment in this building relies on Rule 201 permitting exemptions.

Ms. Flythe and Ms. Albin explained that Haviland will be doing some re-configuring in this building, primarily around the wastewater treatment area and associated tanks.

A majority of the building houses a large liquid processing and packaging area, the large tanks are exhausted through a wet scrubber; tank #11, however, has its own scrubber. The tanks that use the main scrubber, which is located on the roof-top, and tank 11 rely on Rule 201 permit exemption, Rule 291 to demonstrate compliance. KD observed the scrubber from the rooftop and the scrubber appeared to have proper flow and there was no evidence of foaming or discoloration.

There is also one small dust collector in the packaging area, which is exhausted to the in-plant environment. This is exempt under Rule 284(2)(k).

Also located in this building is a separate contract powder mixing and packaging area with an externally vented baghouse used to control particulate. This line was not in operation at the time of the inspection. This emission unit utilizes Rule 201 permit exemption, Rule 290 (a)(iii)(A) with records indicating monthly emissions of less than one (1) pound per month.

During the closing meeting of the inspection, Ms. Albin told KD that Haviland is considering exhausting the PM emissions from the contract powder mixing and packaging area to the main dust collector associated with FGWESTPOWDER. Ms. Albin brought up the Rule 285 meaningful change exemption, as something that may work for this if Haviland wishes to pursue this. KD indicated that it may be an option but was going to consult with the AQD's SIP unit staff, Trace McDonald about this. KD consulted with him and sent Ms. Albin some additional information on meaningful change for Haviland to consider before determining if that is a viable option or if a permit modification would be required.

### *North Building*

The north building is located at 2168 Avastar Parkway, Walker Michigan. This building is located to the north and west of the main campus and is connected via railway and is thus considered as part of the same stationary source. No equipment in this building is permitted, but rather relies solely on Rule 201 permitting exemptions. During the 2020 inspection, KD was informed that Haviland had recently acquired more of the building with plans of expansion. KD was able to observe this area and observed that a majority of it was used for storage and warehousing, but one part of the

new portion of the building housed the equipment from the former Swagelock building (first on the main east campus, then moved to the north building and subsequently moved again). This area is now called the contract manufacturing line and consists of a liquid filling line that is internally vented with no controls and is exempt from Rule 201 permitting under Rule 291. Some installation of the equipment was still ongoing at the time of the inspection.

In the main area of the building, Haviland has three (3) major powder filling lines for which Haviland uses Rule 284(2)(k) to demonstrate compliance.

There is also liquid filling lines in this area, which utilizes Rule 291 to demonstrate compliance. Haviland maintains PTE calculations, as required by Rule 291, showing the uncontrolled PTE for the lines for all air contaminants are below the maximum allowed. The PTE for VOC is the highest at 3.58 tons. There is a wet scrubber associated with those lines. At the time of the inspection, the scrubber was running with a pH of 9.85 and a conductivity of 4500. Haviland tracks operational parameters for this unit to ensure proper operation. Records indicate the scrubber has been operating at a pH between 6 and 11. The records also indicate when the pH or conductivity has been either high or low, and action has been taken to correct the issues including full discharges of the scrubber. According to records, the most recent preventative maintenance was done on June 23, 2021. Roof-top observations were made around the discharge area of the scrubber, and no issues were noted.

Also located in the main area of the north building are six (6) large mixing, blending, and storage tanks. All of the tanks were labeled with what they were holding. All six (6) tanks are vented through a common duct which is externally exhausted without any controls. There are also some bulk storage tanks. Haviland relies on Rule 201 permit exemption, Rule 291 for these tanks. Rule 291 allows for a PTE of 5 tons for VOC, and the uncontrolled PTE for VOC emissions from these tanks is 0.08 tons and 0.48 tons.

In another room just through the main area, there is a powder storage tank used for storage and blending that has an associated externally vented baghouse to control particulate emissions. This process utilizes Rule 290 to demonstrate compliance. Records indicate that the highest emissions in a month were 0.08 lbs/month.

In the area next to the contract manufacturing line is the area that produces pool tablets. This area was producing tablets during the inspection and has cartridge filter dust collectors for particulate control. KD and DW were particularly interested in this process due to the volatile nature of the material, trichloroisocyanuric acid, if exposed to water. KD and DW were able to observe that the raw material was loaded from the top down into the hoppers with the releasing agent added by hand. The mixed material is then brought to the tablet presses. The dust collectors associated with this process were operating at a pressure drop of 5.6" WC. Haviland staff explained that they are still working through some of the housekeeping processes to ensure that no product is improperly handled. Haviland staff went on to explain that they clean the room daily putting any raw materials back into the production line and any waste materials are kept in a separate, labeled container. They then put this waste into their on-site wastewater treatment operations. The disposal of the waste is tracked to ensure they are meeting their requirements for discharge into the sanitary sewer systems. Haviland staff also indicated they are considering a full washdown of the room at

the end of the production weeks. DW cautioned Haviland about this reminding them it takes copious amounts of water to neutralize the product and advised Haviland to do a small trial if they wanted to do this and to have extra pre-cautions in place if/when doing so.

Haviland relies on Rule 201 permit exemption Rule 290 for this process. Records indicate 0.3 pounds per month emitted and this process is new and much of 2020 was spent trialing the presses. Rooftop observations were made at the discharge point of the stack for the dust collectors and no particulate was noted at the exhaust point.

In another room leading back towards the main area of the building there is a silk-screening process that exhausts externally through two (2) vents. This process was not in operation at the time of the inspection, but KD could observe the bottles that had been screen printed. The silk-screening process is exempt from Rule 201 permitting under Rule 287(2)(e).

### *Miscellaneous*

There is a total of eight (8) natural gas boilers located throughout the numerous buildings. The largest boiler is 1,527,000 BTU/Hr. These boilers are exempt under Rule 282(2)(b)(i).

Haviland also has two (2) natural gas emergency generators. The largest one is 60 kW (204,728 BTU/Hr). These generators are exempt from Rule 201 permitting under Rule 285(2)(g). Due to age, they do not appear to be to subject to the provisions of the new source performances standards (NSPS) 40 CFR Part 60 Subpart JJJJ for stationary spark ignition internal combustion engines. These generators may, however, be subject to the provisions of 40 CFR Part 63 Subpart ZZZZ for stationary reciprocating internal combustion engines. Since Haviland is an area source of HAP's, the AQD does not have delegation of this regulation. The most recent preventative maintenance was conducted in October 2020 and May 2021.

Currently, there are no parts cleaners located on site.

### **Compliance Determination**

Based on the observations made during the inspection and a subsequent review of the records, it appears that Haviland is in compliance with PTI No. 71-17E. The AQD will follow up with Haviland to ensure compliance with any additional Federal Regulations, pending the supplied applicability determination.



**Image 1(FGWESTPOWDER Duct 1)** : Image of FGWESTPOWDER Ductwork prior to fixing. Photo 1.



**Image 2(FGWESTPOWDER Duct 2)** : Image of FGWESTPOWDER Ductwork prior to fixing. Photo 2.



**Image 3(FGWESTPOWDER Duct 3)** : Image of FGWESTPOWDER Ductwork after replacement. Photo 3.

NAME Kaitlyn Dwin

DATE 10/5/2021

SUPERVISOR HH