

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

N605259978

<b>FACILITY:</b> East Jordan Foundry, LLC		<b>SRN / ID:</b> N6052
<b>LOCATION:</b> 2675 North US 131, ELMIRA		<b>DISTRICT:</b> Gaylord
<b>CITY:</b> ELMIRA		<b>COUNTY:</b> ANTRIM
<b>CONTACT:</b> Tony Pitts , Environmental Services Manager		<b>ACTIVITY DATE:</b> 08/19/2021
<b>STAFF:</b> Kurt Childs	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> 2021 FCE.		
<b>RESOLVED COMPLAINTS:</b>		

## N6052 East Jordan Foundry, LLC - 2021 Full Compliance Evaluation

**August 19, 2021**

### Facility Overview

The East Jordan Foundry, LLC facility located in Elmira is a modern gray and ductile iron foundry with many state of the art production processes including four electric induction furnaces, two separate mold lines with a shared sand system and automated blast finishing. Particulate matter control for all processes is provided by eleven Nederman Micropulse baghouses. PTI 185-16 was issued on 4/27/2017 and has been revised twice. The current PTI, 185-16B, was issued on 12-10-2019. This source began initial operation in 2018 and reached full operation in 2019. Initial testing has been completed and an initial ROP application was submitted in a timely manner. The source is currently operating under the ROP permit shield. East Jordan Foundry, LLC is also subject to the requirements of 40 CFR Part 63, Subpart ZZZZZ - National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources.

The foundry is located in a rural area along US-131 west of Elmira Mi. in Antrim County. It is all new construction at this formerly vacant location. All of the plant processes are located within the enclosed buildings on the site. There are no storage, processing or material handling activities outdoors. The entire plant yard area surrounding the building is paved with concrete.

I conducted this Full Compliance Evaluation with the assistance of AQD Cadillac staff Jodi Lindgren. Prior to the inspection we observed the plant from off-site. There are 9 separate exhaust stacks serving the 11 baghouses. Baghouses A and B as well as H and J share a stack between the two baghouses. The taller portion of the plant is the mold sand production area and the five tallest stacks exit the plant here. The next tallest stacks (and greatest in diameter) are the two stacks that serve the combined baghouses A and B, located in the melting area near the back of the plant, and baghouses H and J serving the finishing and waste sand processes located on the south side, and closer to the front of the plant. No visible emissions were observed from any of the stacks at the time of the inspection. The plant roads and yard areas were clean and no fugitive dust was observed either. No odors were detected in the vicinity of the plant.

### Pre-Inspection Meeting

Ms. Lindgren and I met with East Jordan Foundry, LLC personnel Scott Nachazel Facility Manager, Tony Pitts Environmental Services Manager, and Tim Smock EHS manager. Due to the circumstances around this inspection it was scheduled ahead of time with Mr. Pitts. Future inspections may be conducted unannounced with Mr. Smock as the site contact. Mr. Pitts was prepared with copies of plant records available for the previous 12 months. He also demonstrated the business intelligence software that is used to track process parameters and generate the records.

Production at the plant takes place approximately 20 hours per day 4-5 days per week. Each daily production cycle begins at 7pm and continues until 3pm the following day. Maintenance and production support activities take place in between production cycles. The plant shuts down for maintenance once per year, usually around the end of the year.

During the pre-inspection meeting Mr. Pitts provided us with copies of the air permit records for the previous 12-mos rolling time period. (Attached)

## **Facility Inspection**

We conducted a walk through inspection of the plant observing each process and control device in accordance with the ROP format for emission units and flexible groups. Information regarding observations during the inspection is included in the review of each emission unit/flexible group.

## **PTI 185-16B Compliance Evaluation**

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Many of the applicable requirements are the same for each emission unit or flexible group, particularly with regard to Malfunction Abatement Plans, visible emissions, and baghouse operations. For the sake of brevity, a summary of compliance with these shared requirements is provided below. This is followed by an evaluation of the unique requirements for each emission unit or flexible group.

Common requirements:

### **I. EMISSION LIMIT(S)**

#### **1. Visible Emissions.**

**Compliance with each VE emission limit is demonstrated through Method 9 testing every 6 months as well as through proper operation of the control device.**

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

- 1. The permittee shall not operate \_\_\_\_\_ unless a malfunction abatement plan (MAP) as described in Rule 911(2), for operation of the baghouses, has been submitted and is implemented and maintained.**

**An approved MAP covering the entire facility is on file with the AQD.**

### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

- 1. The permittee shall not operate \_\_\_\_\_ unless the fabric filter collectors are installed, maintained, and operated in accordance with the manufacturer's recommendations.**

**All of the baghouses were operating properly at the time of the inspection based on observations and magnehelic readings that were each within the 0" to 10" operating range specified in the MAP.**

2. The permittee shall not operate \_\_\_\_\_ unless a gauge, which measures the pressure drop across each fabric filter collector and sounds an alarm when the pressure drop exceeds 10 inches water, is installed, maintained and operated in a satisfactory manner.

Each baghouse is equipped with two magnehelic gauges which were installed and operating properly at the time of the inspection. The gauges are connected to facility computer systems and have an alarm set point at 8 inches water.

## **V. TESTING/SAMPLING**

1. The permittee shall verify every six months the visible emissions from \_\_\_\_\_ by conducting 1-hour visible emissions readings following the procedures specified in Federal Reference Test Method 9. Each visible emission reading shall be taken during routine operating conditions. Records of the Method 9 readings shall be made available to the District Supervisor upon request.

The most recent Method 9 test was received in May 2021 and the next test is scheduled for October 4, 2021.

1. The permittee shall perform and record the results of a non-certified visible emission check on all of the emission points from EUDUCTINOC at least once per calendar day during routine operating conditions. The visible emission check shall simply verify the presence of visible emissions and need not follow the procedures specified in Federal Reference Test Method 9. Therefore, multiple stacks may be observed simultaneously. Each visible emission check shall be taken during routine operating conditions and be a minimum of 6 minutes. If visible emissions are observed, the permittee shall immediately initiate corrective actions and document the corrective actions taken.

**Non-certified six minute visible emission checks are conducted daily from a location in the northwest corner of the site where all stacks and vents are visible. The readings**

are recorded in the East Jordan Foundry “DOMO” reporting/business intelligence software used for all environmental data. See attached records 1.png for example.

## **VI. MONITORING/RECORDKEEPING**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.

**Records of each VE test and daily checks are maintained as required.**

2. The permittee shall monitor and record, in a satisfactory manner, the pressure drop across each baghouse for EUCHRGHAND on a once per operating shift basis.

**Records provided by East Jordan Foundry, and observations made during the inspection confirm that the pressure drop is recorded and was within the required operating range of 0” - 10”.**

1. The permittee shall maintain records of all information necessary to demonstrate compliance with the visible emission limits.

**Records of Method 9 test results and baghouse operating data is maintained and was available at the time of the inspection.**

## **VIII. STACK/VENT RESTRICTION(S)**

**See FGFACILITY**

**Emission Unit/Flexible Group Unique Requirements**

<b>EUCHRGHAND</b>
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<b>EMISSION UNIT CONDITIONS</b>
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**DESCRIPTION**

Handling and storage of furnace charge material includes internal returns (e.g. sprue, scrap), incoming scrap metal, alloy materials, inoculants, fluxes, etc.

**POLLUTION CONTROL EQUIPMENT**

Baghouses A B, E, H, J, and K

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

2. The permittee shall process and store furnace charge material in an enclosed building.

During the inspection we observed the charge material loading and storage area which was enclosed within a building with doors opening only for delivery of materials.

<b>EUDUCTINOC</b>
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<b>EMISSION UNIT CONDITIONS</b>
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### DESCRIPTION

To provide strength an addition of a magnesium-based material is placed into the ladle and then molten metal is poured from one of the furnaces into the ladle.

### POLLUTION CONTROL EQUIPMENT

**Baghouses A and B**



**I. EMISSION LIMIT(S) <sup>(a)</sup>**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
2. VOC	0.28 pph	Hourly	EUDUCTINOC	GC 13	R 336.1702(a), R 336.2810
3. VOC	0.64 tpy	12-month rolling time period as determined at the end of each calendar month	EUDUCTINOC	SC VI.3	R 336.1702(a), R 336.2810

Compliance with the VOC emission limits is demonstrated through calculations using emission factors. Records provided by East Jordan Foundry indicate VOC emissions averaged 0.14 pph and 0.01 tpy.

<b>EUMLTXFER</b>	<b>EMISSION UNIT CONDITIONS</b>
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**DESCRIPTION**

**The transfer of hot metal in a ladle (transfer ladle) from the electric induction furnaces to the pouring operations.**

## **POLLUTION CONTROL EQUIPMENT**

**Baghouses A and B**

**No additional EU specific requirements.**

<b>EUSHMM</b>
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<b>EMISSION UNIT CONDITIONS</b>
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## **DESCRIPTION**

**Sand Handling and Moldmaking – Includes mechanical sand reclamation, moldmaking and application of mold release.**

**II. MATERIAL LIMIT(S)**

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
<b>1. Sand Processed</b>	<b>1,920,000 tons/year</b>	<b>12-month rolling time period as determined at the end of each calendar month</b>	<b>EUSHMM</b>	<b>SC VI.4 (3)</b>	<b>R 336.1225 R 336.1205 R 336.2803, R 336.2804, R 336.2810</b>

Compliance with the material limit is demonstrated through the monitoring and recordkeeping of the amount of sand processed. Records provided by East Jordan Foundry indicate 1,227,306 tons of sand were processed during the most recent 12-month rolling time period. Note, the correct Monitoring Method requirement in the permit is SC VI.3.

**VI. MONITORING/RECORDKEEPING**

1. The permittee shall monitor and record, in a satisfactory manner, the tons of sand processed on a monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request.

**Records provided by East Jordan Foundry, and observations made during the inspection confirm that the sand production rate is monitored and recorded.**

<b>EUBLAST</b>
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<b>EMISSION UNIT CONDITIONS</b>
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**DESCRIPTION**

Enclosed process for the removal of excess sand and metal from casting surface.

**POLLUTION CONTROL EQUIPMENT**

Baghouses H and J.

This process was observed during the inspection. Parts are placed on hangers on an automated conveyor that carries them through and enclosed abrasive blasting booth which is controlled by the H and J baghouses. There are no additional EU specific requirements.

<b>EUGRIND</b>
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<b>EMISSION UNIT CONDITIONS</b>
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**DESCRIPTION**

**Grinding – Removal of unwanted metal at the mold parting lines and elsewhere.**

**POLLUTION CONTROL EQUIPMENT**

**Baghouses H and J**

**This process was observed during the inspection. Parts are placed on wall or table type ventilation hoods and ground by hand to clean up each cast part. The hoods are controlled by the H and J baghouses. There are no additional EU specific requirements.**

<b>EUDIPTANK</b>
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<b>EMISSION UNIT CONDITIONS</b>
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**DESCRIPTION**

**A dip coat coating line to coat special iron castings that applies a low-VOC coating to finished castings.**

**This process was observed during the inspection. This is also a conveyorized line on which parts are hung then dipped in a coating tank located in the floor of the plant then air dried. Any emissions are released into the general in-plant environment. Records indicate an average of 5,610 gallons of 0.03 lb./gal VOC coating are used per month.**

#### **I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC	15.2 tpy	12-month rolling time period as determined at the end of each calendar month	EUDIPTANK	SC VI.2	R 336.1702 (a), R 336.2810

**Records based on material usage and VOC content indicate approximately one ton per year of VOC emissions.**

#### **II. MATERIAL LIMIT(S)**

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC	0.60 pounds per gallon of coating, minus water, as applied	Calendar day average	EUDIPTANK	SC V.1	R 336.1702(a) R 336.1205 R 336.2810

Data sheets for the #2Z-Shield 2505 Z Tech coating indicate a VOC content of 0.29% and 0.03 lb./gal which is in compliance with this material limit.

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The dip tank shall not be operated at temperatures greater than 160°F. (R 336.1224, R 336.1225, R 336.1702(a), R 336.2810)

During the inspection Mr. Pitts stated that the dip tank temperature is measured once per day using a thermometer and the reading logged.

### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall not operate EUDIPTANK unless a device to measure the temperature of the coating material in the tank is installed, maintained, and operated in accordance with the manufacturer's recommendations. (R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.2810)

**At the time of the inspection the dip tank was equipped with a device to measure the temperature of the coating material in the tank. Temperature readings are recorded once per day and logged into DOMO. See attached records (2.png)**

## **V. TESTING/SAMPLING**

**Once every five years, the permittee shall determine the VOC content, water content and density of any dip coating material used in EUDIPTANK, as received and as applied, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance.**

**The coating has not been tested yet but manufacturers data is available. See Attached Records 4a.pdf, 4b.pdf, 4c.pdf, and SDS-ZShield.pdf for ZShield.**

## **VI. MONITORING/RECORDKEEPING**

1. The permittee shall record once daily, the temperature of the material in the dip tank while operating.

**Temperature readings are taken daily and recorded.**

2. The permittee shall keep a separate record of the following for EUDIPTANK:
  - a) The type of each material used. This includes but is not limited to coating material, wash or cleaning solvents, makeup solvents, purge and clean-up solvents.
  - b) Chemical composition of each material, including weight percent of each component.
  - c) The VOC content of each material, with and without water and exempt solvents, (in percent by weight or pounds per gallon), as received and as applied.



- d) The usage rate (in pounds or gallons) of each material as applied (daily).
- e) The actual hours of operation each day.
- f) VOC emission calculations determining the monthly emission rate and the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request.

**Most of the required information is maintained and available. Material usage is determined based on monthly purchase records and daily tracking of material additions. See Attached Record 3.png This seems adequate to determine compliance with the 12-mos rolling emission limit. Only one coating is used so this information does not change. Coating data sheets are maintained.**

**VIII. STACK/VENT RESTRICTION(S)**

- 1. The permittee shall not discharge the emissions from EUDIPTANK directly into the atmosphere.

**Emissions are discharged to the general in-plant environment.**

<b>EUPUNBCM</b>	<b>EMISSION UNIT CONDITIONS</b>
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**DESCRIPTION**

**Phenolic Urethane No Bake (PUNB) Coremaking - After sand is heated to promote the reaction, a two-part resin and a single liquid catalyst system is mixed with the sand. After mixing the sand is distributed to the pattern. A release agent to promote core removal may be applied to the pattern prior to forming the core.**

**This process was not operating at the time of the inspection. The majority of mold cores used are purchased from vendors not manufactured on site.**

**POLLUTION CONTROL EQUIPMENT**

Baghouse L

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC	14.47 pph	Hour	EUPUNBCM	SC VI.3	R 336.1702(a) R 336.2810
2. VOC	1.70 tpy	12-month rolling time period as determined at the end of each calendar month	EUPUNBCM	SC VI.3	R 336.1702(a) R 336.2810

Records of emission calculations indicate emission rates of 0.03 pph and 0.10 tpy.

**II. MATERIAL LIMIT(S)**

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
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Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Resins	4 tons/month	Calendar month	EUPUNBCM	SC VI.3	R 336.1702(c) R 336.1205 R 336.2810
2. Resins	48 tons/year	12-month rolling time period as determined at the end of each calendar month	EUPUNBCM	SC VI.3	R 336.1702(c) R 336.1205 R 336.2810

Records of material usage indicate resin usage is only a fraction of the monthly and annual limits (less than one ton 12-mos rolling).

**V. TESTING/SAMPLING**

- 1.
  - a.
    - i.
      - A.
        - a.
          - i.

1. Once every five years, the permittee shall determine the VOC content, water content and density of any VOC containing material (excluding resin binder system) used in EUPUNBCM, as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance.

The coating has not been tested yet but manufacturers data is available. See Attached Records 4c.pdf, SDS-Pepset 3502 Catalyst.pdf, SDS-Pepset I 1024N.pdf, and SDS-Pepset II 2024N.pdf.

## **VI. MONITORING/RECORDKEEPING**

**Records shall be maintained on file for a period of five years. (R 336.1201(3))**

- 2. The permittee shall maintain records of the hours of operation of the process.**
  
- 3. The permittee shall keep a separate record of the following for EUPUNBCM on a daily averaging period:**
  - a) The type of each material used. This includes but is not limited to resin material, wash or cleaning solvents, makeup solvents, purge and clean-up solvents.**
  
  - b) Chemical composition of each material, including weight percent of each component.**
  
  - c) The VOC content of each material, with and without water and exempt solvents, (in percent by weight or pounds per gallon), as received and as applied.**
  
  - d) The usage rate (in pounds or gallons) of each material as applied including resin use records on a monthly and 12 month rolling time period basis.**
  
  - e) The actual hours of operation.**
  
  - f) VOC emission calculations determining an average hourly emission rate in pounds per hour for each calendar day.**

- g) **VOC emission calculations determining the monthly emission rate and the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.**

**The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request.**

**All of the required records are maintained and available as represented in the attached records.**

**VIII. STACK/VENT RESTRICTION(S)**

**Stack parameter requirements are established in FGFACILITY**

<b>EUSHELLCM</b>
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<b>EMISSION UNIT CONDITIONS</b>
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**DESCRIPTION**

Shell core making – Resin coated sand is fed to a pattern that is preheated and coated with a release agent. Heat from the pattern cures the sand mix into the desired shape.

This process was not operating at the time of the inspection. The majority of mold cores used are purchased from vendors not manufactured on site.

## POLLUTION CONTROL EQUIPMENT

Baghouse L

### I. EMISSION LIMIT(S)

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC	1.83 pph	Hour	EUSHELLCM	SC VI.3	R 336.1702(a) R 336.2810
2. VOC	2.85 tpy	12-month rolling time period as determined at the end of each calendar month	EUSHELLCM	SC VI.3	R 336.1702(a) R 336.2810

Records provided during the inspection indicate that the emission rates are 1.41 pph and 1.18 tpy (12-mos rolling) which are in compliance with the emission limits. However these are based on monthly averages, East Jordan Foundry determined that daily hourly averages indicated an exceedance of the pph limit. They followed up with the core sand manufacturer, HA International LLC who provided additional information indicating the correct emission factor is 1.47 lbs/VOC per ton product used. As a result, the highest hourly emission rate was reported as 0.22 pounds per hour. See attachment 4d.pdf and 7.png.

**II. MATERIAL LIMIT(S)**

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
Shell Cores	1500 tons	12-month rolling time period, as determined at the end of each calendar month	EUSHELLCM	SC VI.2	R 336.1702 R 336.2810 R 336.1205

Records indicate that the material usage rate (actually a production rate limit) is 623.16 tons of cores produced on a 12-mos rolling basis which is in compliance with the material use limit.

**V. TESTING/SAMPLING**

- 1.
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1. Once every five years, the permittee shall determine the VOC content, water content and density of any VOC containing material (excluding resin binder system) used in EUSHELLCM, as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance.

**The VOC content has not been tested yet but manufacturers data is available. See Attached Records SDS-Super F E19G19.pdf and SDS-Velvalite GA 2.pdf**

## **VI. MONITORING/RECORDKEEPING**

2. **The permittee shall maintain records of the tons of shell cores produced and hours of operation of the process.**

**The records maintained by the facility contain this required information.**

3. **The permittee shall keep a separate record of the following for EUSHELLCM on a daily averaging period:**
  - a) **The type of each material used. This includes but is not limited to resin material, wash or cleaning solvents, makeup solvents, purge and clean-up solvents.**
  - b) **Chemical composition of each material, including weight percent of each component.**



- c) **The VOC content of each material (in percent by weight or pounds per gallon), as received and as applied.**
- d) **The usage rate (in pounds or gallons) of each material as applied.**
- e) **The actual hours of operation.**
- f) **VOC emission calculations determining an average hourly emission rate in pounds per hour for each calendar day.**
- g) **VOC emission calculations determining the monthly emission rate and the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.**

**The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request.**

**Material used is resin coated sand and daily usage rates are tracked. Core wash is applied after molds are heated but usage is tracked FGCORECHEM. Records provided by East Jordan Foundry contain the required information based on monthly production and daily records are available. As with other recordkeeping at the plant daily usage is entered manually into a sharepoint list site from which it can be compiled using "DOMO". See Attached Records 5.png, 6.png, 7.png**

<b>EULCLREPAIR</b>
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<b>EMISSION UNIT CONDITIONS</b>
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**DESCRIPTION**

**Removal and replacement of refractory ladles used to protect the ladle from the heat of the molten metal.**

## **POLLUTION CONTROL EQUIPMENT**

**Baghouse K**

**This process was observed during the inspection. There are no additional EU specific conditions.**

<b>EUWASTESAND</b>
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<b>EMISSION UNIT CONDITIONS</b>
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## **DESCRIPTION**

**The removal and disposition of spent sand from the system.**

**POLLUTION CONTROL EQUIPMENT**

Baghouses H and J

Spent sand is removed and contained prior to disposal or beneficial reuse. Waste sand is sent to St. Marys Cement for reuse or used as daily landfill cover. There are no additional EU specific conditions.

<b>FGMELTING</b>
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<b>FLEXIBLE GROUP CONDITIONS</b>
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**DESCRIPTION**

This flexible group includes four (4) electric induction melting furnaces.

**POLLUTION CONTROL EQUIPMENT**

Baghouses A and B

**I. EMISSION LIMIT(S) <sup>(a)</sup>**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
<b>1. VOC</b>	<b>0.84 pph</b>	<b>Hourly</b>	<b>FGMELTING</b>	<b>SC V.2</b>	<b>R 336.1702(a) R 336.2803 R 336.2804 R 336.2810</b>
<b>2. VOC</b>	<b>1.92 tpy</b>	<b>12-month rolling time period as determined at the end of each calendar month</b>	<b>FGMELTING</b>	<b>SC V.2, SC VI.3, VI.4</b>	<b>R 336.1702(a) R 336.2803 R 336.2804 R 336.2810</b>
<b>3. CO</b>	<b>9.24 pph</b>	<b>Hourly</b>	<b>FGMELTING</b>	<b>SC V.2</b>	<b>R 336.2804 R 336.2810</b>
<b>4. CO</b>	<b>21.12 tpy</b>	<b>12-month rolling time period as determined at the end of each calendar month</b>	<b>FGMELTING</b>	<b>SC V.2, SC VI.3, VI.4</b>	<b>R 336.2804 R 336.2810</b>

Records provided by East Jordan Foundry indicate emission rates of 0.71 pph VOC, 1.52 tpy VOC, 5.21 pph CO, and 11.11 tpy CO. Each of which is in compliance with the emission limits. The method of calculation is tons of metal melted multiplied by a pollutant-specific emission factor (lbs./ton) (derived from stack testing) then divided by hours of operation. The current FGMELT emission factors are: CO lb./ton = 0.2197, VOC lb./ton = 0.0300.

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Charged material	128,000 tpy	12-month rolling time period as determined at the end of each calendar month	FGMELTING	SC VI.4	R 336.1205 R 336.1225 R 336.1702 R 336.2810

Charge rates are monitored and recorded by the facility computer systems. Records indicate the 12-mos rolling charging rate is 92,438 tons, which is in compliance with the material use limit.

#### V. TESTING/SAMPLING

- Every five years the permittee shall verify CO and VOC emission rates from FGMELTING by testing at owner's expense, in accordance with Department requirements. Testing of stacks SVAB-BH and SVD-BH must be completed simultaneously. All associated processes must be operating similarly and at maximum routine operating conditions during the verification testing. Test results from SVAB-BH, SVD-BH, SVC-BH, and SVE-BH shall be totaled and compared to aggregate emission limits from FGMELTING, FGPOURCOOL, and FGSHAKEOUT. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.

A report dated June 17, 2019, containing the results of the required testing was submitted to the AQD and indicated compliance with the emission limits.

**VI. MONITORING/RECORDKEEPING**

3. The permittee shall monitor and record, in a satisfactory manner, the daily hours of operation and the tons of metal charged to FGMELTING on an hourly basis using a calendar day average, and calculations of hours and tons on a monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request.
  
4. The permittee shall calculate and keep records of monthly VOC and CO emissions for FGMELTING, to verify compliance with SC I.2 and SC I.4, using the monthly metal charging rate for FGMELTING and emission factors in lb/ton metal melted generated from the stack test conducted pursuant to SC V.2. Prior to completion of the stack test emissions may be calculated with emission factors acceptable to the AQD District Supervisor used to determine the emission limits.

These records are maintained and available (see attached records EJF-Insp.pdf provided during the inspection).

<b>FGPOURCOOL</b>
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<b>FLEXIBLE GROUP CONDITIONS</b>
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**DESCRIPTION**

This flexible group includes the pouring and cooling operations for both production lines (LML and 1230) at the facility. Includes VOC emissions from mold release agent usage. The emission units in this flexible group are controlled by common baghouses.

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## POLLUTION CONTROL EQUIPMENT

Fabric filter collector (baghouse) control for FGPOURCOOL includes portions of Baghouses A, B and D then vented to stacks SVAB-BH and SVD-BH

We observed this process during the inspection. The transfer ladles are used to pour the molten iron into the molds. The pouring area is on the plant floor and exhaust ducts with small circular hoods are located over each pouring station. A separate duct and hood is located over the area where the ladle is placed when not in use. Capture of emissions from pouring and especially from the idle ladle were not ideal at the time of the inspection. We observed much of the smoke from the ladle bypassing the hoods and being released to the general in-plant environment. This could be an issue during stack testing as poor capture would affect the emissions concentrations in the stack. I requested that East Jordan Foundry review this issue, in particular with regards to future stack testing.

### I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. CO	182.66 pph	Hourly	FGPOURCOOL	SC V.2	R 336.2804 R 336.2810

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
2. CO	417.5 tpy	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.4	R 336.2804 R 336.2810
3. VOC	34.75 pph	Hourly	FGPOURCOOL	SC V.2	R 336.1702 R 336.2810
4. VOC	79.42 tpy	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.4	R 336.1702 R 336.2810
5. NOx	1.92 pph	Hourly	FGPOURCOOL	SC V.2	R 336.2803 R 336.2804
6. NOx	4.38 tpy	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.4	R 336.2803 R 336.2804
7. SO <sub>2</sub>	7.28 pph	Hourly	FGPOURCOOL	SC V.2	40 CFR 52.21 (c)&(d)
8. SO <sub>2</sub>	16.64 tpy	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.4	40 CFR 52.21 (c)&(d)

Records provided by East Jordan Foundry indicate emission rates of 13.44 pph VOC, 28.9 tpy VOC, 70.66 pph CO, 151.91 tpy CO, 0.27 pph NOx, 0.58 tpy NOx, 3.65 pph SO<sub>2</sub>, and 7.84 tpy SO<sub>2</sub>. Each of which is in compliance with the emission limits. The method of calculation is tons of metal melted multiplied by a pollutant-specific emission factor (lbs./ton) (derived from stack testing) then divided by hours of operation. The current FGPOURCOOL emission factors are: CO lb./ton = 3.0044, VOC lb./ton = 0.5715, NOx lb./ton = 0.0114, SO<sub>2</sub> lb./ton = 0.1550.



## **V. TESTING/SAMPLING**

- 2. Every five years the permittee shall verify CO, VOC, NO<sub>x</sub>, and SO<sub>2</sub> emission rates from FGPOURCOOL by testing at owner's expense, in accordance with Department requirements. Testing of stacks SVAB-BH and SVD-BH must be completed simultaneously. All associated processes must be operating similarly and at maximum routine operating conditions during the verification testing. Test results from SVAB-BH, SVD-BH, SVC-BH, and SVE-BH shall be totaled and compared to aggregate emission limits from FGMELTING, FGPOURCOOL, and FGSHAKEOUT. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.**

**A report dated June 17, 2019, containing the results of the required testing was submitted to the AQD and indicated compliance with the emission limits.**

## **VI. MONITORING/RECORDKEEPING**

- 4. The permittee shall calculate and keep records of monthly and 12-month rolling time period basis VOC, CO, NO<sub>x</sub>, and SO<sub>2</sub> emissions for FGPOURCOOL, to verify**

compliance with SC I.2, SC I.4, SC I.6, and SC I.8, using the monthly metal pour rate and emission factors in lb/ton metal poured generated from the stack test conducted pursuant to SC V.1. Prior to completion of the stack test emissions may be calculated with emission factors acceptable to the AQD District Supervisor used to determine the emission limits. (R 336.1205, R 336.1702, R 336.2803, R 336.2804, R 336.2810)

5. The permittee shall monitor and record, in a satisfactory manner, the daily hours of operation of FGPOURCOOL on an hourly monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1225, R 336.2803, R 336.2804, R 336.2810)

These records are maintained and available (see attached records EJF-Insp.pdf provided during the inspection).

<b>FGSHAKEOUT</b>
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<b>FLEXIBLE GROUP CONDITIONS</b>
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### DESCRIPTION

This flexible group includes the shakeout operations for both production lines (LML and 1230) at the facility. The emission units in this flexible group are controlled by common baghouses.

**POLLUTION CONTROL EQUIPMENT**

Baghouses C, D, and E

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. CO	44.57 pph	Hourly	FGSHAKEOUT	SC V.2	R 336.2804 R 336.2810
2. CO	101.88 tpy	12-month rolling time period as determined at the end of each calendar month	FGSHAKEOUT	SC VI.3	R 336.2804 R 336.2810
3. VOC	14.78 pph	Hourly	FGSHAKEOUT	SC V.2	R 336.1702 R 336.2810
4. VOC	33.79 tpy	12-month rolling time period as determined at the end of each calendar month	FGSHAKEOUT	SC VI.3	R 336.1702 R 336.2810
5. NOx	0.06 pph	Hourly	FGSHAKEOUT	SC V.2	R 336.2803 R 336.2804
6. NOx	0.13 tpy	12-month rolling time period as determined at the end of each calendar month	FGSHAKEOUT	SC VI.3	R 336.2803 R 336.2804

Records provided by East Jordan Foundry indicate emission rates of 6.16 pph VOC, 28.9 tpy VOC, 11.94 pph CO, 25.67 tpy CO, 0.00 pph NOx, and 0.00 tpy NOx. Each of which is in compliance with the emission limits. The method of calculation is tons of metal melted multiplied by a pollutant-specific emission factor (lbs./ton) (derived from stack testing) then divided by hours of operation. The current FGMELT emission factors are: CO lb./ton = 0.5076, VOC lb./ton = 0.2620, NOx lb./ton = 0.0000.

## **V. TESTING/SAMPLING**

2. Every five years the permittee shall verify CO, VOC, and NOx emission rates from FGSHAKEOUT by testing at owner's expense, in accordance with Department requirements. Testing of stacks SVAB-BH and SVD-BH must be completed simultaneously. Testing of stacks SVC-BH and SVE-BH must also be completed simultaneously but may be separate from SVAB-BH and SVD-BH. All associated processes must be operating similarly and at maximum routine operating conditions during the verification testing. Test results from SVAB-BH, SVD-BH, SVC-BH, and SVE-BH shall be totaled and compared to aggregate emission limits from FGMELTING, FGPOURCOOL, and FGSHAKEOUT. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1301, R 336.1702, R 336.2803, R 336.2804, R 336.2810)

A report dated June 17, 2019, containing the results of the required testing was submitted to the AQD and indicated compliance with the emission limits.

**VI. MONITORING/RECORDKEEPING**

3. The permittee shall calculate and keep records of monthly and 12-month rolling time period basis VOC, CO, and NOx emissions for FGSHAKEOUT, to verify compliance with SC I.2, SC I.4, and SC I.6 using the monthly sand processing rate and emission factors in lb/ton sand processed generated from the most recent stack test conducted pursuant to SC V.1. Prior to completion of the stack test emissions may be calculated with emission factors acceptable to the AQD District Supervisor used to determine the emission limits. (R 336.1205, R 336.1702, R 336.2803, R 336.2804, R 336.2810)

These records are maintained and available (see attached records EJF-Insp.pdf provided during the inspection).

<b>FGCORECHEM</b>
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<b>FLEXIBLE GROUP CONDITIONS</b>
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**DESCRIPTION**

This flexible group includes the Core Washing – application of VOC-containing refractory material (slurry) to the core. The core is subsequently ignited (i.e. lightoff) to dry and partially destroy the VOCs. Also included is Core Release – the application on an “as needed basis” of a material to promote the release of the core from the pattern.

Air emissions are released to the general in-plant environment.

### I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	1.31 pph	Hour	EUCOREWASH EUCORERELEASE	SC VI.2	R 336.1702(a) R 336.2804
2. VOC	0.22 tons per calendar month	Month	EUCOREWASH EUCORERELEASE	SC VI.2	R 336.1702(a) R 336.2804
3. VOC	2.63 tpy	12-month rolling time period as determined at the end of each calendar month	EUCOREWASH EUCORERELEASE	SC VI.2	R 336.1702(a) R 336.2804

Records indicate emissions are minimal. VOC tpy emissions were 0.01 for the 12-month rolling period so hourly and monthly emissions were barely measurable. Compliance is largely based on material usage and data provided by the manufacturers .

**II. MATERIAL LIMIT(S)**

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
<b>1. Core Wash Material-Low VOC (a)</b>	<b>25,000 lbs/yr</b>	<b>12-month rolling time period as determined at the end of each calendar month</b>	<b>EUCOREWASH</b>	<b>SC VI.3</b>	<b>R 336.1205 R 336.1225, R 336.1702(a) R 336.2810</b>
<b>2. Core Wash Material-Alcohol Based (b)</b>	<b>20,000 lbs/yr</b>	<b>12-month rolling time period as determined at the end of each calendar month</b>	<b>EUCOREWASH</b>	<b>SC VI.3</b>	<b>R 336.1205 R 336.1225, R 336.1702(a) R 336.2810</b>
<b>3. IPA Thinning Solvent</b>	<b>11,000 lbs/yr</b>	<b>12-month rolling time period as determined at the end of each calendar month</b>	<b>EUCOREWASH</b>	<b>SC VI.3</b>	<b>R 336.1205 R 336.1225, R 336.1702(a) R 336.2810</b>
<b>4. Mold Release – Shell Core</b>	<b>150 lbs/yr</b>	<b>12-month rolling time period as determined at the end of each calendar month</b>	<b>EUCORERELEASE</b>	<b>SC VI.3</b>	<b>R 336.1205 R 336.1225, R 336.1702(a) R 336.2810</b>
<b>5. Mold Release – No Bake</b>	<b>150 lbs/yr</b>	<b>12-month rolling time period as determined at the end of each calendar month</b>	<b>EUCORERELEASE</b>	<b>SC VI.3</b>	<b>R 336.1205 R 336.1225, R 336.1702(a) R 336.2810</b>

Records indicate the material usages were as follows:

**Core Wash low VOC = 1,166 pounds 12-mos rolling.**

**Core Wash Alcohol = None used.**

**IPA Thinning Solvent = None used.**

**Mold release - Shell Core = 42.69 pounds 12-mos rolling.**

**Mold release - No Bake = None used.**

**Material usages are well within the material use limits.**

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

- I.
  1. The permittee shall capture all waste materials and solvents used in FGCORECHEM and shall store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations.
  2. The permittee shall dispose of spent filters in a manner which minimizes the introduction of air contaminants to the outer air.
  3. The permittee shall handle all VOC and/or HAP containing materials used in FGCORECHEM, including coatings, reducers, solvents and thinners, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary.
  4. The permittee shall establish and implement specific procedures for the lightoff of core washes in a manner which minimizes the introduction of air contaminants to the outer air.

**No open containers were observed during the inspection, core wash lightoff was not operating during the inspection.**



## **V. TESTING/SAMPLING**

**Records shall be maintained on file for a period of five years. (R 336.1201(3))**

1. The permittee shall determine the HAP content of any coating, reducer, thinner, additive, catalyst, and solvent used in FGCORECHEM as received and as applied, using manufacturer's formulation data. Upon request of the AQD District Supervisor, the permittee shall verify the manufacturer's HAP formulation data using EPA Test Method 311.
  
1. The permittee shall determine the VOC content, water content and density of any coating, reducer, thinner, additive, catalyst, and solvent used in FGCORECHEM, as applied and as received, using manufacturer's formulation data. Upon request of the AQD District Supervisor, the permittee shall verify the manufacturer's formulation data using federal Reference Test Method 24. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance.

**East Jordan Foundry maintains records of the manufacturers formulation data and has not been requested to verify the manufacturers formulation data through testing. Due to the purchase of molds from off-site vendors there is minimal throughput in this EU.**

## **VI. MONITORING/RECORDKEEPING**

1. The permittee shall calculate pound per hour and monthly and 12-month rolling time period VOC emissions for FGCORECHEM. The permittee shall keep all records on file at the facility and make them available to the Department upon request.
2. The permittee shall monitor and record the material usage rate of each material listed in SC II.1 – II.4 for FGCORECHEM on a monthly and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request.

These records are maintained and were provided in the records provided by East Jordan Foundry. Additional material SDS records were provided following the inspection. See attached records SDS-Velvalite GA 2.pdf, SDS-Velvalite ZGA 065.pdf, SDS-Nixstix HC.pdf, SDS Valvoplast TGW 053.pdf, and SDS-Zipslip 125H.pdf

#### VIII. STACK/VENT RESTRICTION(S)

1. The permittee shall not discharge the emissions from FGCORECHEM directly into the atmosphere.

Emissions from this process are into the general in-plant environment.

<b>FGNATGASUNITS</b>
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<b>FLEXIBLE GROUP CONDITIONS</b>
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#### DESCRIPTION

Various natural gas combustion sources in the building. The equipment consists of ladle and furnace preheaters, infrared heaters, space heaters, air make up units, heat treat oven, and hot water boiler.

These units were not reviewed during the inspection. Records were provided as indicated below.

### I. EMISSION LIMIT(S)

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM	7.6 lb/MMscf	Instantaneous	FGNATGASUNITS	SC VI.2	R 336.1331(1) (c) R 336.2803, R 336.2804, R 336.2810
2. PM10	7.6 lb/MMscf	Instantaneous	FGNATGASUNITS	SC VI.2	R 336.2803, R 336.2804, R 336.2810
3. PM2.5	7.60 lb/MMscf	Instantaneous	FGNATGASUNITS	SC VI.2	R 336.2803, R 336.2804, R 336.2810
4. NOx	100 lb/MMscf	Instantaneous	FGNATGASUNITS	SC VI.2	R 336.2803, R 336.2804
5. CO	84 lb/MMscf	Instantaneous	FGNATGASUNITS	SC VI.2	R 336.2804, R 336.2810
6. VOCs	5.5 lb/MMscf	Instantaneous	FGNATGASUNITS	SC VI.2	R 336.1702, R 336.2804

### II. MATERIAL LIMIT(S)

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
<b>1. Natural gas usage</b>	<b>1,022 MMSCF per year</b>	<b>12-month rolling time period as determined at the end of each calendar month.</b>	<b>FGNATGASUNITS</b>	<b>SC VI.2</b>	<b>R 336.1225 R 336.2803, R 336.2804</b>
<b>2. Natural gas usage</b>	<b>2.80 MMSCF per day</b>	<b>Daily average calculated on a monthly basis</b>	<b>FGNATGASUNITS</b>	<b>SC VI.3</b>	<b>R 336.1225 R 336.2803, R 336.2804</b>

**3. The permittee shall burn only pipeline quality natural gas in FGNATGASUNITS.**

**Records were provide indicating natural gas usage complies with these limits.**

## **VI. MONITORING/RECORDKEEPING**

1. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage and the permittee shall calculate the emission rates of PM, PM10, PM2.5, NOx, CO, and VOC for FGNATGASUNITS using emission factors acceptable to the AQD District Supervisor on a monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request.
2. The permittee shall monitor and record, in a satisfactory manner, the average daily natural gas usage rate and hours of operation of FGNATGASUNITS on a monthly basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request.
3. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit.

**FGEG****FLEXIBLE GROUP CONDITIONS****DESCRIPTION**

**Emergency Engines subject to 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)**

**New/Reconstructed emergency engines  $\leq$  500 HP constructed on or after June 12, 2006**

**There are two emergency generators located outside the melting department on the west side of the plant. They are used to operate the ladles to empty out the furnaces and any molten metal in the case of a power outage during operation. The generator sets are identical 300 kw Olympian units that burn natural gas. They were not operating at the time of the inspection and are normally only operated for maintenance purposes. There is a digital control panel readout on each engine but we were not able to confirm what the current operating hours were or if the hour meter is non-resettable at the time of the inspection. The records provided during the inspection indicate there were 42 hours of usage during the 12-mos rolling time period. Mr. Pitts did state that they are demonstrating compliance with the NESHAP through manufactures certification (certified engine).**

**FGMACTZZZZZ**

**FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

The new affected source is a new iron foundry, that is (or is part of) an area source of hazardous air pollutant (HAP) emissions. The annual metal melting capacity is greater than 10,000 tons, therefore this area source is a large foundry.

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. VE (fugitive emissions from foundry operations)	20 percent opacity 6-min average, except for one 6-min average per hour that does not exceed 30 percent	Hourly	Each Building or Structure Housing any Iron or Steel Foundry Emission Source at FGMACTZZZZZ	SC V.2	40CFR 63.10895 (e)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
<p>1. PM ---OR--- Total Metal HAP</p>	<p>0.1 pounds of PM per ton of metal charged  ---OR--- 0.008 pounds of total metal HAP per ton of metal charged.</p>	<p>Hourly</p>	<p>EUEIF1 EUEIF2 EUEIF3 EUEIF4 each furnace</p>	<p>SC V.1</p>	<p>40CFR 63.10895 (c) (2)</p>

At the time of the inspection there were no visible emissions from any stacks, vents, or building openings. PM stack testing was conducted in 2019 with a result of 0.033 lb./ton of metal charged demonstrating compliance with the PM emission limit.

**II. MATERIAL LIMIT(S)**

1. If applicable, the permittee shall not utilize a binder chemical formulation that uses methanol as a specific ingredient of the catalyst formulation for a warm box mold or core making line. This requirement does not apply to the resin portion of the binder system.

**East Jordan Foundry does not use warm box mold or core making.**

2. The permittee will not accept motor vehicle scrap. The permittee must certify in your notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap.

**Scrap materials used by East Jordan Foundry include pig iron, structural plate, cast brake rotors and drums, and sprue. Brake rotors and drums are not defined as motor vehicle scrap.**

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. For each segregated metallic scrap storage area, bin or pile, the permittee must comply with the materials acquisition requirements in described in 40 CFR 63.10885(a). The permittee must keep a copy of the material specifications onsite and readily available to all personnel with material acquisition duties and provide a copy to each of your scrap providers. **(40 CFR 63.10885(a))**
  - a. The permittee must prepare and operate at all times according to written material specifications for the purchase and use of only metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, chlorinated plastics, or free liquids. "Free liquids" is defined as material that fails the paint filter test by EPA Method 9095B, "Paint Filter Liquids Test" (revision 2), November 2004 (incorporated by reference—see §63.14). The requirements for no free liquids do not apply if the owner or operator can demonstrate that the free liquid is water that resulted from scrap exposure to rain.
  - b. The permittee must prepare and operate at all times according to written material specifications for the purchase and use of only iron and steel scrap that has been depleted (to the extent practicable) of organics and HAP metals in the charge materials used by the iron and steel foundry. The materials specifications must include at minimum:
    - i. Specifications for metallic scrap materials charged to a scrap preheater or metal melting furnace to be depleted (to the extent practicable) of the presence of used oil filters, chlorinated plastic parts, accessible lead-containing components (such as batteries and wheel weights), and a program to ensure the scrap materials are drained of free liquids.

**East Jordan Foundry complies with these requirements through implementation of the Scrap Selection and Inspection Plan.**

1. The permittee must prepare and operate at all times according to a written operation and maintenance (O&M) plan for each control device for an emissions source subject to a PM, metal HAP, or opacity emissions limit in §63.10895. The permittee must maintain a copy of the O&M plan at the facility and make it available for review upon request. At a minimum, each plan must contain the following information **(40 CFR 63.10896(a))**:
  - a. General facility and contact information;
  - b. Positions responsible for inspecting, maintaining, and repairing emissions control devices which are used to comply with this subpart;
  - c. Description of items, equipment, and conditions that will be inspected, including an inspection schedule for the items, equipment, and conditions. For baghouses that are equipped with bag



leak detection systems, the O&M plan must include the site-specific monitoring plan required in 40 CFR 63.10897(d)(2).

- d. Identity and estimated quantity of the replacement parts that will be maintained in inventory; and
- e. For a new affected source, procedures for operating and maintaining a CPMS in accordance with manufacturer's specifications.

**The O&M plan is contained within the approved Malfunction Abatement Plan.**

1. The permittee must install, operate, and maintain a bag leak detection system for each negative pressure baghouse or positive pressure baghouse on melting. The permittee must install, operate, and maintain each bag leak detection system according to the requirements listed in paragraphs (d)(1) through (3) of 40 CFR 63.10897.

**During the inspection we observed the bag leak detection systems installed and operating on baghouses A, and B.**

1. The permittee must make monthly inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in the ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The permittee must repair any defect or deficiency in the capture system as soon as practicable, but no later than 90 days. You must record the date and results of each inspection and the date of repair of any defect or deficiency.

**Compliance with this requirement is addressed through procedures included in the Malfunction Abatement Plan.**

1. The permittee must install, operate, and maintain each CPMS or other measurement device according to your O&M plan. You must record all information needed to document conformance with these requirements.

**Installation, operation, and maintenance of the bag leak detection systems is addressed in the approved Malfunction Abatement Plan.**

1. In the event of an exceedance of an established emissions limitation (including an operating limit), the permittee must restore operation of the emissions source (including the control device and associated capture system) to its normal or usual manner or operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the exceedance. The permittee must record the date and time correction action was initiated, the correction action taken, and the date corrective action was completed.
1. If you choose to comply with an emissions limit in §63.10895(c) using emissions averaging, the permittee must calculate and record for each calendar month the pounds of PM or total metal HAP per ton of Metal Charged from the group of all metal melting furnaces at your foundry. The permittee must calculate and record the weighted average pounds per ton emissions rate for the group of all metal melting furnaces at the foundry determined from the performance test procedures in §63.10898(d) and (e).

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee must operate a capture and collection system for each metal melting furnace at a new or existing iron and steel foundry unless that furnace is specifically uncontrolled as part of an emissions averaging group. Each capture and collection system must meet accepted engineering standards, such as those published by the American Conference of Governmental Industrial Hygienists.

**Capture and collection systems are in place for each metal melting furnace.**

## **V. TESTING/SAMPLING**

1. The permittee shall conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP emissions limits in 40 CFR 63.10895 for a metal melting furnace or group of all metal melting furnaces no less frequently than every 5 years and each time the permittee elects to change an operating limit or make a process change likely to increase HAP emissions. The permittee shall conduct the performance tests as specified in Table 1 of 40 CFR Part 63 Subpart ZZZZZ. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.
  
1. The permittee shall conduct each opacity test for fugitive emissions according to the requirements in §63.6(h)(5) and Table 1 of 40 CFR Part 63 Subpart ZZZZZ. The permittee shall conduct subsequent performance tests to demonstrate compliance with the opacity limit in §63.10895 no less frequently than every 6 months and each time the permittee makes a process change likely to increase fugitive emissions. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.

**Testing was completed in accordance with an AQD approved test plan on April 29, 2019.**

## **VI. MONITORING/RECORDKEEPING**

1. The permittee must maintain files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.
  
1. In addition to the records required by 40 CFR 63.10, the permittee must keep records of the information as specified below **(40 CFR 63.10899(b))**:
  - a. The permittee must keep records of your written materials specifications according to 40 CFR 63.10885 (a) and records that demonstrate compliance with the requirements for restricted metallic scrap in 40 CFR 63.10885(a)(1) and/or for the use of general scrap in 40 CFR 63.10885(a)(2) and for mercury in 40 CFR 63.10885(b)(1) through (3), as applicable. You must keep records documenting compliance with 40 CFR 63.10885(b)(4) for scrap that does not contain motor vehicle scrap. **(40 CFR 63.10899(b)(1))**
  - b. If the permittee is subject to the requirements for a site-specific plan for mercury under 40 CFR 63.10885(b)(1), you must (40 CFR 63.10899(b)(2)):
    - i. Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and
    - ii. Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that you have conducted periodic inspections or taken other means of corroboration as required under 40 CFR 63.10885(b)(1)(ii)(C). You must identify which option in 40 CFR 63.10885(b) applies to each scrap provider, contract, or shipment. You may include this information in the semiannual compliance reports required under paragraph (c) of this section.
  - a. If the permittee is subject to the option for approved mercury programs under 40 CFR 63.10885(b)(2), you must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If your scrap provider is a broker, you must maintain records identifying each of the broker's scrap suppliers and documenting the scrap supplier's participation in an approved mercury switch removal program. **(40 CFR 63.10899(b)(3))**
  - b. The permittee must keep records to document use of any binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation for each furfuryl alcohol warm box mold or core making line as required by 40 CFR 63.10886. These records must be the Material Safety Data Sheet (provided that it contains appropriate information), a certified product data sheet, or a manufacturer's hazardous air pollutant data sheet. **(40 CFR 63.10899(b)(4))**
  - c. The permittee must keep records of the annual quantity and composition of each HAP-containing chemical binder or coating material used to make molds and cores. These records must be copies of purchasing records, Material Safety Data Sheets, or other documentation that provide information on the binder or coating materials used. **(40 CFR 63.10899(b)(5))**
  - d. The permittee must keep records of monthly metal melt production for each calendar year. **(40 CFR 63.10899(b)(6))**

- e. The permittee must keep a copy of the operation and maintenance plan as required by 40 CFR 63.10896(a) and records that demonstrate compliance with plan requirements. **(40 CFR 63.10899(b)(7))**
- f. If you use emissions averaging, the permittee must keep records of the monthly metal melting rate for each furnace at your iron and steel foundry, and records of the calculated pounds of PM or total metal HAP per ton of Metal Charged for the group of all metal melting furnaces required by §63.10897(h). **(40 CFR 63.10899(b)(8))**
- g. If applicable, the permittee must keep records for bag leak detection systems as follows **(40 CFR 63.10899(b)(9))**:
  - i. Records of the bag leak detection system output;
  - ii. Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
  - iii. The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.
  
- a. The permittee must keep records of capture system inspections and repairs as required by 40 CFR 63.10897(e). **(40 CFR 63.10899(b)(10))**
- b. The permittee must keep records demonstrating conformance with your specifications for the operation of CPMS as required by 40 CFR 63.10897(f). **(40 CFR 63.10899(b)(11))**
- c. The permittee must keep records of corrective action(s) for exceedances and excursions as required by 40 CFR 63.10897(g). **(40 CFR 63.10899(b)(12))**
- d. The permittee must record the results of each inspection and maintenance required by 40 CFR 63.10897(a) for PM control devices in a logbook (written or electronic format). The permittee must keep the logbook onsite and make the logbook available to the Administrator upon request. You must keep records of the information specified below **(40 CFR 63.10899(b)(13))**:
  - i. The date and time of each recorded action for a fabric filter, the results of each inspection, and the results of any maintenance performed on the bag filters.
  - ii. The date and time of each recorded action for a wet or dry electrostatic precipitator (including ductwork), the results of each inspection, and the results of any maintenance performed for the electrostatic precipitator.
  - iii. The date and time of each recorded action for a wet scrubber (including ductwork), the results of each inspection, and the results of any maintenance performed on the wet scrubber.

**Compliance with these requirements is demonstrated by implementation of the Scrap Selection and Inspection Plan and the Malfunction Abatement Plan.**

## **VII. REPORTING**

1. The permittee must submit semiannual compliance reports to the Administrator according to the requirements in 40 CFR 63.10(e). The reports must include, at a minimum, the following information as applicable (**40 CFR 63.10899(c)**):
  - a. Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective action taken;
  - b. Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable); and
  - c. Summary information on any deviation from the pollution prevention management practices in 40 CFR 63.10885 and 40 CFR 63.10886 and the operation and maintenance requirements 40 CFR 63.10896 and the corrective action taken.

**The semi-annual compliance reports have been submitted and were reviewed as they were received.**

**FGFACILITY CONDITIONS**

**DESCRIPTION: The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment and exempt equipment.**

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
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Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VOC	1.80 lb/ton metal charged	Hourly	FGFACILITY	SC V.1	R 336.1205(1) (a) and (3) R 336.2810
2. CO	8.45 lb/ton metal charged	Hourly	FGFACILITY	SC V.1	R 336.1205(1) (a) and (3) R 336.2810
3. Each Individual HAP	Less than 9.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1) (a)
4. Aggregate HAPs	Less than 24.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1) (a)
5. PM/PM10/ PM2.5	0.002 gr/dscf	Hourly	Baghouses A and B combined	SC V.1	R 336.1331(1) (c) R 336.2804
6. PM	2.726 pph	Hourly	Baghouses A and B combined	SC V.1	R 336.2803 R 336.2804 R 336.2810
7. PM10	2.726 pph	Hourly	Baghouses A and B combined	SC V.1	R 336.2803 R 336.2804 R 336.2810
8. PM2.5	2.726 pph	Hourly	Baghouses A and B combined	SC V.1	R 336.2803 R 336.2804 R 336.2810
9. PM/PM10/ PM2.5	0.0015 gr/dscf	Hourly	Baghouse C	SC V.1	R 336.1331(1) (c) R 336.2804
10. PM	1.278 pph	Hourly	Baghouse C	SC V.1	R 336.2803 R 336.2804 R 336.2810
11. PM10	1.278 pph	Hourly	Baghouse C	SC V.1	R 336.2803 R 336.2804 R 336.2810
12. PM2.5	1.278 pph	Hourly	Baghouse C	SC V.1	R 336.2803 R 336.2804 R 336.2810
13. PM/PM10/ PM2.5	0.002 gr/dscf	Hourly	Baghouse D	SC V.1	R 336.1331(1) (c) R 336.2804
14. PM	1.363 pph	Hourly	Baghouse D	SC V.1	R 336.2803 R 336.2804 R 336.2810
15. PM10	1.363 pph	Hourly	Baghouse D	SC V.1	R 336.2803 R 336.2804 R 336.2810

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
16. PM2.5	1.363 pph	Hourly	Baghouse D	SC V.1	R 336.2803 R 336.2804 R 336.2810
17. PM/PM10/ PM2.5	0.002 gr/dscf	Hourly	Baghouse E	SC V.1	R 336.1331(1) (c) R 336.2804
18. PM	1.038 pph	Hourly	Baghouse E	SC V.1	R 336.2803 R 336.2804 R 336.2810
19. PM10	1.038 pph	Hourly	Baghouse E	SC V.1	R 336.2803 R 336.2804 R 336.2810
20. PM2.5	1.038 pph	Hourly	Baghouse E	SC V.1	R 336.2803 R 336.2804 R 336.2810
21. PM/PM10/ PM2.5	0.002 gr/dscf	Hourly	Baghouse F	SC V.1	R 336.1331(1) (c) R 336.2804
22. PM	1.038 pph	Hourly	Baghouse F	SC V.1	R 336.2803 R 336.2804 R 336.2810
23. PM10	1.038 pph	Hourly	Baghouse F	SC V.1	R 336.2803 R 336.2804 R 336.2810
24. PM2.5	1.038 pph	Hourly	Baghouse F	SC V.1	R 336.2803 R 336.2804 R 336.2810
25. PM/PM10/ PM2.5	0.002 gr/dscf	Hourly	Baghouse G	SC V.1	R 336.1331(1) (c) R 336.2804
26. PM	0.681 pph	Hourly	Baghouse G	SC V.1	R 336.2803 R 336.2804 R 336.2810
27. PM10	0.681 pph	Hourly	Baghouse G	SC V.1	R 336.2803 R 336.2804 R 336.2810
28. PM2.5	0.681 pph	Hourly	Baghouse G	SC V.1	R 336.2803 R 336.2804 R 336.2810
29. PM/PM10/ PM2.5	0.001 gr/dscf	Hourly	Baghouses H and J combined	SC V.1	R 336.1331(1) (c) R 336.2804
30. PM	1.704 pph	Hourly	Baghouses H and J combined	SC V.1	R 336.2803 R 336.2804 R 336.2810
31. PM10	1.704 pph	Hourly	Baghouses H and J combined	SC V.1	R 336.2803 R 336.2804 R 336.2810



Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
32. PM2.5	1.704 pph	Hourly	Baghouses H and J combined	SC V.1	R 336.2803 R 336.2804 R 336.2810
33. PM/PM10/ PM2.5	0.002 gr/dscf	Hourly	Baghouse K	SC V.1	R 336.1331(1) (c) R 336.2804
34. PM	0.341 pph	Hourly	Baghouse K	SC V.1	R 336.2803 R 336.2804 R 336.2810
35. PM10	0.341 pph	Hourly	Baghouse K	SC V.1	R 336.2803 R 336.2804 R 336.2810
36. PM2.5	0.341 pph	Hourly	Baghouse K	SC V.1	R 336.2803 R 336.2804 R 336.2810
37. PM/PM10/ PM2.5	0.002 gr/dscf	Hourly	Baghouse L	SC V.1	R 336.1331(1) (c) R 336.2804
38. PM	0.341 pph	Hourly	Baghouse L	SC V.1	R 336.2803 R 336.2804 R 336.2810
39. PM10	0.341 pph	Hourly	Baghouse L	SC V.1	R 336.2803 R 336.2804 R 336.2810
40. PM2.5	0.341 pph	Hourly	Baghouse L	SC V.1	R 336.2803 R 336.2804 R 336.2810

Compliance with the emission limits is demonstrated through testing. The most recent testing was completed in 2019 and summarized in a test report dated June 17, 2019.

## II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
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Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Metal Charged	128,000 tons per year	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1) (b) R 336.1205(3) R 336.2803 R 336.2804 R 336.2810
2. Sand Processed	1,920,000 tons per year	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1) (b) R 336.1205(3) R 336.2803 R 336.2804 R 336.2810
3. Resin Binder/Catalyst Processed	50 tons per year	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1) (b) R 336.1205(3) R 336.1702 R 336.2803 R 336.2804 R 336.2810

Records provided for material use in EUMELTING, EUSHMM, and EUPUNBCM also demonstrate compliance with these limits.

### III. PROCESS/OPERATIONAL RESTRICTION(S)

- I.
  - 1.
  2. The permittee shall not operate FGFACILITY unless the fugitive dust control plan for all plant roadways, the plant yard, all material storage piles, and all material handling operations, attached as Appendix A, is implemented and maintained.

**The Fugitive Dust Control Plan has been implemented. At the time of the inspection all plant roadways and yard had been paved, there were no material storage piles. Plant roadways and yard areas are swept on a regular basis by a vendor, though East Jordan Foundry does have its own sweeper as well.**

3. The permittee shall not operate FGFACILITY for more than 6,000 hours per 12-month rolling time period as determined at the end of each calendar month.

**Records indicate the 12-mos rolling time period hours of operation were 4,119. The plant generally operates 20 hrs. per day 4-5 days per week, with one week-long shut down per year. Maximum operation on this schedule would be 5,100 hrs. per 12 mos. (51 weeks).**

## **V. TESTING/SAMPLING**

1.
  - a.
    - i.
      - A.
        - a.
          - i.
            1. Every five years the permittee shall verify PM, PM10, and PM2.5 emission rates and CO and VOC emission rates as applicable, from each baghouse stack listed in FGFACILITY (SVAB-BH, SVC-BH, SVD-BH, SVE-BH, SVF-BH, SVG-BH, SVHJ-BH, SVK-BH, SVL-BH) by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.

**Testing was conducted in 2019 and summarized in the test report dated June 17, 2019, which has been reviewed and approved.**

## **VI. MONITORING/RECORDKEEPING**

1. The permittee shall keep the following information on a monthly basis for FGFACILITY:

I.

1.

- a. Total Metal Charged, tons/year, based upon a 12-month rolling time period as determined at the end of each calendar month.
- b. Lake sand processed, tons/year, based upon a 12-month rolling time period as determined at the end of each calendar month.
- c. Resin binder/catalyst processed, tons/year, based upon a 12-month rolling time period as determined at the end of each calendar month.
- d. Natural gas usage, cubic foot/year, based upon a 12-month rolling time period as determined at the end of each calendar month.
  - e) Hours of operation for FGFACILITY based upon a 12-month rolling time period as determined at the end of each calendar month.
  - f) CO and VOC emission calculations determining the emission rates in lb per ton of metal charged.
  - g) Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month.
  - h) Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, for a period of at least five years and make them available to the Department upon request.

**3. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit, including records of visible emissions observations required in SC V.2.**

**All of the required records are maintained and available as indicated by the sample records submitted at the time of the inspection and attached to this report.**

## **VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVAB-BH	101.4	110	R 336.1225, R 336.2803, R 336.2804
2. SVC-BH	80.2	155	R 336.1225, R 336.2803, R 336.2804
3. SVD-BH	71.6	155	R 336.1225, R 336.2803, R 336.2804
4. SVE-BH	63	155	R 336.1225, R 336.2803, R 336.2804
5. SVF-BH	63	155	R 336.1225, R 336.2803, R 336.2804
6. SVG-BH	50.8	135	R 336.1225, R 336.2803, R 336.2804
7. SVHJ-BH	113.3	110	R 336.1225, R 336.2803, R 336.2804
8. SVK-BH	36	65	R 336.1225, R 336.2803, R 336.2804
9. SVL-BH	36	65	R 336.1225, R 336.2803, R 336.2804

Each stack was observed at the time of the inspection and, in general, appears to meet the specifications. Actual measurements were not made at this time. The stacks have not been modified since initial construction.

**Post Inspection Meeting**

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Following the inspection we returned to the conference room to re-cap the inspection. There were no compliance issues identified during the inspection that required attention. On the plant floor the equipment is identified by plant ID numbers, not names used in the permit. I requested a list of plant ID numbers that correspond to the Baghouse names in the permit as well as a general plant map. Both of these items were provided during the post inspection meeting. We discussed the activity report and potential need for additional information as well as the need for unannounced inspections in the future. Mr. Pitts is not located in North Carolina so Mr. Smock will be the facility contact for future on-site inspections.

Additional records were requested following the inspection and were provided in a complete and detailed manner. As a result of this Full Compliance Evaluation including the inspection, records, and reporting review it appears that East Jordan Foundry is currently in compliance with PTI 185-16B, the Air Pollution Control Rules, and 40 CFR Part 63, Subpart ZZZZZ.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

SUPERVISOR \_\_\_\_\_