

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

N257031703

FACILITY: BRILLCAST MANUFACTURING LLC		SRN / ID: N2570
LOCATION: 3400 WENTWORTH DRIVE SW, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Al Steenwyk, Maintenance Facilities Manager		ACTIVITY DATE: 10/09/2015
STAFF: April Lazzaro	COMPLIANCE STATUS: Compliance	SOURCE CLASS: Minor
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro arrived at the facility to conduct an unannounced, scheduled inspection and met with Al Steenwyk, Maintenance Facilities Manager. Mr. Steenwyk was provided the DEQ Environmental Inspections: Rights and Responsibilities brochure and its contents were discussed. This facility is a zinc die casting operation. Manufacturing takes place 24 hours per day, 5 to 6 days a week. The zinc metal parts made here are used in various industries such as auto, RV, casino slot machines, appliances and medical.

Mr. Steenwyk was familiar with the fact that the facility operates pursuant to PTI No. 742-90A which covers three zinc melting furnaces. These were confirmed to be one 45,000 lb, one 39,000 lb and one 8,400 lb natural gas fired furnaces. There are other electrically heated resistance furnaces on site of various sizes, but all below the requirement of 6,000 pounds per batch and 16,000 pounds per day. They melt only clean charge or scrap that is generated on-site that is technically still considered clean charge. None of the furnaces in this facility utilize flux.

PTI No. 742-90A requires that the permittee shall not melt any material in the three permitted furnaces that contain paint, grease, oil, rubber or other materials which are ignitable at the furnace operating temperature. The zinc ingots come in with a bit of the side painted to color code to identify the alloy. Also, some of the parts that go through the a quench tank (see discussion below) are also re-melted if they are not up to specification. Based on internal discussion with the AQD Foundry Specialist, Eric Grinstern, the identification paint on an ingot does not mean the ingot is "painted", and is ok to melt. Also, the parts that go through the quench tank, that consists of 98% H₂O and 2% oil. Therefore, due to the very low amount they are not considered containing "oil" per the permit, and it is ok to re-melt.

A die release agent is used in the casting process that does contain some VOC emissions. Mr. Steenwyk stated that they utilize 10 gallons of the die release per month, due to the fact that it is diluted 100:1 with water. Due to the low usage and toxicity (see attached SDS) this is considered to be part of the exemption for a die casting machine which is detailed in Rule 285(l)(ii). Some of the parts go through an oil quench (see attached SDS) that is a submerged tank, kept at room temperature, and is internally vented. The eleven oil quench tanks are exempt pursuant to Rule 285(r)(i), for metal surface treatment processes that are internally vented. Following part removal, it goes through an inspection process. If the part does not pass inspection, it will be re-melted and re-cast.

One cold cleaner/parts washer is in operation, and staff provided Mr. Steenwyk with the DEQ sticker for proper operation of the unit. The lid was down as required during the inspection.

Mr. Steenwyk provided staff with the natural gas usage for the facility so that calculations could be conducted to evaluate the level of emissions associated with combustion. The highest criteria pollutant emissions generated from combustion are from NO_x. Annual NO_x emissions from natural gas combustion calculates to 350 lbs. The second highest emissions generated are CO and annual CO emissions calculate to 262 lbs per year. This level of emissions meets permit exemption levels and is not at a rate that requires a permit. Further calculations were not completed because the emission factors for the remaining criteria pollutants are much less than NO_x and CO, and also indicate that the emissions are exempt from permitting.

This facility was in compliance at the time of the inspection.

NAME April Lazzaro

DATE 10-16-15 SUPERVISOR PAB