

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

N736527953

FACILITY: Ultimate Casting & Machine, LLC		SRN / ID: N7365
LOCATION: 3977 M-30, WEST BRANCH		DISTRICT: Saginaw Bay
CITY: WEST BRANCH		COUNTY: OGEMAW
CONTACT: Stan Albert, Supervisor		ACTIVITY DATE: 12/04/2014
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled site inspection of minor source.		
RESOLVED COMPLAINTS:		

On Thursday, December 4, 2014, a scheduled site inspection was conducted at Ultimate Casting & Machine, LLC (Formerly Associates Pattern and Castings and/or Associate Manufacturing Incorporated)) (SRN N7365), 3977 M-30, West Branch, Michigan. One Permit to Install (PTI) 115-04 is associated with the referenced facility, and was approved on June 24, 2004. Site inspection activities were conducted with the intent of confirming the operation status of the permitted equipment and operations were in compliance with the referenced permit. The most recent site inspection was September 23, 2009. The facility was found to be in compliance at the time of the site visit.

Mr. Dunlap, CEO was not available at the time of the inspection. Mr. Stan Albert, Supervisor for the facility provided a tour of the facility and provided a general overview of operation and practices.

FACILITY DESCRIPTION

The Ultimate Casting & Machine, LLC (UCM) Facility, is located just north of the intersection of M-30 and Lehman Road, West Branch, Michigan, and is bounded immediately to the south, east and west by what appeared to be agricultural and/or residential properties and to the north by what appeared to be active commercial facilities (wood products). The facility consists of two buildings. The larger of the two houses the furnaces, mold making and breakout work stations. The second contains office spaces and the casting finishing work stations. Activities onsite were reported to have started in approximately 1990.

The facility specializes in the manufacture of nonferrous metal castings, principally aluminum. The facility reports using clean ingots/charge (Special Condition (SC) 1.1), and does not use flux in it's process (SC 1.2) or conduct any smelting of raw materials (SC 1.1).

Emission units identified in the referenced permit include : EUFurnace, EUMoldmaking, EUShakeout and EUFinishing. With regards to EUFurnace, at the time of permit issuance, the facility reported having a one-million BTU furnace, capable of melting 100 pounds of aluminum at a time and is estimated to be approximately 30-years old. The furnace is reported to run on LP gas and air, and UCM reports that the number of batches per day varies based on orders. The facility normally operates 5 days a week, 50 weeks a year.

Emission associated with the facility are associated with hand ladle and pouring activities as well as the cooling of metals. UCM uses a Pangborn dust collector to address emissions associated with the process.

The mold making process (EUMOLDMAKING) consists of a cold box, with molds constructed of olivine sands with a binder. Cores are constructed using silica sand, flour and linseed oil. Molded cores are hardened and used to create the molds.

Emissions/smoke are reported to be generated during shake out/break out activities when the metal casings are released from the molds (EUSHAKEOUT). At the time of the permit application the casting were reported to be removed from the molds within a few hours of being poured, and generated smoke. The facility constructed and installed a hood with a fire resistant curtain that they connected with the pangborn dust collector system to address emissions from the shakeout process. UCM reported at the time of the 2009 site inspection that a change has been made in the handling, such that molds and castings for the majority of their work is left to cool overnight, and results in no visible emissions. The hood and fire resistant curtain are used only in the case of the occasional rush job, when the mold/casting is not allowed to cool down completely.

EUFINISHING reflects the final stage of production. This stage consists of shot blasting, grinding and cutting castings prior to packing and delivery to the client. The equipment is electric, and the shot blaster has it's own dust collection device. Staff reported that no visible emissions are associated with this portion of the facility as it consists of heavy particles. With the exception of imperfect castings that can be re-melted and recast, the metal shavings, PM from the dust collectors are all disposed of in the dumpster onsite for proper disposal.

COMPLIANCE EVALUATION

No complaints are of record for the facility.

Operational Status – During the facility tour the facility was in production, some accumulation of mold making materials and cuttings generated were noted in the vicinity of the respective work stations. Hoods for the work areas appear to be in working order. No visual emissions were noted at the work stations. No casting or breakout activities were noted. Onsite personnel were noted to be preparing molds, as well as touching up castings.

Material Usage Rates – UCM material usage appears to be limited to LP gas for firing the furnaces, electricity for onsite equipment, olivine sands and other mold construction materials and aluminum or other charge for casting. PTI 115-04 does not include volume limits with respect to material use, but restricts the facility to use of clean charge with no flux materials (SC 1.1 and 1.2).

Operational Parameters -- SC 2.1 requires that the dust collector for EUSHAKEOUT must be operating properly. As previously indicated, the facility has changed the operational procedures from those reported at the time of the permit application so that the molds/castings are allowed to cool offsite prior to breaking out the molds/castings, which has resulted in no visible emissions. For those rush jobs that require less than on overnight cooling, the breakout process is conducted under the hood, and is vented to the pangborn dust collector in compliance with the referenced condition.

Monitoring and Testing – No formal monitoring or testing requirements are provided as part of the PTI. No visible emissions were visible during site inspection.

Record Keeping and Reporting – No specific record keeping or reporting requirements were identified with the PTI for the referenced site.

Summary –

On Thursday, December 4, 2014, a scheduled site inspection was conducted at Ultimate Casting & Machine, LLC (Formerly Associates Pattern and Castings and/or Associate Manufacturing Incorporated)) (SRN N7365), 3977 M-30, West Branch, Michigan. One Permit to Install (PTI) 115-04 is associated with the referenced facility, and was approved on June 24, 2004. The most recent site inspection was September 23, 2009. The facility was found to be in compliance at the time of the site visit.

Based on the information collected during the December 4, 2014 site inspection the site is in general compliance with it's permit. A review of potential federal regulations indicated that the facility was not subject to any federal standards (subpart ZZZZZZ, National Air Toxic Standards for Aluminum, Copper and other Nonferrous Foundries) due to size, process or materials reported.

NAME Shaaron L. Blane

DATE 12/18/14 SUPERVISOR C. Blane