

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

U6313342423876

FACILITY: QMI Group, Inc.		SRN / ID: U63133424
LOCATION: 1645 East Avis Drive		DISTRICT: Southeast Michigan
CITY: Madison Heights		COUNTY: OAKLAND
CONTACT: Jim Shereda Jr., General Manager		ACTIVITY DATE: 12/11/2013
STAFF: Erik Gurshaw	COMPLIANCE STATUS: Compliance	SOURCE CLASS:
SUBJECT: Self-initiated Inspection		
RESOLVED COMPLAINTS:		

SRN: U63133424

COMPANY: QMI Group, Inc.

COMPANY ADDRESS: 1645 E. Avis Drive; Madison Heights, MI 48071

PURPOSE OF INSPECTION: Self-Initiated

CONTACT PERSON: Mr. Jim Shereda Jr., General Manager (Ph: 248-414-1102; Fax: 248-414-1147;

E-mail: jim2@qmimail.com)

COMPANY PHONE NUMBER: 248-589-0505

On December 12, 2013, AQD staff, Erik Gurshaw, conducted a self-initiated, unannounced inspection at QMI Group, Inc. located at 1645 E. Avis Drive in Madison Heights, Michigan. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Rules.

Upon arriving at the facility, AQD staff introduced themselves and stated the purpose of the visit to Mr. Jim Shereda, General Manager. Mr. Shereda indicated that QMI Group is open from 8:00 AM until 5:00 PM Monday through Friday and employs approximately 30 people. QMI Group, Inc. generates graphics for displays, awards, apparel, logos, signs, promotional products, banners, etc. Products fabricated at the facility include award plaques, machine identification tags, and vehicle graphics among others. Approximately half of the company's business consists of reselling products which have been manufactured by other companies. The remaining half of the company's business consists of fabricating products at the Madison Heights location. Mr. Shereda indicated that the company has nine departments in which different production processes take place. The nine departments were identified as the following: Art Department; Vinyl Department; Engraving Department; Sandblasting Department; Pad Printing Department; Sublimation Department; Photoprint Department; Screenprinting Department; and Fabrication Department.

Art Department

The Art Department consists of an Epsom sublimation printer and a film printer. The Epsom sublimation printer is used to generate images on transfer paper. Once the images are produced, they are transferred to a metal, cloth, or plastic substrate via a heat press in the Sublimation Department. Sublimation is the process by which a solid is converted directly into a gas without passing through a liquid state. The film printer is used to print images directly onto film. The resulting images are used by other departments to produce graphics on various substrates. The printers are exempt from Permit-To-Install (PTI) requirements pursuant Rule 285(l)(ix).

Vinyl Department

The Vinyl Department consists of a digital printer, four vinyl cutting machines, and a lamination machine. In the Vinyl Department, images are printed onto a vinyl substrate through the use of a digital printer using latex ink. After being printed, the resulting vinyl images are cut to customer specifications in one of four vinyl cutting machines. After being cut to customer specifications, the final products are laminated in a lamination machine to generate the final product. The digital printer is

exempt from PTI requirements pursuant Rule 285(l)(ix). The vinyl cutting machines are exempt from PTI requirements pursuant Rule 285(l)(vi)(B).

Engraving Department

The Engraving Department consists of two computer controlled engraving systems, a pantograph machine, and two carbon dioxide laser engravers. The laser engravers and controlled engraving machine are used to personally engrave leather, metal, plastic, and wood substrates. The pantograph machine is used predominantly to engrave metal.

All of these engraving machines are exempt from PTI requirements pursuant Rule 285(l)(vi)(B).

Sandblasting Department

The Sandblasting Department consists of an ultra violet (UV) exposure unit and a sandblasting machine equipped with an associated cyclone dust collector. In the sandblasting process, film from the Art Department is exposed to UV light in the UV exposure unit by placing the film over resist film. The portion of the resist film directly under the image on the original film does not harden when exposed to UV light. After being exposed to UV light, the resist paper is washed in hot water, dried, and then applied to a substrate which is sandblasted in the sandblasting machine. An image is produced from the sandblasting process on the sandblasted substrate (typically glass or crystal). The UV exposure machine is exempt from PTI requirements pursuant Rule 285(l)(vii)(D). The sandblasting machine is exempt from PTI requirements pursuant Rule 281(d).

Pad Printing Department

The Pad Printing Department consists of a pad printing machine, a UV exposure unit, and a convection dryer. In the pad printing process, film from the Art Department is placed onto a metal cliché and exposed to UV light. The UV light hardens the portion of the cliché where the image on the film is not present. A chemical etching agent is then applied to the cliché and an image is etched into the soft portion of the cliché. The etched cliché is then sent to a pad printing machine where the etched image on the cliché is transferred with ink from the cliché to various final products. After the ink is applied to the final product, it is dried in a convection dryer. The pad printing machine is exempt from PTI requirements pursuant Rule 285(l)(ix), the UV exposure unit is exempt from PTI requirements pursuant Rule 285(l)(vii)(D) and the convection dryer is exempt from PTI requirements pursuant Rule 281(e).

Sublimation Department

The Sublimation Department consists of three heat presses. Images generated by the Epsom sublimation printer in the Art Department are transferred onto metal substrates via the heat presses through the sublimation process. The sublimation process takes approximately 1 minute at 325 degrees Fahrenheit. The heat presses are exempt from PTI requirements pursuant Rule 285(l)(i).

Photoprint Department

The Photoprint Department consists of a UV exposure unit, a developer and fixer machine, and a sealant tank. A photographic image on an aluminum substrate is produced in this department by exposing an aluminum substrate overlain by film from the Art Department to UV light. UV light exposure generates an image on the aluminum substrate and it is sent to a developer and fixer machine and then to a sealant tank to produce the final product. All of the equipment in the Photoprint Department is exempt from PTI requirements pursuant Rule 285(l)(vii)(D).

Screenprinting Department

The Screenprinting Department consists of a silkscreen press and a UV dryer. In the screenprinting process, ink passes through the permeable portions of a silkscreen and an image is applied to a

plastic, wood, or metal substrate. After the image is applied, the resulting product is dried in a UV dryer. The temperature and duration of the drying process depends on the type of substrate being dried and the type of ink which was used in the process. The silkscreen press is exempt from PTI requirement pursuant Rule 287(e) and the UV dryer is exempt from PTI requirements pursuant Rule 281(e).

Fabrication Department

The Fabrication Department consists of a drill press, buffer, routing table, sander, hand sander, grinder, safety saw, miter saw, table saw, tile saw, and dust collector (a vacuum). All of these machines vent to the general plant environment and are, therefore, exempt from PTI requirements pursuant Rule 285(l)(vi)(B). Products fabricated in other departments are cut and modified to customer specifications in the machines of this department.

Based on this inspection, it was determined that the processes and process equipment used by QMI Group, Inc. are exempt from PTI requirements. Mr. Shereda indicated that the company uses between 3 to 5 gallons of ink a year in its various processes. Therefore, the facility is a very minor source of air contaminants.

NAME Erik Shereda

DATE 12/16/13

SUPERVISOR CTE