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

M440724932

FACILITY: R J MARSHALL CO		**SRN / ID:** M4407
LOCATION: 21220 HURON RIVER DR, ROCKWOOD		**DISTRICT:** Detroit
CITY: ROCKWOOD		**COUNTY:** WAYNE
CONTACT: Bill Miller , Plant Manager		**ACTIVITY DATE:** 04/17/2014
STAFF: Todd Zynda	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: 2014 Targeted Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection
INSPECTED BY: Todd Zynda, AQD
PERSONNEL PRESENT: Bill Miller, Plant Manager
FACILITY PHONE NUMBER: 734-379-4044
FACILITY FAX NUMBER: 734-379-2804
FACILITY WEBSITE: www.rjmarshall.com

FACILITY BACKGROUND

R.J. Marshall Company (R.J. Marshall) Rockwood Division operates a mixing operation, blending non-metallic minerals and plastics into specific formulations. The blended materials are sold to third parties for the production of solid surface countertops. The facility is located at 21220 North Huron River Drive, Rockwood, Michigan and currently operates from 6:00 AM to 4:30 PM, Monday through Friday. The facility currently has 12 employees. Property boundaries are as follows: commercial/industrial property is located to immediately adjacent to the east; residential property is located to the south; vacant land is located to the west and north. A rail way line is located immediately adjacent to the facility on the west side of the property. The facility utilizes a rail spur that is located on the east side of the facility for material shipment received by rail. The nearest residential property is located approximately 400 feet south of the facility.

PROCESS OVERVIEW

The main production area contains the mixing operations which are made up of two processes (the "Thermalite" process and the "Granite" process). During the Thermalite process, calcium carbonate and various dry additives (including expanded polystyrene beads) are mixed in a ribbon blender. Following the ribbon blender, the material drops through a shaker screen to the "Nauta" mixer, which terminates at the packaging equipment. The facility packages the processed material in bulk pallet sized containers and fifty pound bags. The additives and calcium carbonate are received in four large outdoor storage tanks (silos). Each outdoor silo is equipped with a bin vent (a passive baghouse that keeps dust in the silo). The main Thermalite line (designated Thermalite II) line has a production capacity of 60,000 pounds per day. The second Thermalite line (Thermalite I), produces specialty blends, containing fiberglass reinforcement, and has a capacity of 20,000 pounds per day.

The Granite line utilizes three Patterson-Kelly (P-K) mixers to blend aluminum trihydrate into the thermalite to create varying colors and patterns to simulate granite. The mixes have a capacity of five, thirty, and two hundred cubic feet (300, 3,000 and 6,000 pounds respectively).

The main Thermalite line and the Granite line mixers are ducted to a common baghouse dust collector, which discharges to an exhaust stack through the roof of the production area.

The facility also operates an expancel line. Within the expancel line, tiny, dense polystyrene beads are heated on a belt conveyor. The heating causes entrained isobutene and isopentane gases to expand, puffing the beads into a fluffy material. A pallet box of unexpanded beads weighs approximately 1,100 pounds, while the equivalent volume of expanded beads weighs only 60 pounds. Expanded beads are vacuumed to outdoor silos for temporary storage or packaged for sale. The expancel line is controlled by a baghouse dust collector.

COMPLAINT/COMPLIANCE HISTORY

The most recent complaint for this facility occurred on October 9, 1991. The anonymous complaint alleged that the facility was improperly storing hazardous waste and was exceeding the air quality permit. An investigation was conducted, and the company was determined to be in compliance.

On April 2, 2008, an inspection of the facility was conducted. At that time the company was determined to be in noncompliance with Special Condition (SC) 1.3 of Permit to Install (PTI) 284-06 (failure to track particulate matter [PM] emissions). A violation notice was issued on May 14, 2008. The VN was resolved on June 4, 2008, when the company began to maintain the appropriate PM emission records.

OUTSTANDING CONSENT ORDERS

None

OUTSTANDING VIOLATION NOTICES

None

INSPECTION NARRATIVE

On April 17, 2014 the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted an unannounced level 2 inspection of R.J. Marshall. During the inspection, Mr. Bill Miller, Plant Manager, provided information and a tour of facility operations relating to air quality permits and regulations. The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55 and PTI 284-06.

At 11:00 AM, AQD staff arrived onsite and performed outside observations. Visible emissions were not observed at the time of the inspection. Upon entering the facility, Mr. Zynda entered the facility, stated the purpose for the inspection, and was greeted by Mr. Miller. During the opening meeting the facility operations and PTI requirements were discussed. Mr. Miller explained that the expancel line is currently not in use, as it is being relocated to a new location in the plant.

Following an introductory meeting, a tour of the facility was conducted. The tour began with observation of the main production area. During the inspection, the inside of the facility was dusty (dust accumulated on the floor and equipment). The baghouse servicing mixing equipment appeared to be operating satisfactorily, as no emissions were observed outside the facility. The tour continued with observation of the four outdoor storage silos and associated bin vents (passive baghouses). PM was not observed anywhere outside the facility building indicating proper operation of baghouses and bin vents.

Following observation of the outdoor silos, the former expancel line location and new expancel line location was observed. According to Mr. Miller, the expancel line and associated baghouse are being moved for the installation of chipper (flake breaker) and hammermill line. Mr. Miller explained that the R.J. Marshall Detroit location currently houses a hammermill and chipper that breaks solid surface slabs into smaller pieces. That line will be relocated to the Rockwood facility. Currently the Rockwood facility has a pending PTI application (PTI 284-06A) for the new equipment at the Rockwood location. During the inspection, the expancel equipment and baghouse was observed, but was not in use. Mr. Miller provided an example of expanded polystyrene beads.

Mr. Miller stated that all records required in PTI 284-06 are maintained in the R.J. Marshall Southfield, Michigan office. The required records were provided via email by Ms. Stephanie Nichols on April 21, 2014.

A follow up phone conversation with Mr. Miller confirmed the number of bin vent controlled storage silos at the facility. The facility operates eight storage silos that are controlled by bin vents (four outside silos and four indoor silos). Additionally the facility operates four storage silos that vent to the general in-plant environment with no control. This information will be relayed to AQD permit staff in Lansing for the development of the PTI 284-06A.

APPLICABLE RULES/PERMIT CONDITIONS
For brevity, permit conditions and the language of federal and state rules have been paraphrased.

PTI 284-06

GC 11 **IN COMPLIANCE**. Opacity limited to a six-minute average of 20 percent (%), except for one six-minute average or not more than 27% opacity. Visible emissions were not observed during the inspection.

FGSTORAGE

SC1.1a. **UNKNOWN.** PM emissions shall not exceed 2.05 pounds per hour (pph). The emission rate of PM has not been tested. At this time, the AQD has not requested the testing of PM emissions.

SC 1.1b and SC 1.3. **IN COMPLIANCE.** 12-month rolling PM emissions shall not exceed 2.4 tons per year (tpy). Records shall be kept in a satisfactory manner. The highest 12-month rolling PM emissions that occurred during 2012 and 2013 was 695.98 pounds (0.35 tons). The facility calculates monthly emissions by recording the number hours material is moved in and out the silos per month (Attachment A). The hours are multiplied by the PM pound per hour emission rate listed in the permit (2.05 pph). At this time, the PM emission rate has not been verified.

SC1.2. **IN COMPLIANCE.** Shall not operate FGSTORAGE unless the baghouse control is installed, maintained, and operated in a satisfactory manner. During the inspection the baghouse which controls mixing operations appeared to be working properly. The passive baghouses (bin vents) used to control emission on storage silos appeared to be operating satisfactorily.

SC 1.4. **IN COMPLIANCE.** Stack shall be a minimum 24 inches in diameter and 65.5 feet about ground level.

FGPROCESS

2.1a. **IN COMPLIANCE.** 12-month rolling isobutane emissions shall not exceed 5 tpy. The highest 12-month rolling isobutane emissions that occurred during 2012 and 2013 was 0.1133 tons (Attachment A).

2.1b. **IN COMPLIANCE.** 12-month rolling Isopentane emissions shall not exceed 5 tpy. Product number 091/092 that contains isopentane has not been used during the last few years. Isopentane emissions have been zero.

2.1c. **IN COMPLIANCE.** Acrylonitrile emissions shall not exceed 0.0054 pph. On October 13, 2000 a stack test was conducted to determine emissions from the expancel line. Average acrylonitrile emissions were determined to be 0.0032 pph (Attachment B).

2.1d. **IN COMPLIANCE.** 12-month rolling acrylonitrile emissions shall not exceed 47 pound per year. The highest 12-month rolling acrylonitrile emissions that occurred during 2012 and 2013 was 1.648 pounds (Attachment A).

2.1e. **IN COMPLIANCE.** Vinylidene chloride emissions shall not exceed 10 pph. On October 13, 2000 a stack test was conducted to determine emissions from the expancel line. Average vinylidene chloride emissions were determined to be 0.162 pph (Attachment B).

2.1f. **IN COMPLIANCE.** 12-month rolling volatile organic compound (VOC) emissions shall not exceed 10 tpy. The highest 12-month rolling VOC emissions that occurred during 2012 and 2013 was 0.155 tons (Attachment A).

2.2. **IN COMPLIANCE.** Shall not exceed a throughput of more than 350 tons of expanded product per 12-month rolling time period. The highest 12-month rolling product throughput that occurred during 2012 and 2013 was 22.8805 tons (Attachment A).

2.3. **IN COMPLIANCE.** Shall not operate FGPROCESS unless the baghouse control is installed, maintained, and operated in a satisfactory manner. During the site inspection expancel line and associated baghouse were not in use and were in the process of be relocated to a different location within the plant.

Permit to Install Exempt Equipment

Quality Assurance Laboratory
Equipment within the quality assurance laboratory appear to be exempt from PTI requirements under the following rule:

R336.1283(b): "The requirement to obtain a permit to install does not apply to laboratory equipment."

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:

Not applicable.

MAERS REPORT REVIEW:

The facility is not required to submit Michigan Air Emissions Reporting System (MAERS).

FINAL COMPLIANCE DETERMINATION:

At the time of the inspection, the facility was in compliance with current federal and state air quality regulations and PTI 284-06.

NAME Jack Lynch DATE 4/25/14 SUPERVISOR W.M.