

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

N653130100

FACILITY: TRI-COUNTY RECYCLING, INC.		SRN / ID: N6531
LOCATION: 13664 Rocky's Road, HOLLAND		DISTRICT: Grand Rapids
CITY: HOLLAND		COUNTY: OTTAWA
CONTACT: Richard Maike, Owner		ACTIVITY DATE: 07/01/2015
STAFF: April Lazzaro	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced, unscheduled inspection.		
RESOLVED COMPLAINTS:		

On June 29th AQD staff learned of a crusher being located at the Holland Mall. No relocation notice had been received, and this prompted an inspection.

On July 1st, AQD staff April Lazzaro and Kaitlyn DeVries arrived at the location to conduct an unannounced, unscheduled inspection and met with Richard Maike, Vice President of Dan Hoe Excavating. Dan Hoe is owned by TRI-COUNTY RECYCLING, INC. and Mr. Maike indicated all correspondence should be to TRI-COUNTY. We were also met by Mike Dempsey, Senior Project Manager and Pete Heinen, Superintendant of CD BARNES construction company. They were provided a DEQ Environmental Inspections: Rights and Responsibilities brochure.

Operating at this location is a HARTYL milling machine MT503 with a crusher type 203L. In the late 1990's shortly after purchasing this machine, TRI-COUNTY and DEQ documented discussions that this grinding mill appears exempt from AQD permitting per Rule 290.

Correspondence in the file indicates that TRI-COUNTY was aware that in order to be exempt from permitting, emissions records need to be kept. This correspondence is as recent as 2009.

At the time of the inspection, the company was not maintaining records of emissions. The AQD can restrict the use of exemptions if companies are not maintaining records as required. However, the AQD will educate the company on recordkeeping again, and detailed below are emission factors and the requirements to maintain a permit exemption.

The permittee must maintain monthly records of emissions. In this case, particulate emissions are calculated based on tons of material processed. Mr. Maike provided AQD staff with the tons of material processed for 2014 through May 31, 2015.

In order to calculate particulate emissions from the mill, TRI-COUNTY needs to do the following each month and keep a record. The emission factor for particulate matter (PM) is 1.0-1 lb/ton sand & gravel processed. PM 10 is 5.0E-2 lb/ton sand and gravel processed. For this exercise of Rule 290, and because utilization is low, the conservative number of 0.1 lb/ton is used. This factor is considered a "plant-wide" factor that includes any conveyor and truck traffic. If the facility wanted to be more specific and calculate per individual action, this is also an option as described on the attached fact sheet. However, this approach is the easiest.

Multiply the tons of material processed by 0.1. This will provide the pounds of total particulate matter (PM). If water is used for dust suppression (Mr. Maike stated that it is) the company can then multiply that number by 20% or 0.2 (equivalent to 80% control efficiency) to identify the monthly emissions. For example, in March of 2015 the mill processed 4,500 tons of material.

4,500 tons material x 0.1 lbs/PM per ton processed = 450 pounds of PM

450 lb PM x 0.2 (control efficiency) = 90 lb PM for the month of May.

It does not appear as though emissions from the diesel engine have been included in the discussion with the facility previously. However, these emissions also should be calculated to demonstrate compliance with Rule 290. This is consistent with the records required for all crushing facilities that operate on diesel fuel in Michigan.

Mr. Maike indicated that the approximate diesel fuel use is for year-to-date 2015 is 1,472 gallons. On an annualized basis, this would be 3,238 gallons.

In order to calculate emissions from the engine, TRI-COUNTY needs to do the following each month and keep a record.

This factor is per 1,000 gallons of fuel. So for every 1,000 gallons of diesel fuel, the emission factor for CO is 130 x gallons used / 1,000 gal.

CO  $1.30E2$  lb/E3 GAL x  $3.238E3$  gallons diesel fuel = 420 lb/yr

NOx  $6.04E2$  LB/E3 GAL x  $3.238E3$  diesel fuel = 1,955 lb/yr

PM10  $4.25E1$  LB/E3 GAL x  $3.238E3$  diesel fuel = 135.99 lb/yr

SOx  $3.97E1$  LB/E3 GAL x  $3.238E3$  diesel fuel = 126.28 lb/yr

TOC  $4.93E1$  LB/E3 GAL x  $3.238E3$  diesel fuel = 158 lb/yr

So, if you divide by 12 to get the monthly emissions and add them all together, the emissions from the crusher and engine as one emission unit is 266.94 lbs/month.


This information is also available on the Mineral Product Processes Emission Calculation Fact Sheet attached to this report and provided to the company.

Based on the guesstimate on the fuel use of the engine emissions from the engine, plus emissions of PM from the mill appear below the total 500 lbs/month allowed by the Rule 290 exemption. However, the records going forward need to be based on actual use per month, not an annual number that has been divided by 12. It is expected that each months emissions will be different based on utilization and tons processed.

Moving forward: the facility will maintain these records monthly, or the Rule 290 exemption may no longer be applicable.

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

NAME



DATE

7-13-15

SUPERVISOR

PAB