

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

P048929178

FACILITY: Marrone Manufacturing		SRN / ID: P0489
LOCATION: 700 Industrial Parkway, BANGOR		DISTRICT: Kalamazoo
CITY: BANGOR		COUNTY: VAN BUREN
CONTACT:		ACTIVITY DATE: 04/15/2015
STAFF: Dorothy Bohn	COMPLIANCE STATUS:	SOURCE CLASS: MINOR
SUBJECT: unannounced inspection		
RESOLVED COMPLAINTS:		

This was an unannounced inspection – the first one since it became Marrone Michigan Mfg (M3). I arrived at about 12:50 and drove around the plant. I did not observe any visible emissions. Gordon Grove, plant director, took me through the facility. I gave him a copy of the inspection brochure. Michelle Leonard, Supply Chain Specialist, helped with the records review. I also met Dave Ogren, production manager. Keith Pitts (on some of the initial paperwork) is corporate – VP of Regulatory Affairs.

Gordon said business has been down due to the drought in California. They currently have 10 employees but did have about 21 at one point. They make bio-pesticides. They operated as a pilot plant until 4/2014. That product was not sold. They have finished their phase 1 project but have not expanded yet.

We first toured the plant. There is a lab that has 2 parts. One is to process analytical tests and the 2nd is to do fermentation prep of the initial cultures. The utility room contains the boiler. This was installed with the original facility in 2006 (the plate does not give a month). It is gas-fired and 14.3 MMBtu/hr. There is an autoclave that is electric and uses steam from the boiler to sterilize equipment for both reuse and before sending out as waste. All this equipment, along with the tanks outside, are from the original facility (MI Biodiesel).

The rest of the plant is new equipment. In the processing area they have mix tanks, fermentation medium tanks, a recycle/surge tank, heat exchangers (one is not usable), seed tanks, fermenter tanks, feed tanks, harvest tanks, centrifuge, bump/overflow tanks and a cell concentrate tank. Liquid product is packaged in drums or totes.

They also have 2 pretreatment WWTP tanks for pH adjustment before sending the water to the city. There are 2 chillers, a reverse osmosis water system, 3 electric air compressors, an air dryer, and 2 bulk totes with acid & base for the pH adjustment. There is a baghouse used to control powdered material handling. They will put a drum under it to collect the discharge when needed. So far they haven't had to empty it. They are using pressure drop readings to determine when. There is also a cooling tower that uses 2 chemicals. Neither contain VOC. They do not have a cold cleaner.

Only 2 of the tanks in the tank farm are used (the WWTP tanks). The rest (16) are empty and clean and they are looking at maybe getting rid of them because they are assets not being used. The 2 WWTP tanks are each 30K gallons.

There is a small, diesel fired, Generac emergency generator. Gordon said it automatically runs for 1 hour once a week. The generator is subject to NSPS IIII. It is a Model D3.9 (3.9 L displacement so < 10 L/cylinder) and was manufactured on 6/9/06. In a power outage it feeds the freezer in the lab and emergency lighting. They do not supply power to the grid or anyone else. The diesel is ultra low S (15 ppm or less, and the cetane is 40-41. Gordon says it has an hour meter. Maintenance is contracted out to Wolverine Power Systems. On 4/17/15 Gordon emailed me the manufacturer's statement of emissions for the generator. It is not certified but they tested the same unit and the NOx emissions are below the limit in Table 1 of the NSPS. According to 40 CFR 60.4211(b)(2) & (3) it looks like this is sufficient for showing compliance with the limit. (email attached)

We reviewed records. They have not made any Regalia since October. 1-hexonal is not in the toxics screening list. I emailed them and they responded that it would be allowed the 1000#/month under the ITSL. June 2014 was the highest month. From the number of batches and the small amount of

emissions estimated they are in compliance with Rule 290 for this process. (See the 9/19/13 Rule 290 evaluation by Barr.)

On the fermentation process, Gordon says that this is very similar to the beer making process (upon which the emission estimates were based) except that they do not produce any alcohol and that is the biggest VOC emission for that emission factor. To them yeast is just a food source and the bugs emit urea/waste -- in extremely small amounts that they adjust the pH for. The system is enclosed so the emissions have to be very small. In 2014 they did one batch in August and October, and then 2 in December. They are on their 4th run this year and it is the 2nd one this month. They will be way below Rule 290 limits. (See the 10/7/13 Rule 290 evaluation by Barr.)

If these processes ever really start taking off they will need to look closer at these calculations.

I left at about 3 pm. The company appears to be in compliance.

NAME Dorothy Bohn

DATE 4/20/15

SUPERVISOR MA 4/21/2015