

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

N247350217

FACILITY: Atmosphere Annealing, LLC		SRN / ID: N2473
LOCATION: 209-1 WEST MT HOPE AVENUE, LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: INGHAM
CONTACT: Kyle Vliet , Maintenance Manager		ACTIVITY DATE: 08/27/2019
STAFF: Samantha Braman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced, scheduled inspection for compliance with PTI Nos.289-98B,		
RESOLVED COMPLAINTS:		

Inspection Report

N2473- Atmosphere Annealing (formerly Gerdau), MT Hope Facility
209-1 W. Mt Hope Rd, Lansing, Michigan

Inspection Date:

7/9/15

Facility Contacts:

Phil Hilger, Engineering Manager, 260-557-1205, phil.hilger@premierthermal.com
Kyle Vliet, Maintenance Manager, 517-908-0675, kyle.vliet@premierthermal.com

Facility Description:

Atmosphere Annealing currently holds an opt-out PTI No. 289-98B for oil quench and temper lines. There is no control on the quenching furnaces or for VOCs. There is cartridge filter baghouse on all 4 shot blast machines.

The site is located in downtown Lansing near the corner of Mt Hope and Washington. On the south west corner of Mt Hope and Washington, the area is primarily industrious, yet on the north side of Mt Hope directly across from the facility, the area is residential.

Atmosphere Annealing was part of Gerdau, but is now Atmosphere Annealing. The company does heat treating for metal parts including hardening, annealing, and tempering. Several quenching options are available for the hardening treatments. Shot blasting may be required to remove scale from some parts after treatment.

Air emissions are primarily generated from the combustion of natural gas in the heat treat furnaces, from oil mist by quenching processes, or from carry out oil combusting in the furnaces, and from a rust preventative dip using Rust Veto 4242.

The site operates 3 shifts, 5 days per week depending on customer demand and has approx. 50 employees working at the Mt Hope facility.

Inspection Notes:

1. Personnel change within the environmental department. Old contact, Dale Feldkamp and Scot Duncan is no longer at the site. The new contact is Phil Hilger, Engineering Manager.

Permit Unit Summary Tables

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)
EUFURN9&10	Heat treatment line equipped with a natural gas-fired heating furnace (#9) with oil quench, a parts washer and a natural gas-fired temper furnace (#10).
EU13&14OILQUENCH	Two natural gas fired furnaces. The furnaces can be used as stand alone normalize furnaces or can be used as an oil quench line. During oil quench operation
Flexible Group ID	Flexible Group Description

FGFACILITY	All process equipment source-wide including equipment covered by other permits, grandfathered equipment and exempt equipment.
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Unit Identification

Emission Unit or Flexible Group	Description	Permit Number or Exemption	Comp. Status
EU1&2waterln	Furnace #1 Heating w/ Water Quench and Furnace #2 Tempering	Exempt by Rule 282(a)(i)	C
EU3&4oilquench	Furnace #3 Heating w/Oil Quench. Furnace #4 Tempering w/Parts Washer	Grandfathered, yet reported under FG-FACILITY for VOC's	P
EU5&6polyquench	A Heating Furnace and a Temper Furnace in Series	Exempt by Rule 282(a)(i)	C
EU 7 normalize and EU 8 tempering	Two Furnaces and a Exothermic Generator.	Exempt by Rule 282(a)(i)	C
EU9&10 oil quench line	Heating w/Oil Quench and Tempering with Wash Station.	PTI 289-98B	P
EU12normalize	Normalized Heat Treat Furnace (no quench)	Exempt by Rule 282(a)(i)	C
EU13 &EU 14 oil quench line	Two furnaces can be used as normalize furnaces or oil quench line.	PTI 289-98B	C
EUshotblast	3 batch airless shot blast machines w/pulse jet baghouses	Exempt by Rule 285(l)(vi) (B)	C
EUCBlast	continuous blast line w/inplant cartridge baghouse	Exempt by Rule 285(l)(vi) (B)	C
EURustPrevent	Rust Preventative dunk tank	Removed from operation Spring 2019	NA

Inspection Summary

Sue Thelen and I arrived onsite at 8:26 for a scheduled and unannounced inspection. This was also an initial contact as the facilities new Air Inspector. There were no visible emissions, and only a light plastic odor near the lobby parking. Once in the lobby, I was told that Dale Feldkamp and Scot Duncan were no longer with the company and that his replacement Phil Hilger was offsite that day. They were able to get maintenance manager, Kyle Vliet, to show us around.

Kyle gave us a tour around the facility and following the tour we returned to a small conference room to go over specific permit requirements. During my inspection, I primarily focused on the permitted units. Some of the notes below are descriptions from previous inspections.

EU1&2waterIn: Furnace #1 Heating w/ Water Quench and Furnace #2 Tempering

MAERs reported this unit as a water quench line; being used with a polymer quench. The polymer quench in use is still Paraquench 90. Because the quench is aqueous and not considered oil, the process is exempt from air use permit requirements by Rule 282(a)(i). The two furnaces are in series and following the heat and quench process they enter the second furnace for tempering.

EU3&4oilquench: Furnace #3 Heating w/Oil Quench and Furnace #4 Tempering w/Parts Washer

This process was installed prior to August 15, 1967 and therefore the line is grandfathered due to installment prior to the regulation requiring an air use permit. Changes to the operation have been restricted to repairs; any major replacements will make the line subject. Furnace 3 and 4 is a continuous conveyor heat treating line with an oil quench and tempering furnace. The parts are heated by furnace 3 and then placed into the oil quench. Following the quench, the parts slowly move by conveyer to a water wash and then to furnace 4.

The VOC's from this process is used to determine FG-FACILITY VOC emissions for the Opt-out permit 298-89B.

EU5&6polyquench: A Heating Furnace w/Polymer Quench and Temper Furnace in Series

Furnaces #5 and #6 are operated in series using the same polymer quench as Furnace 1 and 2, Paraquench 90. The process is exempt from air use permit requirements by Rule 282(a)(i).

EU 7 normalize and EU 8 tempering: Exothermic Heat Treat Furnace

An exothermic generator is used to change the environment in furnace #7. Unit #8 is used as a batch tempering furnace. Because there is no quench used, the process is exempt from air use permit requirements by Rule 282 (a)(i).

EU9&10 oil quench line: Oil Quench Heat Treat Line with Wash Station

This line contains EUFURN9&10. This is a continuous conveyor heat treating line with oil quench. The line is permitted by Permit to Install (PTI) #289-98B. Heated parts enter furnace #9 which is at a hot temperature of 1600 degree Fahrenheit to harden the parts. The parts then exit furnace #9 and are submerged in a quench pit below floor level (stack located here on the line), which is at about 150 degrees. A conveyor is used to elevate the quenched parts from the pit to the wash station. From there, the parts are sent to furnace #10 at a lower temperature (600 degrees) as a stress relief to the parts, to make them less brittle.

EU12normalize: Normalized Heat Treat Furnace (no quench)

Because there is no quench used on Furnace #12, the process is exempt from air use permit requirements by Rule 282(a)(i).

EU13 &EU 14 oil quench line: Oil Quench Heat Treat Line

This line did not use to have quenching capabilities. In early 2019, a permit modification was submitted to add quenching capabilities to this line. It is not covered under PTI No. 289-98B.

EUshotblast

Blast Units 3, 4, and 5 are three batch machines which appeared similar in there type and installation. The blast media being used is steel shot. Each blaster had a control device that exhausted into the in-plant environment. Cartridge type filter media are used in the control devices and cleaned by pulsed air.

Dust from collection systems goes into bags, the bags are then placed into a dumpster to be hauled offsite.

The shot blasting units are exempt from the need to obtain an air use permit by Rule 285(l)(vi)(B).

EUCBlast

This is a conveyerized continuous shot blast with a baghouse that vents into the plant. The unit is exempt from the need to obtain an air use permit by Rule 285(l)(vi)(B).

EURustPevent

Kyle informed us that the rust dunk tank was taken out of operation in March or April of 2019.

There is also a natural gas generator that is used for the oil quench lines to take O₂ out of the air so that the parts don't come out scaly. I did not observe this during my inspection.

After touring the facility floor, I asked Kyle for the record keeping requirements in the permit. Kyle sent me the documentation I asked for by email. I received an SDS for the oil used, as well as for the polymer used. Atmosphere Annealing does not use any HAPs anymore, therefore there is nothing to report for HAPs. I received recordkeeping for the oil quench process. Since the issuance of the modified PTI No. 289-98B in May of 2019, Atmosphere Annealing appears to be meeting the modified VOC and material limits for this facility.

I left the site around 9:45am.

Based on this information, the facility appears to be in compliance with PTI No. 289-98B.

NAME Sumantha Davis DATE 9/26/19 SUPERVISOR B. M.