

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

P053129420

| | | |
|---|----------------------------|---------------------------|
| FACILITY: TiAL Cast | | SRN / ID: P0531 |
| LOCATION: 450 South Shiawassee Street, OWOSSO | | DISTRICT: Lansing |
| CITY: OWOSSO | | COUNTY: SHIAWASSEE |
| CONTACT: Gregg Jones, President | | ACTIVITY DATE: 05/13/2015 |
| STAFF: Nathaniel Hude | COMPLIANCE STATUS: Unknown | SOURCE CLASS: MINOR |
| SUBJECT: Casting operations were not operational and still in the construction phase. | | |
| RESOLVED COMPLAINTS: | | |

Inspection Report

P0531- TiAL Cast
450 S. Shiawassee St, Owosso, Michigan

Inspection Date:
5/13/15

Key Concerns:
None

Permit:
PTI 103-14

Applicable Regulations:
40CFR63 ZZZZZ-National Emission Standards for HAPs for Iron and Steel Foundries Area Sources

Facility Contacts: MACES Contacts were updated
Gregg Jones – Gregg@tialsport.com
Keith Tuthill – keith@tialsport.com

MDEQ AQD Personnel:
Nathan Hude – 517-284-6779, huden@michigan.gov

Facility Description:
At time of inspection, TiAL Cast was not operational and still under construction. EU-DewaxFurnace and EU-SurfaceTreat were the only equipment installed.

TiAL Cast is a casting operation residing within the same facility of TiAL Sport. TiAL Sport is a manufacturer of high performance automobile turbo boosters. Currently, TiAL Sport purchases stainless steel castings and machines them into their product. With the addition of the casting operation, TiAL will eliminate the outside supplier for castings.

TiAL Cast operations will consist of EU-MoldForming to make ceramic molds from wax patterns. Once formed the ceramic molds are dewaxed using a pressurized steam chamber to reclaim the wax. The molds are then placed into EU-DewaxFurnace where they again reclaim any wax and then burnout the remaining wax with use of an afterburner to control smoke, VOC's and PM. Molten steel is then poured into the ceramic molds via one of two melting furnaces with the capacity of 100 lbs, WU-Melt1 and EU-Melt2. The ceramic molds are then manually cut and broken from the cooled castings in EU-Shakeout. The product is then sent to the TiAL Sport side of the facility for finishing.

Currently TiAL Cast only employs 1 individual with plans to increase once operational.

Material Limit Summary Table

| Material | Limit | Time Period / Operating | Equipment | Testing / Monitoring | Underlying Applicable |
|----------|-------|-------------------------|-----------|----------------------|-----------------------|
|----------|-------|-------------------------|-----------|----------------------|-----------------------|

| | | Scenario | | Method | Requirements |
|-----------------|---|--|------------|---------|---------------|
| 1. Steel melted | 200 tons per year | 12-month rolling time period as determined at the end of each calendar month | FG-Foundry | SC VI.1 | R 336.1702(a) |
| 2. Wax burnout | Three wax burnout cycles per shift ¹ | Each shift that a burnout cycle is conducted | FG-Foundry | SC VI.2 | R 336.1225 |

Inspection Summary

I arrived at 1100 for an internally scheduled yet unannounced inspection. This was also an initial contact as the facilities new Air Inspector. I did not notice any odors or visual environmental concerns of the TIAL facility.

I entered the facility, signed-in and informed the receptionist on the purpose of my visit. Shortly thereafter Gregg Jones and Keith Tuthill met me and escorted me into the office area. We went into a break room where I provided them with a copy of the Environmental Inspections brochure and reviewed it with them stating the purpose of why I was present. We reviewed the facility description and production as written above before taking a tour of the production area. At this point they informed me that the casting was not operational despite the intent to be operational in January 2015 as stated in the PTI application. The reason for the start-up delay was not given.

At this point, I stated the visit would be a courtesy visit. We reviewed the permit in detail. I explained the purpose for the material limits was based on negligible PM emissions. We discussed a possible increase in production and the requirement to re-permit if anticipated. I informed them to seek re-permitting if they thought an increase was to occur prior to the occurrence. We then reviewed the design/equipment parameters and the monitoring/recordkeeping sections of the permit.

Following our discussion, both Keith and Gregg gave me a tour of the casting area. We walked through the machining area to get to the casting area. The facility was clean with no particular odor. The machining area was operating during our walk through.

Upon arriving at the casting area, assembly was not occurring. I could see one furnace set up, the EU-DewaxFurnace. The afterburner and stack were in place. I asked about the stack height, but Keith and Gregg stated it was about 34.5 feet (1 foot above permit height requirements). The EU-Melt furnace had yet to be installed. We then discussed the installation plan. They planned to install the furnace at the opposite side of the room. A hood would capture the heat and emissions and vent to the outside ambient air out the side wall. Due to the heat created by the furnaces, they planned to have a ambient forced air intake on an adjacent wall that would create positive pressure on the room thus exhausting the EU-Melt furnace. I informed them that I assumed the EU-Melt and EU-DewaxFurnace would have the same stack and they told me that was not the intention. The permit application did not clearly state separate stacks. I told them that the dewaxing seemed to be the primary concern, yet I would check with the permit engineer. They informed me that if the stacks needed to be combined, they were willing to comply but would rather construct as intended. I told them I would check on the issue once returning to the office and inform them of the outcome as soon as possible. Keith asked about the afterburner temperature monitoring and stated he intended to install a disc chart recorder. I told him that would be appropriate for monitoring and recordkeeping purposes. We concluded the tour..

The overall facility was clean and the overall visit was cordial. I departed the site at approximately 1215.

Upon returning to the office, I contacted Paul Schleusener the permit engineer who wrote PTI 103-14. Based on the permit application details, he was unaware that the melting furnace (EU-Melt1 and EU-Melt2) and the dewaxing furnace (EU-DewaxFurnace) were to have separate stacks. After discussion and reviewing the permit evaluation, we found that due to the size of the melting operation, the emissions from the melting furnace were not of concern. The primary concern was the smoke, VOCs, and PM from the wax burn off via EU-DewaxFurnace. Thus the separate stacks were not of concern and the stack height restrictions did not apply to EU-Melt. Upon my return to the office on 5/14/15, I emailed Gregg and Keith a summary of the discussion with Paul. I also requested them to inform me of their status once up and operational. Keith replied in acknowledgment to the stack separation approval and agreed to inform me of their status via email on 5/14/15.

Based on my inspection/visit and the inoperative status of the casting line, I was unable to determine compliance for TIAL Casting. Further inspection will be required once operational to determine compliance.

NAME *[Signature]*

DATE 5/15/15

SUPERVISOR *D.M.*

