

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

P081645893

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| FACILITY: Burr Oak Tool | | SRN / ID: P0816 |
| LOCATION: 69777 White Street, STURGIS | | DISTRICT: Kalamazoo |
| CITY: STURGIS | | COUNTY: SAINT JOSEPH |
| CONTACT: Ron Sprowls , OAK Companies Safety Director | | ACTIVITY DATE: 08/30/2018 |
| STAFF: Amanda Chapel | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MINOR |
| SUBJECT: | | |
| RESOLVED COMPLAINTS: | | |

On August 30, 2018 AQD's Amanda Chapel (staff) conducted an unannounced air quality inspection of Burr Oak Tool (Facility) at their chrome plating facility located at 69777 White Street, Sturgis Saint Joseph County. The purpose of the inspection was to determine compliance with Permit to Install (PTI) 72-17 covering one chrome reverse etch tank and one hard chrome plating tank, exemption Rule 281(2) (e) for the alkaline soak clean tank, and all applicable state and federal air regulations. This facility is subject to the 40 CFR 63, Part N as they are a small hard chrome plating facility. They are a true minor source. The following will summarize facility operations and compliance status.

I arrived at the facility at 1:00pm. I pulled into the front of the blue building and went inside the door that was next to the address. Inside, I introduced myself as being from the DEQ and stated I was there to do an unannounced air quality inspection. He led me over to the south end of the building where the chrome plating operation was installed. Here there were two male employees and again I introduced myself and stated my purpose. They called Mr. Ron Sprowls, OAK Companies Safety Director.

While we were waiting for Mr. Sprowls to arrive, the other employees answered a few questions about the operation of the chrome plating setup. Mr. Sprowls arrived and I introduced myself to him and said that we were targeting chrome platers during this fiscal year and I was there to do an inspection. The facility began operation in early 2018 and they do in-house chrome plating work for the main Burr Oak Tool facility located about a half block away. There are three staff that work in that area. They work 1 10-hour shift from Monday to Thursday and some Fridays. There are no boilers, emergency generators, or cold cleaners at this facility.

First, the parts are put into the Alkaline Soak Clean tank for 7 minutes. This tank has a separate negative air venting system that is vented out the side of the building and then vertically upward. It is currently operating under exemption Rule 281(2)(e) for washing/drying materials where material cannot become an air contaminant and if no VOCs with a vapor pressure more than 0.1 mmHg are used in the process. This is currently operating with a potassium-hydroxide based solution. SDS is attached.

Next, the parts are moved to a Counter Flow Rinse Tank. This is one tank that is divided with a false wall into two tanks. The parts are dipped into the first compartment and then the second. They are then moved to the Chrome Reverse Etch Tank for about 2-3 minutes. From here they go into the Hard Chrome Plating Tank for about 80 minutes. These two tanks, along with the Drip Tank, are controlled by a negative pressure ventilation system which filters through the 3-stage composite mesh scrubber on site. The etch tank and chrome plating tank also use ping-pong balls as a fume suppressant. All the SDS for the chemicals in the etch tank and the chrome plating tank were checked. There were no PFOS/PFAS containing materials listed. SDS attached.

Once the parts are removed from the chrome plating tank, they are moved to the Drip Tank to drip any excess chemicals off. They are then moved to another two part Counter Flow Rinse Tank. The parts are removed and measured for consistency. If they measure correctly, they are placed with other finished products. If they need to be plated further, they are added back into the hard chrome plating tank. The process takes, on average, about 2 hours. There is also a strip tank that contains muriatic acid on site. This also has a separate negative air fan which vents to the same outlet at the Alkaline Soak Clean Tank.

The scrubber has a 3-stage mesh pad design. The first pad is washed down every two minutes and the next pad is washed down every 15 minutes. The wash returns back to the drip tanks. A preventative maintenance plan is in place. Checks are done quarterly. At the time of the inspection, the quarterly inspection has been done 2 weeks previously. The differential pressure monitor on the scrubber read 1.8 inches of water. At the time of the test, the scrubber pressure drop read about 2.4 inches of water. The

employee stated that since the maintenance was performed on the scrubber, the drop was consistently reading lower than the number from the test but it was still within their plus/minus range in the permit. Records were obtained of the daily pressure drop readings and are attached. The CMP scrubber is inspected quarterly as well as the back portion of the mesh toward the fan. The pipes are visually inspected each Friday. Washdown is being performed per manufacturers instructions. Testing was performed in March 14, 2017 and the results showed chrome emissions of 0.0031 mg/dscm. The permit limit is 0.006 mg/dscm. Any records of inspections, date, time, and determination are logged for maintenance. There have been no issues so far.

We walked around the south side of the building and viewed the stacks. They were venting unobstructed vertically upward. No visible emission were coming from the stacks and no odors were detected. At that point, we sat at the computer and the records of the pressure drop were emailed along with all the SDS associated with the Alkaline Soak Clean Tank, Reverse Etch Tank, Hard Chrome Plating Tank, and Chrome Strip Tank were emailed along with the updated O&M plan with the stack results included. I thanked Mr. Sprowls and the other two employees and left at about 2:15pm.

Once back at the office, I reviewed the SDS and records for the pressure drop. There was a question about the Chrome Strip Tank and whether it is exempt from permitting or needs to be included in the permit. Mr. Sprowls said he would check the dilution percentage used in the tank.

Upon having a discussion with Mr. Brad Stephenson, the facility's consultant, the tank is exempt under Rule 290. He forwarded the calculations showing that the tank can meet this exemption. These records showing continued compliance with Rule 290 should be kept and maintained at the facility. The letter and calculations showing the determination of this exemption are attached to the report.

NAME Aimee OlyellDATE 9/4/18SUPERVISOR MB 9/4/2018