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

N676026686

FACILITY: D & B Metal Finishing		**SRN / ID:** N6760
LOCATION: 22803 Patmore St, CLINTON TWP		**DISTRICT:** Southeast Michigan
CITY: CLINTON TWP		**COUNTY:** MACOMB
CONTACT: Bruce Ulman , Owner		**ACTIVITY DATE:** 08/29/2014
STAFF: Robert Elmouchi	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled inspection		
RESOLVED COMPLAINTS:		

On August 29, 2014, I conducted an unannounced scheduled inspection of D & B Metal Finishing (D&B) located at 22803 Patmore Street, Clinton Township, Michigan. This facility is uniquely identified by the Air Quality Division with the State Registration Number (SRN) of **N6760**. The purpose of this inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the administrative rules; 40 CFR Part 63 Subpart N; and the conditions of Air Use Permit to Install (PTI) No. 8-00A.

I entered the site, identified myself, presented DEQ photo employee identification, and explained the purpose of the inspection to Mr. Bruce Ulman, Owner, who escorted me on an inspection of the facility.

The company currently has one Air Use Permit No. 8-00A. This is an Opt-out permit for HAPs to operate three small TCE and MEK cold cleaners. The source is a new Hard Chromium electroplater subject to the Chromium MACT (40 CFR 63, subpart N). The primary production activities are hard chrome plating, decorative chrome plating and nickel plating. Additional activities include a solvent (trichloroethylene) batch cold cleaning process to remove wax from parts, metal bluing and metal blackening. The metal bluing and metal blackening processes appear to be exempt from R201 per R285(r)(i).

Mr. Ulman stated that based upon recent news about a fire at another chrome plating facility in Michigan, he was in the process of taking proactive measures to prevent the possibility of a fire at D&B. Mr. Ulman showed me fire resistant materials that were going to be used to replace the epoxy coated wood plating tank covers. Mr. Ullman also showed me a nickel plating tank secondary containment liner that was in the process of being proactively rebuilt to prevent a potential plating solution spill. Mr. Ulman also stated that the floor of the plating area is diked to act as a tertiary containment system, which has approximately 300% capacity of all plating tanks combined.

D&B started up in January 2000. The facility is in a light industrial mall style building and appears to occupy three adjacent units. The east unit has a small office and bathroom in front with the production area in back. The production area occupies approximately 80 percent of this unit's floor space. The two additional units have offices and a bathroom / lab in the front while the rear area is used for storage and a trial small scale operation of metal bluing and metal blackening.

Mr. Ulman has been in the plating industry for about 33 years and he drew upon his experience when designing a plating process that minimizes chemical use, water consumption, energy consumption, as well as health, safety and environmental hazards. To some extent, the permittee has developed their own control technology. This facility may be considered unique for an electroplating facility because there are no exhaust stacks associated with any of the plating processes, all process emissions are fugitive and all process emissions are released in-plant. D&B is operating the plating process with alternative control technology. They operate with lowered the bath levels, reduced temperatures and attached hinged lids to each tank. Electroplating is conducted with lids closed. The chrome tanks appear to be exempt from NSR per R285(r). Mr. Ulman stated that they currently use Broco-CMS-N fume suppressant.

Regarding D&B's alternate emission control, per AQD activity report A-LV-04043,OSHA spent a day at this facility. They had apparently questioned D&B's chrome emission results obtained from indoor air testing using OSHA equipment. A report from the Michigan Department of Consumer and Industrial Services, dated April 13, 2000, indicates that the employee exposure to chromic acid does not exceed the limit and the analysis of total dust showed exposure levels well below MIOSHA Air Contaminants Standard limits.

Chromium emissions testing was required according to the NESHAP, since they conduct hard chrome electroplating. D&B is considered a small hard chrome plater with a potential rectifier capacity of 30,000,000 amp-hours/year. They also operate one Nickel plating tank. This process appears to be exempt from R201 per R285(r)(vii). There are no exhaust stacks or general plant exhaust fans, only doorways. This facility has conducted required emissions testing per 40 CFR Part 63 Subpart N on 6/25/2000. A temporary stack was constructed to meet the testing requirements because there is no stack designed into the process. Per the stack test results, it appears that the company is in compliance with the required standard emission limitation of 0.015 mg/dscm. The Company's stack test results report indicates an average chromium emission rate of 0.0006 mg/dscm, which is 1/25th of the emission limit. Plating bath vapor pressures are kept low by reducing the operating temperature from 140 degrees F to 113 degrees. The plating tanks are kept covered on a continual basis. A surfactant is also used to limit emissions from the plating tanks.

Process water is purified and reused for the wash tanks. With both the chrome and nickel plating processes, the first rinse bath is used to replenish the plating tank. Even though the plating chemicals are diluted in the first rinse bath, no treatment is required to concentrate the plating chemicals in the first rinse water before it is added to the plating tank because, at 113 degrees F, the excess water evaporates from the solution in the plating tank.

D & B operates one nickel plating tank, which is subject to the initial notification required per 40 CFR Part 63 Subpart WWWWWW (6W). D & B submitted the required initial notification. Mr. Ulman stated that the nickel plating tank is operated at a lower temperature rather than the typical 165 to 190 degrees F that is the norm for the nickel plating industry. The lower operating temperature appears to have the potential to reduce operating costs, reduce emissions and produce a harder chrome finish.

Cold Cleaning: D & B keeps records of usage of TCE as required by the permit (see attached). They also use smaller amount of MEK, in pint-like size containers. Reporting is not required per §63.468 because they use the halogenated solvent as a batch contact solution and do not use a batch vapor or in-line solvent cleaning process as defined in Subpart T. Records provided (see attached) appear to demonstrate compliance with the permitted emission limits.

Of interesting note, the production area has one large fish tank with a variety of active fish. Mr. Ulman keeps a large coy pond adjacent to the plating production area. The coy pond contains large coy, large turtles, a large fresh-water Amazon sting ray plus a variety of medium to small fishes. Mr. Ulman stated that he plans to expand the pond in the near future. There are also multiple fish tanks are in the building units adjacent to the production area. All building units share the ambient atmosphere with the plating production area.

CONCLUSION

D & B Metal Finishing appears to be in compliance with all of the evaluated permit conditions.

NAME Robert Ellsworth DATE 9/8/14 SUPERVISOR CTE