

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection

N207957802

<b>FACILITY:</b> Lacks Industries, Inc.		<b>SRN / ID:</b> N2079
<b>LOCATION:</b> 4375 52ND STREET SE, KENTWOOD		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> KENTWOOD		<b>COUNTY:</b> KENT
<b>CONTACT:</b> Karen Baweja , Supervisor of Air Quality		<b>ACTIVITY DATE:</b> 04/13/2021
<b>STAFF:</b> April Lazzaro	<b>COMPLIANCE STATUS:</b> Non Compliance	<b>SOURCE CLASS:</b> MEGASITE
<b>SUBJECT:</b> Partial Compliance Evaluation of the facility at Section 2- Barden Plater.		
<b>RESOLVED COMPLAINTS:</b>		

Staff, April Lazzaro arrived at the facility at approximately 8:00 to conduct a Partial Compliance Evaluation and to observe the scheduled stack testing and met with Karen Baweja, Environmental Manager, Dave Cain, Plant Manager and Mark Andrews, Maintenance Manager who is new to that role. I was joined by Matt Karl and Trevor Drost of the Air Quality Division (AQD) Technical Programs Unit (TPU). The Network Environmental team was on-site for the testing: Steve Byrd, Dave Engelhardt, Scott Cargill and Rick Eerdmans.

**FACILITY DESCRIPTION**

Lacks Barden Plating facility is a decorative chrome electroplating facility that is part of the Lacks Enterprises, Inc. 52<sup>nd</sup> Street complex. This facility is permitted pursuant to MI-ROP-N2079-2017 Section 2. This Lacks facility has recently been classified as a Mega-site per the Environmental Protection Agency’s Compliance Monitoring Strategy.

This inspection and stack test evaluation consists of a Partial Compliance Evaluation for the Mega-site and includes Section 2 of the Renewable Operation Permit.

**COMPLIANCE EVALUATION**

Production at this facility is less than ½ of normal rates. Lacks made an inquiry into how that status affects testing, and future production rates. I informed them via email that testing at the lower production rate would establish a new “production limit” until testing could be conducted at a higher production rate.

The testing schedule for day one was to include total chromium emissions from FGCHROME1 which consists of three chrome etch tanks, a chrome conversion unit and a chrome recovery unit controlled by one composite mesh pad scrubber. Of the three permitted tanks, only two are in use at any one time. During this test, it was #2 and #3 etch (aka Tank 8 & 9).

We went to the roof first to do an inspection on the control devices. The first visual inspection was of FGCHROME 1 and it was noted that there had been some maintenance activities ongoing. This was evidenced by the multiple pieces of equipment that had been left behind by the maintenance staff. This includes many pieces of plastic strips that are used to repair leaks, old paint brushes and old paint rollers left in place as well as some tools. I noted to Lacks staff that the multiple housekeeping items are indications of poor maintenance practices. Upon close investigation of the area where the repairs were evident, I noted a small leak in the outlet area of the scrubber body.

Next, we observed the control device for EUELECTROLESSCU which consists of an electroless copper plating tank controlled by a packed bed scrubber with mist eliminator. This scrubber had a stress crack on the bottom of the unit which is made of polyvinyl chloride (PVC) plastic. The crack in the PVC plastic led to a significant amount of scrubber water containing the electroless copper plating materials leaking out of the bottom of the unit. Based on the water pathway, it was directed to a roof drain. I asked if the roof drain was piped to the internal water pre-treatment system and I was told it was not. As we conducted a visual and audible inspection of the unit, it became clear that the fan for the scrubber was making a considerable amount of noise and vibration. Additionally, the fan unit for the adjacent uncontrolled stack was also in very poor condition. The scaffolding and grating in place for elevated access to the units was vibrating significantly. This is further evidence of poor maintenance at the facility. Because the scrubber failure was so significant, repairs could not be immediately made. The condition of the scrubber indicates a violation of Rule 910- failure to properly operate a control device. A violation notice will be issued. We were joined by Ben Seitz, Plating Engineer who informed me that his staff had conducted an inspection the week prior and found the scrubber intact at that time. I was told that they would need to shut down and empty the unit to repair the unit from the inside, and they were not sure when that would take place. I indicated that sooner was better since the longer it is in this condition, the longer the violation would be occurring. I also observed a large quantity of water leaking out the side of the stack where the rubber flexible seal is located. This may be due to stack scrubber liquid entrainment. No steam was observed, and I did not identify liquids exiting the stack. The facility tried to tighten the seal but found that the rubber material had lost its elasticity. I was told during the inspection that a temporary seal was installed prior to the test, but a new long-term replacement needed to be ordered. This also is an indication of improper maintenance of the unit. I later learned that what I was told was a temporary seal, was actually a permanent repair.

Work was done to the unit that included replacing the fan belt and the seal to the stack was modified with additional rubberized material to stop the liquid leak prior to conducting the March 15, 2021 stack test. Lacks staff also informed me that the significant vibration was all a result of the condition of the FGNEUTCATACC fan, and that the only problem they found with the EUELECTROLESSCU fan was that the belt required replacement.

Mr. Ryan Grant of the Water Resources Division was also notified of the water discharge to the roof drain for follow-up.

The FGNEUTCATACC stack and fan are adjacent to EUELECTROLESSEC and share the same access platform. This fan was observed to be vibrating excessively causing movement of the platform. I was informed that work was done on the unit that included belt replacement. It was noted that the repairs on both fans reduced the vibration on the access platform. Lacks staff believed that the excessive movement from FGNEUTCATACC fan was causing the majority of the problem. FGNEUTCATACC special condition III.1 requires implementation of the O&M Plan and includes proper maintenance and operation of the fan and monitoring equipment required to monitor the fan operation. Since the fan had not been properly maintained, this is a violation of the permit.

We continued to observe conditions on the roof of the plating line. Near the stack that exhausts the FG COPPER plating tanks (6 total), green discoloration was noted on the rocks. This is similar to what was observed last year from the same type of tanks at the Lacks Airline North facility. I was told that it is a result of a tank additive. Additional work to eliminate this phenomenon should be conducted at this facility as well.

FGCHROME1 stack test and process data was collected and is as follows:

Production: 7:00-8:00 AM: 16 bars, 8:00-9:00 AM: 15 bars, 9:00-10:00 AM: 15 bars, 10:00-11:00 AM: 10 bars.

Etch tank #2 surface tension run #1: 42 dynes/cm, tank #3 36 dynes/cm 7:43 AM.

Scrubber operational data: 3.81" H<sub>2</sub>O overall pressure drop, 1.78" H<sub>2</sub>O evaporator pressure drop. This information is consistent with the requirements of the O&M Plan.

Testing for day two was conducted on FGSEMINICKEL which consists of five semi-brite nickel electroplating tanks and no emissions controls. Two stacks are part of this flexible group and were tested on this day. Stack 6 (SVK-6) exhausts EUSEMIBRINI1-4 and stack 7 (SVK-7) exhausts EUBRINICKEL1&2 and EUMICRONI. The facility monitors fan amperage on this stack and will report that value in the test report. Some stack support degradation was beginning to occur.

Day 2 production data: 8:00-9:00 AM: 12 bars, 9:00-10:00 AM: 15 bars, 10:00-10:15 4 bars (extrapolated out = 16 bars for the hour)

Testing for day three was for methanol and formaldehyde from ELECTROLESSCU. The scrubber was still leaking a substantial amount of water. The stack leak had been corrected.

Day 3 production data: (testing started after 9:00 AM for both pollutants) 8:00-9:00: 15 bars, 9:00-10:00: 15 bars, 10:00-11:00: 16 bars, 11:00-12:00 14 bars.

Scrubber operational data: bleed off rate: 4.28 gpm, flow: 179.5 gpm, 1.05" H<sub>2</sub>O overall pressure drop. This information is consistent with data collected during the last stack test, and within ranges established by the O&M Plan.

I requested the hours of operation for ELECTROLESSCU which has a 12-month rolling limit of 4,746 hours, unless the actual emission rates of formaldehyde and methanol are lower than the emission limits specified. Because the emission rates for the most recent test were lower than those specified, Lacks calculated a new hours of operation limit of 26,930. For the time period of July 2019-March 2021, the highest monthly rolling average was 5,765 hours in the period ending July 2019. For the time period ending March 2021, the hours of operation were 3,480. A review of this information indicates compliance.

FGCHROME2 consists of three decorative chrome plating tanks, and a chrome recovery unit controlled by a composite mesh pad scrubber and fume suppressant subject to the federal National Emission Standards (NESHAP) for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium

Anodizing Tanks found in 40 CFR Part 63 Subpart N. This unit was not undergoing stack testing during the days I was there. I did conduct a thorough inspection of the scrubber. I found a small leak on the inlet of the unit where liquids were coming through, and there was degradation of the steel beam as a result. This is possibly indicative of chromic acid in the liquid. I also did a visual inspection of the underneath of the unit. There was evidence of liquid leaks underneath that left rusty colored streaks and visible paint peeling/corrosion. These were dry and seemed like historic issues. I also observed the top of the unit where two access hatches are present that run the entire width of the scrubber. Following the last time an internal scrubber inspection was conducted, maintenance staff failed to install all of the nuts and bolts that hold those hatches to the scrubber body. I identified this by the empty bolts holes and the vast quantity of nuts and bolts that were sitting on top of the unit-never installed. This activity expands on the maintenance issue at the facility. Lacks informed me that the hatches are under vacuum so that there were no air leaks occurring. I reiterated that the bolt holes are there for a reason and should be utilized even if it makes the task take longer.

The facility conducts and records activities pursuant to the O&M Plan associated with each emission unit and flexible group, except as noted below. This inspection report identifies that the maintenance activities associated with the O&M Plan are lacking attention to detail.

A review of the ROP Report Certification for MI-ROP-N2079-2017 was also conducted. Lacks reported that the annual inspection for FGCHROME1&2, were not done because the plant was shut down during the scheduled event and maintenance staff did not recognize this. A quarterly inspection was conducted prior to plant start up. The annual inspection consists of removing the top covers and inspecting for gaps around the pads which would allow for bypass, wherein the quarterly inspections do not involve accessing the inside of the unit. This type of annual inspection is only required for the chrome plate and chrome etch scrubber as detailed in the O&M Plan. The 2020 inspection was not conducted, and had not occurred yet as of March 10, 2021, indicating the last annual inspection was in 2019. Due to the other previously identified maintenance issues at the facility, this will be cited as a violation of the permit and Rule 910. While the O&M Plan is required for FGCHROME2 compliance with the Chrome NESHAP, the federal rule does not specifically identify a requirement for an annual inspection. As such, this does not appear to be a violation of 40 CFR Part 63 Subpart N.

#### COMPLIANCE SUMMARY

A violation notice will be issued for Rule 910 for failure to properly install and operate the packed bed scrubber associated with EUELECTROLESSCU, for failing to conduct the annual internal inspection on the composite mesh pad scrubbers associated with FGCHROME1&2 and for failure to maintain the fan for FGNEUTCATACC. Photos of the issues identified with the control devices will accompany this report on a CD.

The Lacks Enterprises, Inc. Barden Plater was in non-compliance at the time of the inspection.

NAME April Lazzaro

DATE 05/19/2021

SUPERVISOR HH