

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

N089564182

<b>FACILITY:</b> LACKS INDUSTRIES INC		<b>SRN / ID:</b> N0895
<b>LOCATION:</b> 4260 AIRLANE SE, KENTWOOD		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> KENTWOOD		<b>COUNTY:</b> KENT
<b>CONTACT:</b> Karen Baweja , Environmental Manager		<b>ACTIVITY DATE:</b> 08/09/2022
<b>STAFF:</b> April Lazzaro	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Unannounced, scheduled inspection.		
<b>RESOLVED COMPLAINTS:</b>		

**Staff, April Lazzaro arrived at the facility to conduct an unannounced Partial Compliance Evaluation and on-site inspection during a two-day stack testing event, and met with Karen Baweja, Environmental Manager. We were later joined by Jim Darby. Proper PPE was utilized, and social distancing was maintained to the extent possible during the inspection. The purpose of this Partial Compliance Evaluation was to observe operations at Airlane North and to inspect the control devices in use at the facility. Upon arrival at the facility there were no odors or visible emissions observed. Mild plating odors were noted on the roof top.**

**FACILITY DESCRIPTION**

**The Airlane North (FGN-1) and South (FGS-1) facilities primarily conduct decorative hexavalent chrome plating on plastic parts. The process consists of pre-treatment, alkaline cleaning, acid dipping, and strike plating of copper, copper/nickel electroplating, nickel electroplating, chromium etching and chromium electroplating. Electroless copper or nickel electroplating, conditioner, and rack stripping are controlled by wet scrubbers while the chrome plating and etching are controlled by composite mesh pad scrubbers. The facility is a major source of Hazardous Air Pollutants and equipment at the facility is regulated pursuant to MI-ROP-N0895-2018a. No odors or visible emissions were observed as I arrived at the facility.**

**The decorative hexavalent chrome plating operations are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chromium emissions in Subpart N. All Lacks plating operations use the same PFOS free surfactant product manufactured by MacDermid Enthone. This surfactant is however, a source of PFAS.**

**COMPLIANCE EVALUATION**

**The Operation and Maintenance (O&M) Plan requirements are contained in the facility MAP. The O & M Plan establishes the operating parameters of the control devices and equipment associated with each emission unit. As a result of a 2020 compliance inspection, the O&M Plan was revised to include additional inspection measures to demonstrate ongoing compliance.**

**The table below identifies emission limits and available test results. In the Test Data column, there may be two dates if there has been a test conducted recently and the results are currently pending.**

Process Unit	Control	Observed	Observed	Water	Surface Tension	Emission Limits	Test data
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		Pressure Drop (inches of H2O)	Water Flow (gpm)	Bleed Off Rate (gpm)	at time of Inspection (dynes/cm)		
Chrome Plate North (EUPN12/AN8)	CMP	Scrubber 3.9 Evaporator 3.2 Evap temp 134°F	NA	NA	8/18/20 Tank 1 R1 42.5 Tank 2 R1 41.5 Tank 3 R1 42.5	Total Chromium 0.00043 pph	8/18/20 0.00015 pph 8/09/22 Test results pending
Chrome Etch North (EUPN10/AN2)	CMP	Scrubber 1.2 Evaporator 3.4 Evap temp 124°F	NA	NA	Tank 1 40.6 Tank 2 45.6 Tank 3 39.7	Total Chromium 0.00037 pph	8/23/18 0.00061 pph 8/10/22 Test results pending
Electroless Copper North (EUPN-6/AN4)	PBS	0.775	98	4	NA	Formaldehyde 2.72 pph  Methanol 8.25 pph	10/22/21 0.07 pph  4.04 pph
Conditioner North (EUPN-11/AN1)	PBS	1.3	68	5.6	EUPN-11 is not operational using DCP and testing is not necessary going forward	DCP 0.84 pph	10/24/17 0.05 pph
Nitric Strip North (EUPN-13/AN9)	PBS	1.34	92	6.2	NA	Nitric Acid 1.23 pph	5/2001 0.0212
Nickel North	NA	NA	NA	NA	NA	Total Nickel	10/25/21

(EUPN-1, 2, 3)						0.0598 pph	0.0006 pph
-All Airline South Data shown below is from the previous inspection due to current shutdown-							
Chrome Plate South (EUPS-7/A9)	CMP	Scrubber 2.9 Evaporator 3.1	NA	NA	Tank 1 40.4 Tank 2 41.8 Tank 3 40.2	Total Chromium 0.000489 pph	5/8/11  ND
Chrome Plate #4 South (EUCHROME4/A10)	CMP	Scrubber 4.1 Evaporator 0.81	NA	NA	Tank 4 42.6	Total Chromium 0.01 mg/dscm  0.0005 pph	5/10/17  ND  ND
Chrome Etch South (EUPS-5/A2)	CMP	6.5	NA	NA	Tank 1 35.5 Tank 2 38.1	Total Chromium 0.000542 pph	ND
Conditioner South (EUPS-6/A1)	PBS	1.42	39.2	4.5	NA	DCP 0.84 pph	04/2015 0.044 pph
Electroless Copper South (EUPS-3/A4)	PBS	0.35	103.2	5.2	NA	Formaldehyde 0.6458 pph  Methanol 9.12 pph	04/2015 0.092 pph  3.909 pph
Nitric Strip South (EUPS-8/A12)	PBS	1.33	122	6.1	NA	Nitric Acid 0.11 pph	05/2001 0.02 pph

#### FGN-1

The equipment, including applicable control devices, stacks and fans for EUPN-1, EUPN-2, EUPN-3, EUPN-6, EUPN-11/14 and EUPN-13 was observed and visually evaluated, and no obvious issues were identified at the time of the inspection

## **EUPN-10**

**EUPN-10 consists of three chrome etch tanks, one etch regeneration unit and one evaporator/reclaim unit controlled by a composite mesh pad scrubber. This scrubber was replaced in early July 2022, and during the inspection stack testing was being conducted. The evaporator was not replaced along with the scrubber.**

**Pressure drop of the scrubber was 3.9" H<sub>2</sub>O, and the evaporator pressure drop was 3.2" H<sub>2</sub>O. At the time of the inspection, Tank 1 and Tank 2 were being used in the plating operation, while Tank 3 was empty.**

## **EUPN-12**

**EUPN-12 consists of three chrome plate tanks and one purification tank and one evaporator/reclaim unit controlled by a composite mesh pad scrubber. The repairs to the ductwork and scrubber body that were conducted after the 2020 compliance inspection appear to have been maintained and were still in place. I did not observe any issues in the repaired areas, nor did I identify new issues with this scrubber. The evaporator was replaced in 2021.**

**Each of the stacks on the roof along with any/all accompanying control devices were thoroughly inspected while I was on the roof. No other issues were identified by the visual, olfactory and audible examinations.**

## **EUPN-14**

**EUPN-14 consists of one pre-etch tank which has replaced the conditioner/DCP tank. Emissions are limited to 540 lbs of volatile organic compound (VOC) emissions per 12-month rolling time period. Reported VOC emissions for the 12-month rolling time period ending in July 2022, based upon the use of approved emission factors are 346.45 lbs.**

## **FGS-1**

**This flexible group includes 10 emission units that comprise the South Plater-electroplating of copper, nickel and decorative chrome on plastic parts and is located at Airline South. This flexible group is not currently operational. Lacks continues to report the delay in stack testing in the deviation reports which is appropriate.**

## **FGEMERGENCYRICE-SI**

**This flexible group contains one existing spark ignition emergency generator, EUALNWGENSET. Records of maintenance were requested and received timely.**

## **FGBOILERS**

**This flexible group contains 4 existing Gas 1 boilers, EUBUILER1-S, EUBOILER2-S, EUBOILER1-N, EUBOILER2-N. Lacks has conducted the appropriate tune-ups and maintenance as required.**

## **CONCLUSION**

**The Lacks Airline facility was in compliance at the time of the inspection. Stack test results are pending.**

NAME April Lazzaro

DATE 09/08/2022

SUPERVISOR HH