

I. INTRODUCTION

Network Environmental, Inc. was retained by Lacks Enterprises to perform compliance emission sampling on Chrome Plater (SVN-2) and Chrome Etch (SVN-6) Exhausts located at their Airline North facility in Kentwood, Michigan. The purpose of the study was to quantify the Total Chromium emissions from the Chrome Plater and Chrome Etch Exhausts. The testing was to document compliance with Michigan Environment, Great Lakes and Energy (EGLE), Air Quality Division, Renewable Operating Permit MI-ROP-N0895-2018.

Assisting in the study was Ms. Karen Baweja of Lacks Industries and the operating staff of the facility. Mr. Matt Karl and Ms. April Lazzaro of EGLE, Air Quality Division, were present to observe the testing and source operation. The sampling was performed by Stephan K. Byrd, R. Scott Cargill, Richard D. Eerdmans and David D. Engelhardt of Network Environmental, Inc. on August 18 and 19, 2020 by employing the following test methods:

Total Chrome - U.S. EPA Reference Method 306

Exhaust Gas Parameters – U.S. EPA Reference Methods 1-4

II. PRESENTATION OF RESULTS

**II.1 TABLE 1
TOTAL CHROME EMISSION RESULTS
CHROME PLATER EXHAUST
LACKS ENTERPRISES
KENTWOOD, MICHIGAN
AUGUST 18, 2020**

Chrome Plater Exhaust Sample #	Time	Air Flow Rate DSCFM	Concentration Mg/M ³	Mass Emission Rate Lbs/Hr
1	10:33-12:40	22,263	0.00065	0.000055
2	13:03-15:10	22,784	0.00082	0.000070
3	15:35-17:38	22,486	0.00082	0.000069
Average		22,631	0.00076	0.0000647

**II.2 TABLE 2
TOTAL CHROME EMISSION RESULTS
CHROME ETCH EXHAUST
LACKS ENTERPRISES
KENTWOOD, MICHIGAN
AUGUST 19, 2020**

Chrome Etch Exhaust Sample #	Time	Air Flow Rate DSCFM	Concentration Mg/M ³	Mass Emission Rate Lbs/Hr
7	8:36-10:44	22,549	0.0011	0.000093
8	11:03-13:05	22,462	0.00060	0.000050
9	13:24-15:28	22,543	0.00046	0.000039
Average		22,518	0.00072	0.000061

III. DISCUSSION OF RESULTS

The emission results are presented in Tables 1 through 2 (Section II.1 through II.2).

The emission limits for these sources are:

Chrome Plate = 0.00043 Lbs/Hr and 0.01 Mg/M³

Chrome Etch = 0.00037 Lbs/Hr

IV. SAMPLING AND ANALYTICAL PROTOCOL

The sampling location was on the forty-eight (48) inch I.D. for the Plater Exhaust. The sampling location was on the forty-six (46) inch I.D. for the Etch Exhaust. Both locations met the minimum test location requirements of U.S. EPA Reference Method 1. Twelve (12) sampling points per port were used for the testing (24 points total). The point dimensions can be seen in Appendix F.

IV.1 Chromium (Cr) - The sampling was performed in accordance with U.S. EPA Reference Method 306. Three (3) samples, each 120 minutes in duration, were collected from the sources. The samples were collected isokinetically in a 0.1N Sodium Bicarbonate solution as outlined in the method. The samples were analyzed for total chromium (Cr) by ICP - MS. All the quality assurance and quality control procedures listed in the method were incorporated in the sampling and analysis.

A diagram of the sampling train can be seen in Figure 1.

IV.4 Exhaust Gas Parameters - The exhaust gas parameters (air flow rate, temperature, moisture, and density) were determined by employing U.S. EPA Reference Methods 1 through 4. All the quality control and quality assurance requirements listed in the methods were incorporated in the sampling and analysis.

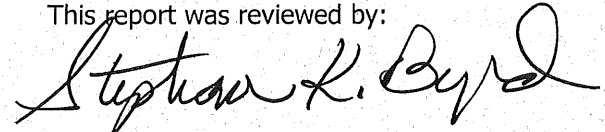
The first test on 8/18/20 for the Chrome Plater Exhaust was aborted due to a leak that was found in the scrubber ductwork. This data can be found in Appendix F.

This report was prepared by:

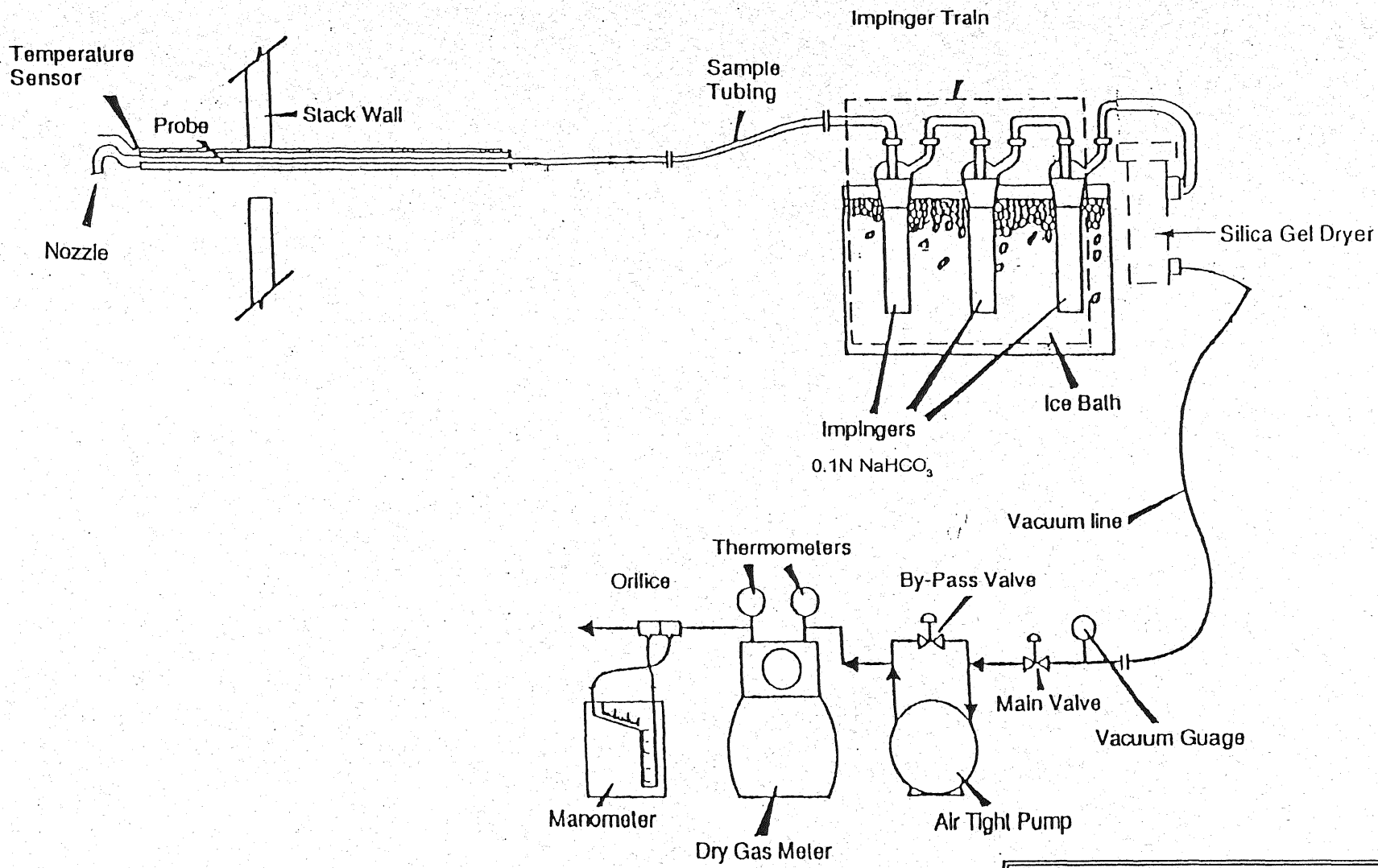


R. Scott Cargill
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FIGURE 1
TOTAL CHROME SAMPLING TRAIN