

Report of a...

Compliance Emission Test

performed for...

Plastic Plate, LLC.
Kraft Avenue Plant
Kentwood, Michigan

on the

Chrome Etch Exhaust

December 3 and 4, 2019

021.31

Network Environmental, Inc.
Grand Rapids, MI

Performed For:

LACKS Industries
4365 52nd Street
Kentwood, Michigan 49512
Contact: Karen Baweja
Phone: (616) 956-7259
Email k.baweja@lacksenterprises.com

Performed By:

Network Environmental, Inc.
2629 Remico Street S.W. Suite B
Grand Rapids, Michigan 49519
Contact: R. Scott Cargill
Phone: (616) 530-6330
Fax: (616) 530-0001
Cell: (616) 260-6802
e-mail: netenviro@aol.com

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I. INTRODUCTION

Network Environmental, Inc. was retained by Lacks Enterprises to perform Total Chromium (Cr) Compliance emission sampling on the Chrome Etch (EUCHROMEETCH/SVK2) exhaust located at their Plastic Plate facility in Kentwood, Michigan. The purpose of the study was to quantify the Cr emissions at the exhaust of the scrubber with the HEPA filters in and out of the scrubber. The sampling done on 12/3/19 was with the HEPA filters removed and the testing done on 12/4/19 was with the HEPA filters in place.

The sampling was performed by R. Scott Cargill and Richard D. Eerdmans of Network Environmental, Inc. on December 3 and 4, 2019 by employing U.S. EPA Method 306. Assisting in the study was Ms. Karen Baweja of Lacks Enterprises and the operating staff of the facility. Ms. April Lazzaro and Mr.

Dave Patterson of the Michigan Department of Environment, Great Lakes and Energy (EGLE) were present to observe the sampling and source operation.

II. PRESENTATION OF RESULTS

**II.1 TABLE 1
CHROMIUM (Cr) EMISSION RESULTS
CHROME ETCH EXHAUST (HEPA FILTERS REMOVED)
PLASIC PLATE, LLC
KENTWOOD, MICHIGAN
DECEMBER 3, 2019**

Sample	Time	Air Flow Rate DSCFM ⁽¹⁾	Concentration Mg/M ³ ⁽²⁾	Mass Emission Rate Lbs/Hr ⁽³⁾
1	8:14-10:19	42,077	0.0490	0.0077
2	10:52-12:56	42,010	0.0499	0.0078
3	13:18-15:22	41,664	0.0414	0.0065
Average		41,917	0.0468	0.0073

(1) DSCFM = Dry Standard Cubic Feet Per Minute (STP = 68°F & 29.92 in. Hg)

(2) Mg/M³ = Milligrams Per Dry Standard Cubic Meter

(3) Lbs/Hr = Pounds Per Hour

**II.2 TABLE 2
 CHROMIUM (Cr) EMISSION RESULTS
 CHROME ETCH EXHAUST (HEPA FILTERS IN PLACE)
 PLASIC PLATE, LLC
 KENTWOOD, MICHIGAN
 DECEMBER 4, 2019**

Sample	Time	Air Flow Rate DSCFM ⁽¹⁾	Concentration Mg/M ³ ⁽²⁾	Mass Emission Rate Lbs/Hr ⁽³⁾
1	8:19-10:24	40,882	0.0088	0.0013
2	10:50-12:55	41,029	0.0087	0.0013
3	13:26-15:30	40,921	0.0089	0.0014
Average		40,944	0.0088	0.0013

- (1) DSCFM = Dry Standard Cubic Feet Per Minute (STP = 68°F & 29.92 in. Hg)
 (2) Mg/M³ = Milligrams Per Dry Standard Cubic Meter
 (3) Lbs/Hr = Pounds Per Hour

III. DISCUSSION OF RESULTS

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

The Total Chromium emission limits for the exhaust are:

Chrome Etch = 0.0032 Lbs/Hr and 0.016 Mg/DSCM

IV. SAMPLING AND ANALYTICAL PROTOCOL

The sampling location for the Chrome Etch was on the sixty (60) inch I.D. stack exhaust. The sampling was at a location which met the test location requirements of U.S. EPA Reference Method 1. Twelve (12) sampling points total were used for the testing (6 points per port) for the exhaust. The points are as follows:

Point #	Exhaust Point Location (Inches)
1	2.64
2	8.76
3	17.76
4	42.24
5	51.24
6	57.36

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 source on each sampling day. 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.

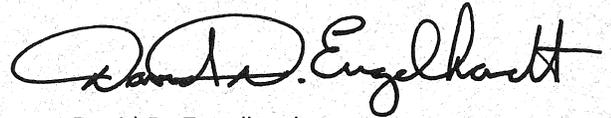
IV.2 Exhaust Gas Parameters - In addition to the Cr sampling, the exhaust gas parameters (air flow rate, temperature, moisture, and density) were determined by employing U.S. EPA Reference Methods 1 through 4. All the quality control and quality assurance requirements listed in the methods were incorporated in the sampling and analysis.

This report was prepared by:



R. Scott Cargill
Project Manager

This report was reviewed by:



David D. Engelhardt
Vice President

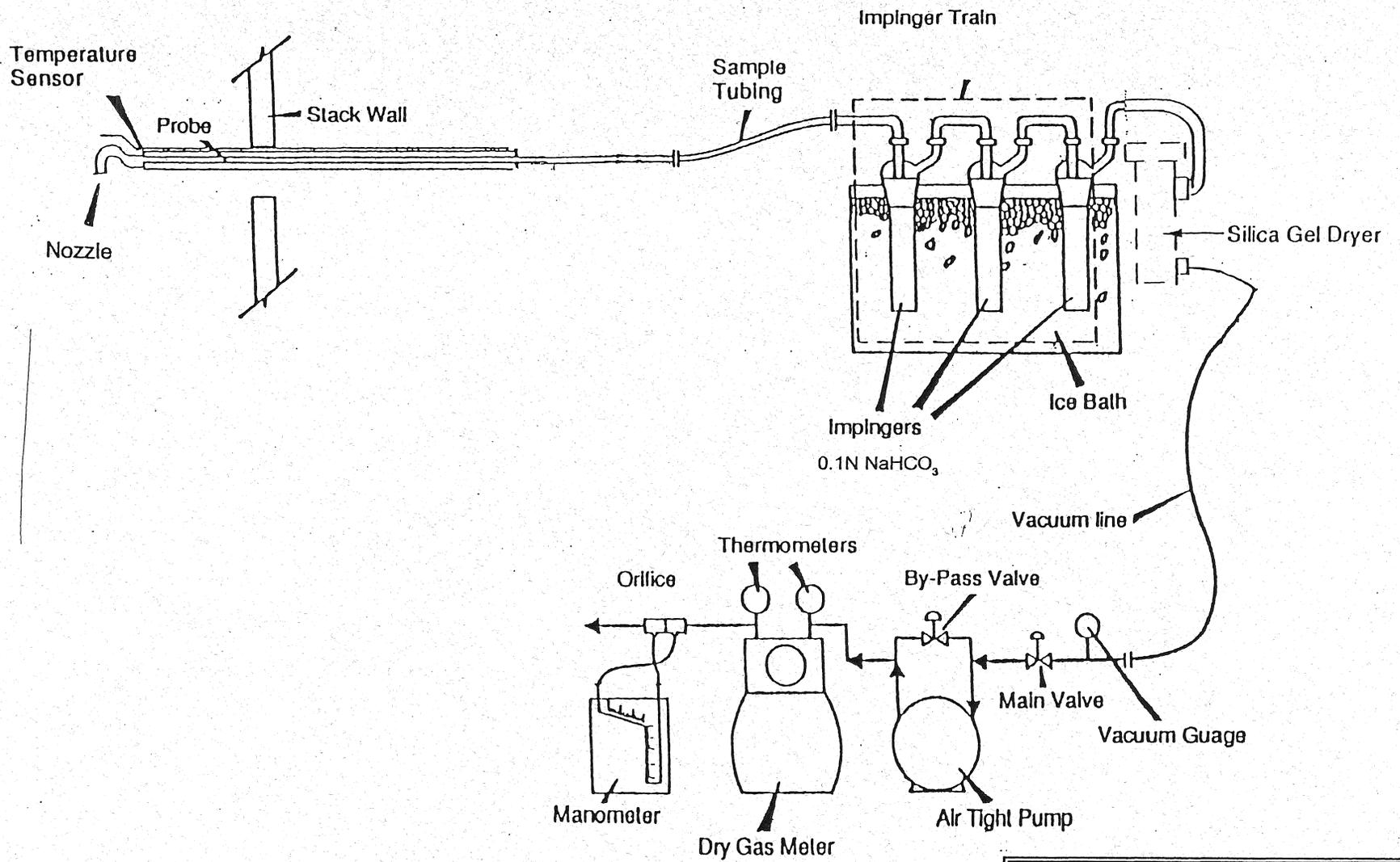


FIGURE 1
TOTAL CHROME SAMPLING TRAIN