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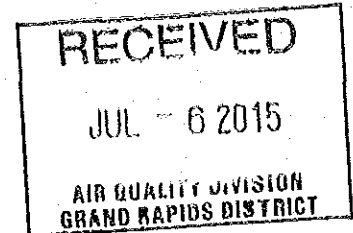
JUL 06 2015

Report of...

AIR QUALITY DIVISION

Compliance Emission Sampling

performed for...



Lacks Enterprises, Inc.

Airplane South
Kentwood, Michigan

on

RECEIVED

JUL 07 2015

AIR QUALITY DIV.

Various Sources

May 27-28, 2015

021.25

Network Environmental, Inc.
Grand Rapids, MI

I. INTRODUCTION

Network Environmental, Inc. was retained by Lacks Enterprises, Inc. to perform an emission study at their Airline South facility. The purpose of the study was to document compliance with Renewable Operating Permit (ROP) No. MI-ROP-N0895-2012.

The following is a list of the sources, applicable emission limits and the compounds sampled:

Stack ID	Emission Limit(s)	Compound Sampled
SVCR-4 (EUCHROME4 – Chrome Plating)	Total Chromium: 0.01 Mg/M ³ & 0.0005 Lbs/Hr.	Total Chromium
SVS-P10 (EUPS-7 Chrome Plating)	Total Chromium: 0.01 Mg/M ³ & 0.000489 Lbs/Hr	Total Chromium
SVS-P11 (EUPS-5 Chrome Etch)	Total Chromium: 0.000542 Lbs/Hr	Total Chromium

The following reference test methods were employed to conduct the emission sampling:

- Total Chromium – U.S. EPA Method 306
- Exhaust Gas Parameters – U.S. EPA Methods 1 through 4

The sampling was performed over the period of May 27-28, 2015 by Stephan K. Byrd, R. Scott Cargill, Richard D. Eerdmans, and David D. Engelhardt of Network Environmental, Inc.. Assisting with the sampling were Ms. Karen Baweja and Mr. Jim Darby of Lacks Enterprises, Inc.. Mr. Daye Morgan and Mr. Jeremy Howe of the Michigan Department of Environmental Quality (MDEQ) – Air Quality Division were present to observe the sampling and source operation.

II. PRESENTATION OF RESULTS

**II.1 TABLE 1
CHROMIUM (Cr) EMISSION RESULTS SUMMARY
AIRLANE SOUTH
LACKS ENTERPRISES, INC.
KENTWOOD, MICHIGAN**

Source	Sample	Date	Time	Air Flow Rate DSCFM ⁽¹⁾	Concentration Mg/M ³ ⁽²⁾	Emission Rate Lbs/Hr ⁽³⁾
SVCR-4 (EUCHROME4) Chrome Plating	1	5/27/15	08:11-10:15	22,092	0.00140	0.000116
	2	5/27/15	10:32-12:35	22,357	0.00063	0.000053
	3	5/27/15	12:57-15:01	22,070	0.00075	0.000062
	Average			22,173	0.00093	0.000077
SVS-P10 (EUPS-7) Chrome Plating	1	5/27/15	08:14-10:16	19,747	0.00124	0.000092
	2	5/27/15	10:32-12:36	19,898	0.00105	0.000078
	3	5/27/15	12:59-15:03	20,226	0.00095	0.000072
	Average			19,957	0.00108	0.000081
SVS-P11 (EUPS-5) Chrome Etch	1	5/28/15	09:13-11:15	19,940	0.00101	0.000076
	2	5/28/15	11:30-13:33	19,619	0.00092	0.000068
	3	5/28/15	13:46-15:49	19,485	0.00109	0.000079
	Average			19,681	0.00101	0.000074

(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 results of the emission sampling are summarized in Table 1 (Section II.1). The results are presented as follows:

III.1 Total Chromium (Cr) Emission Results Summary (Table 1):

Table 1 summarizes the Cr emission results as follows:

- Source
- Sample
- Date
- Time
- Air Flow Rate (DSCFM) – Dry Standard Cubic Feet Per Minute (STP = 68 °F & 29.92 in. Hg)
- Cr Concentration (Mg/M³) – Milligrams Per Dry Standard Cubic Meter
- Cr Mass Emission Rate (Lbs/Hr) – Pounds Per Hour

IV. SAMPLING AND ANALYTICAL PROTOCOL

All the traverse point dimensions can also be found in Appendix E.

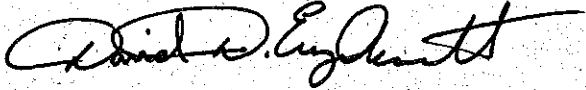
Prior to the emission testing, preliminary velocity/cyclonic (turbulent) flow measurements/checks were conducted. All the sampling locations and flows passed the requirements of Methods 1 and 2.

IV.1 Total Chromium (Cr) – The Cr sampling was performed in accordance with U.S. EPA Reference Method 306. Three (3) samples, each 120 minutes in duration, were collected from each of the sources sampled. The samples were collected isokinetically in a 0.1N Sodium Bicarbonate solution as outlined in the method. The samples were analyzed for Cr by inductively coupled argon plasma/mass spectrophotometry (ICAP/MS). All the quality assurance and quality control procedures listed in the method were incorporated in the sampling and analysis. The Cr sampling train is shown in Figure 1.

IV.2 Exhaust Gas Parameters – The exhaust gas parameters (air flow rate, temperature, moisture and density) were determined in conjunction with the other sampling by employing U.S. EPA Methods 1 through 4. Air flow rates, temperatures and moistures were determined using the Method 306 sampling trains. Gas

density was determined by using the ambient default values of 20.9% O₂ and 0.0% CO₂. All the quality assurance and quality control procedures listed in the methods were incorporated in the sampling and analysis.

This report was prepared by:



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This report was reviewed by:



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Project Manager

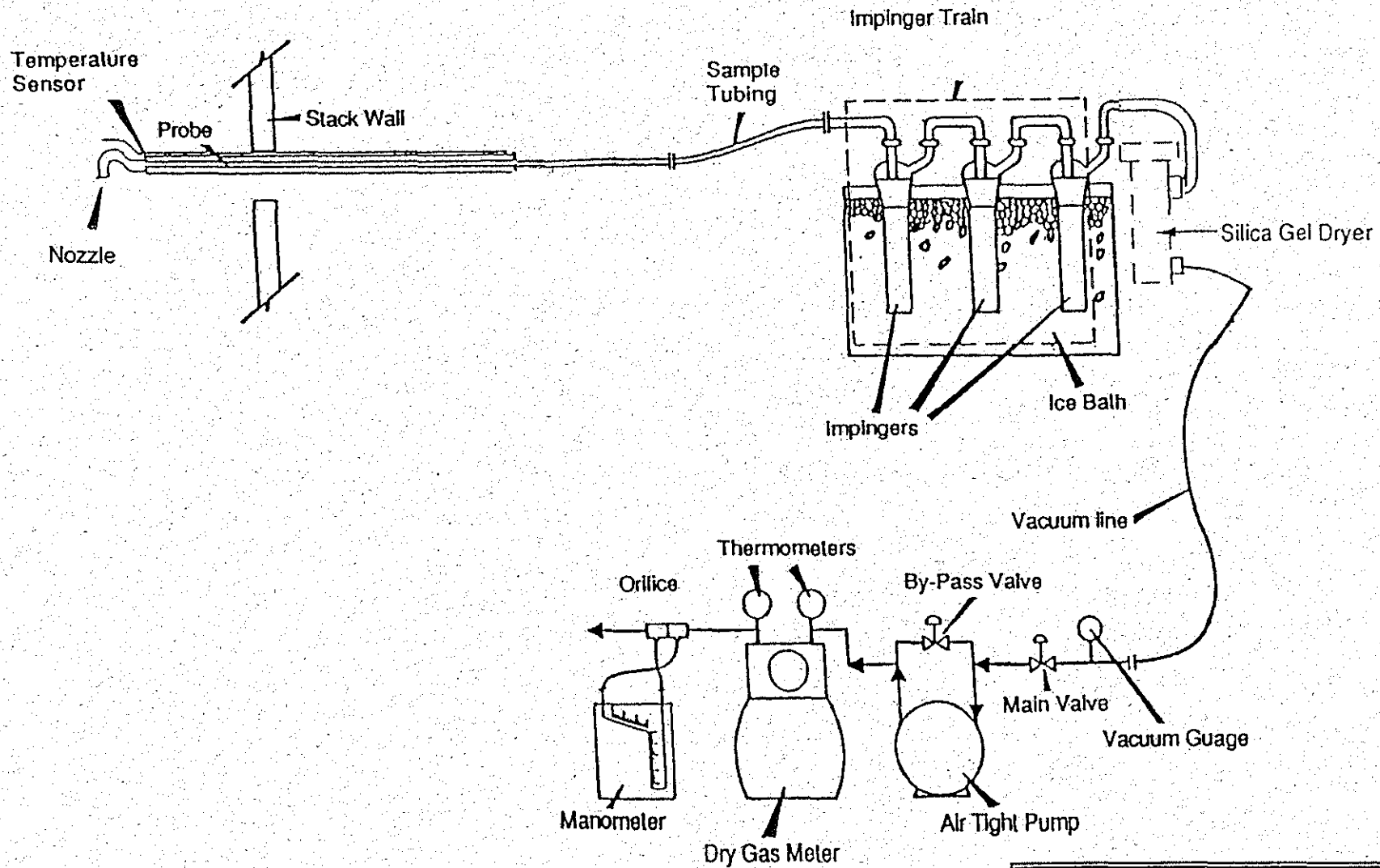


Figure 1
Cr Sampling Train