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## **I. INTRODUCTION**

Network Environmental, Inc. was retained by Asama Coldwater Manufacturing (ACM) to perform a Relative Accuracy Test Audit (RATA) on the Continuous Emissions Monitoring System (CEMS) that services the Regenerative Thermal Oxidizer (RTO) at their Coldwater, Michigan facility. The CEMS on the RTO exhaust is for VOCs.

The RATA was performed on September 15, 2022. Stephan K. Byrd and Richard D. Eerdmans of Network Environmental, Inc. conducted the RATA in accordance with 40 CFR Part 60 Appendix B Performance Specification 8. Assisting with the RATA was Mr. Toby Hopkins of ACM. Ms. Amanda Cross of the Michigan Department of Environment, Great Lakes and Energy (EGLE) - Air Quality Division were present to observe the sampling and source operation.

**II. PRESENTATION OF RESULTS**

**II.1 TABLE 1**  
**RELATIVE ACCURACY TEST AUDIT RESULTS (VOCS PPM as HEXANE)**  
**RTO EXHAUST**  
**ASAMA COLDWATER MANUFACTURING**  
**COLDWATER, MICHIGAN**  
**SEPTEMBER 14, 2021**

Run #	Time	REFERENCE METHOD	CEM	DIFF
		PPM <sup>(1)</sup>	PPM <sup>(1)</sup>	
1	08:03-08:28	4.7	3.6	1.1
2	08:38-09:03	4.4	3.6	0.8
3	09:11-09:36	4.4	3.7	0.7
4	09:43-10:08	4.2	3.4	0.8
5	10:14-10:39	3.9	3.5	0.4
6	10:45-11:10	3.5	3.0	0.5
7	11:16-11:41	3.2	2.8	0.4
8	11:48-12:13	3.4	2.9	0.5
9	12:19-12:44	3.7	3.1	0.6

Mean Reference Value 3.93333

Absolute Value of the Mean of the Difference 0.6444

Standard Deviation 0.23000

Confidence Co-efficient 0.17778

**Relative Accuracy = 4.11% of the Emission Limit (20 PPM as Hexane)**

Relative Accuracy Needs to Be Less Than 20% Of Reference Method Or 10 % Of Emission Limit

(1) = Concentration in term of PPM by volume on a wet basis as Hexane

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### **III. DISCUSSION OF RESULTS**

**III.1 THC RATA** – The results of the THC RATA for the RTO exhaust can be found in Table 1 (Section II.1).

The relative accuracy calculations were performed in terms of PPM in accordance with U.S. EPA Reference Method 19. Nine (9) twenty-five (25) minute samples were collected from the RTO exhaust. Raw DAS output results were corrected per Equation 7E-5.

The relative accuracy for the THC CEMS was 4.11% of the Emission Limit (20 PPM)

According to Performance Specification 2 in 40 CFR Part 60 Appendix B, "The relative accuracy (RA) of the CEMS shall be no greater than 20 percent of the mean value of the reference method test data in terms of the units of the emission standard or 10 percent of the applicable standard, whichever is greater."

### **IV. CONTINUOUS MONITORING SYSTEM DESCRIPTION**

The continuous emission monitoring system (CEMS) servicing the RTO is comprised of a total hydrocarbon analyzer:

- THC – Thermo Scientific Model 51iHT, Serial No. 1423962408

### **V. SAMPLING AND ANALYTICAL PROTOCOL**

The RATA was performed in accordance with 40 CFR Part 60 Appendix B Performance Specification 8 for FIDs. The sampling method used for the reference method determinations is as follows:

**V.1 Total VOCs** – The VOC sampling was conducted in accordance with U.S. EPA Reference Method 25A. A J.U.M 3-500 FID analyzer was used to monitor the RTO exhaust. A heated probe was used to extract the sample gases from the exhaust stack. A heated Teflon sample line was used to transport the exhaust gases to the analyzer. The analyzer produces instantaneous readouts of the VOC concentrations (PPM).

The analyzer was calibrated by system injection prior to the testing. A span gas of 86.0 PPM Hexane was

used to establish the initial instrument calibration. Calibration gases of 27.0 PPM and 51.2 PPM Hexane were used to determine the calibration error of the analyzer. After each run, a system zero and system injection of 27.0 PPM were performed to establish system drift during the test period. All calibration gases were EPA Certified.

The analyzer was calibrated to the output of the data acquisition system (DAS) used to collect the data from the exhaust. A diagram of the sampling train is shown in Figure 1.

**V.2 Sampling Location** – The sampling location for the RTO exhaust was on the 54 inch I.D. exhaust stack at a location 6 duct diameters downstream and greater than 2 duct diameters upstream from the nearest disturbances.

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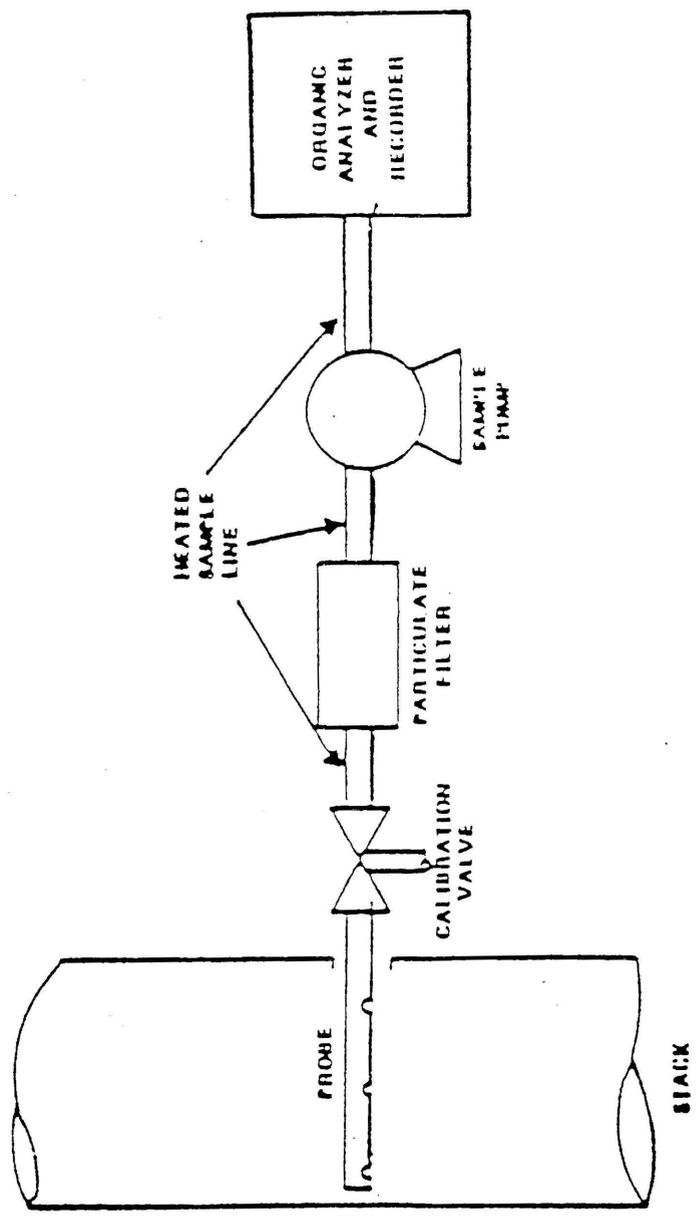


Figure 1  
Total Hydrocarbon Sampling Train

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