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Report of...

# Compliance Emission Testing

Performed for ...

Michigan Agricultural Commodities  
Middleton, Michigan

On the...

Truck Dumping Station Exhaust

October 10, 2019

318.01

Network Environmental, Inc.  
Grand Rapids, MI

**Performed For:**  
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## **I. INTRODUCTION**

Network Environmental, Inc. was retained by Michigan Agricultural Commodities, Inc. to perform compliance emission sampling on the exhaust of the Truck Dump Station located at their Middleton, Michigan facility. The purpose of the study was to meet the testing requirements of 40 CFR Part 60, Subpart DD. The permit has established the following emission limits for this source:

| Pollutant         | Emission Limit                          |
|-------------------|---|
| PM                | 0.01 Grains Per Dry Standard Cubic Foot |
| Visible Emissions | <5% Opacity                             |

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

- PM – U.S. EPA Method 17
- Visible Emissions – U.S. EPA Reference Method 9
- Exhaust Gas Parameters – U.S. EPA Methods 1 through 4

The sampling was performed on October 10, 2019 by R. Scott Cargill, Richard D. Eerdmans and David D. Engelhardt of Network Environmental, Inc.. Assisting with the study was Mr. John Ezinga and the operating staff of the facility.

**II. PRESENTATION OF RESULTS**

**II.1 TABLE 1  
PM EMISSION RESULTS SUMMARY  
TRUCK DUMPING STATION EXHAUST  
MICHIGAN AGRICULTURAL COMMODITIES, INC.  
MIDDLETON, MICHIGAN  
OCTOBER 10, 2019**

| Sample         | Date     | Time        | Air Flow Rate<br>DSCFM <sup>(1)</sup> | Concentration              | Emission Rate         |
|----------------|----------|-------------|---------------------------------------|----------------------------|-----------------------|
|                |          |             |                                       | Grains/DSCF <sup>(2)</sup> | Lbs/Hr <sup>(3)</sup> |
| 1              | 10/10/19 | 8:24-10:14  | 6,088                                 | 0.00013                    | 0.007                 |
| 2              |          | 10:26-12:08 | 5,915                                 | 0.00024                    | 0.012                 |
| 3              |          | 12:41-14:52 | 5,551                                 | 0.00008                    | 0.004                 |
| <b>Average</b> |          |             | <b>5,851</b>                          | <b>0.00015</b>             | <b>0.008</b>          |

- (1) DSCFM = Dry Standard Cubic Feet Per Minute (STP = 68 ° F & 29.92 in. Hg)  
 (2) Grains/DSCF = Grains per Dry Standard Cubic Foot of Exhaust Gas  
 (3) Lbs/Hr = Pounds of Particulate 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 PM Emission Results (Table 1)**

Table 1 summarizes the PM emission results as follows:

- Sample
- Date
- Time
- Air Flow Rate (DSCFM) – Dry Standard Cubic Feet Per Minute (STP = 68 °F & 29.92 in. Hg)
- Particulate Concentration (Grains/DSCF) – Grains of Particulate Per Dry Standard Cubic Foot of Exhaust Gas On A Dry Basis
- Particulate Mass Emission Rate (Lbs/Hr) – Pounds of Particulate Per Hour

#### **III.2 Visible Emission Results**

All Opacity readings were 0%.

A more detailed breakdown for each sample can be found in Appendix A.

### **IV. SAMPLING AND ANALYTICAL PROTOCOL**

**IV.1 PM** – The particulate sampling was conducted in accordance with U.S. EPA Method 17. Method 17 is an in-stack filtration method. The samples were collected isokinetically on filters. Three (3) samples were collected from the Truck Dumping Station Exhaust. Each sample was ninety-six (96) minutes in duration and had a minimum sample volume of sixty (60) dry standard cubic feet. The nozzle rinses and filters were analyzed gravimetrically for particulate in accordance with Method 17. All the quality assurance and quality control procedures listed in the methods were incorporated in the sampling and analysis. The particulate sampling train is shown in Figure 1.

**V.2 Visible Emissions** – The visible emissions were determined in accordance with U.S. EPA Method 9. A certified observer located in a position with the sun at his back and the exhaust plume traveling perpendicular to the line of view, recorded observations at fifteen second intervals over three one hour periods. Readings were rounded to the nearest five percent opacity. Visible emissions data sheets can be found in Appendix E.

**IV.3 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. All the quality assurance and quality control procedures listed in the methods were incorporated in the sampling and analysis.

**IV.3 Sampling Location** – The sampling location for the Truck Dumping Station was on the 48 inch by 44 exhaust stack at a location that met the minimum criteria of U.S. EPA Reference Method 1. The sampling points are as follows:

| Point | Location (Inches) |
|-------|-------------------|
| 1     | 3.00              |
| 2     | 9.00              |
| 3     | 15.00             |
| 4     | 21.00             |
| 5     | 27.00             |
| 6     | 33.00             |
| 7     | 39.00             |
| 8     | 45.00             |

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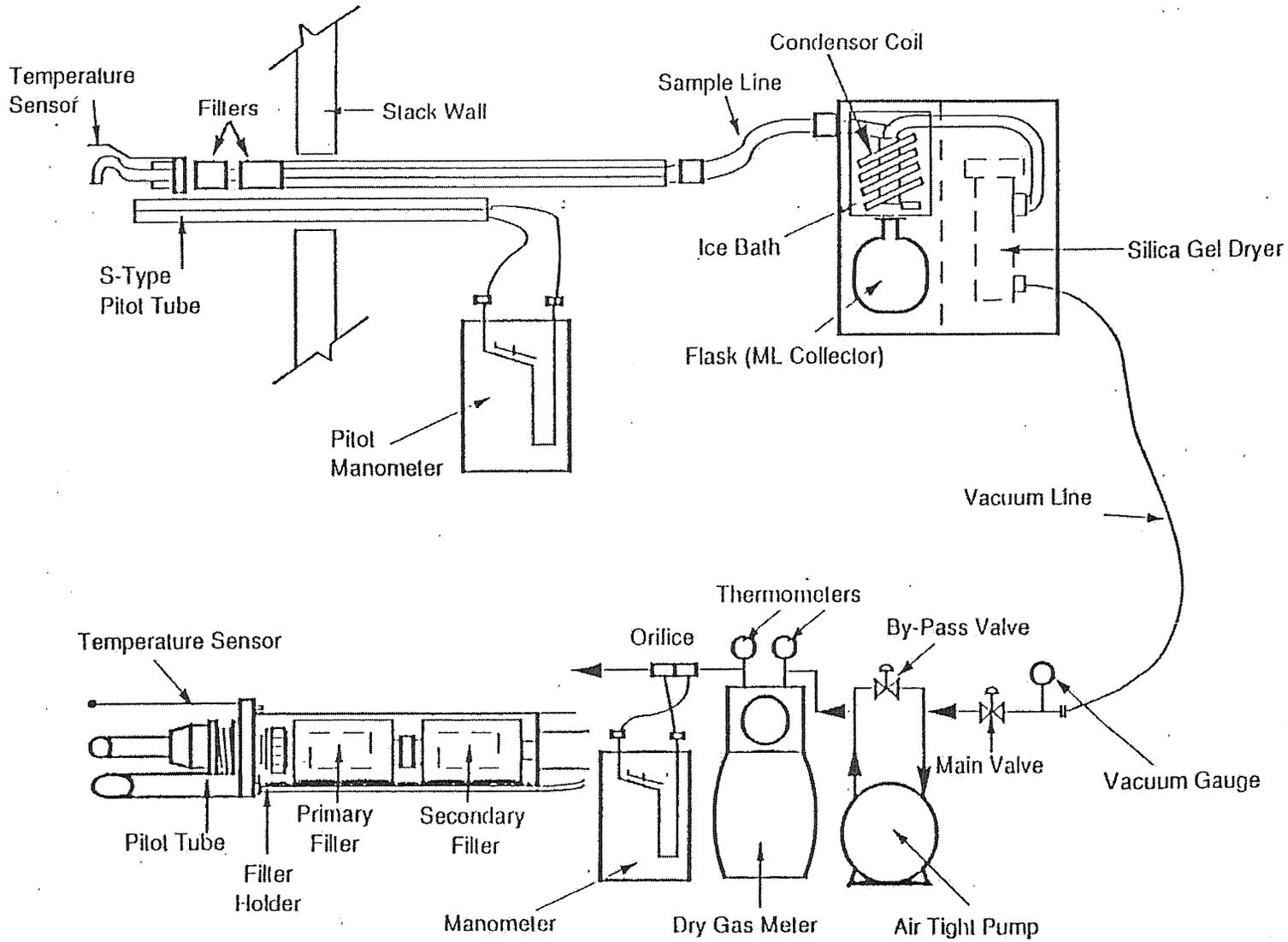


Figure 1  
Particulate Sampling Train