# TEST REPORT
# COMPLIANCE EMISSION TEST
# MAT ASPHALT, LLC
# ASPHALT PLANT DRUM MIXER BAGHOUSE
# CHICAGO, ILLINOIS

Prepared For:

**MAT Asphalt, LLC**
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Chicago, IL 60609

Prepared By:

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Document No.: **024AS-473273-RT-238**
Test Date: **December 11, 2018**
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ACCREDITED
TO ASTM D7036 ONLY
CERT #3925.01

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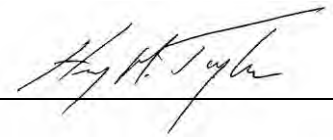
## REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature:  Date: January 11, 2019

Name: Steve Flaherty, QSTI Title: District Manager

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: January 11, 2019

Name: Henry M. Taylor, QSTO Title: Quality Assurance Manager

# 1.0 SUMMARY OF TEST PROGRAM AND RESULTS

## 1.1 TEST PROGRAM OBJECTIVES

Montrose Air Quality Services, LLC (Montrose) was contracted by MAT Asphalt, LLC to perform a compliance emission test at their facility located in Chicago, Illinois.

The test was conducted to determine the concentration and emission rate of particulate matter (PM) as well as the opacity of visible emissions (VE) from the asphalt plant drum mixer baghouse stack. The purpose of the test was to demonstrate compliance with the testing requirements of Illinois Environmental Protection Agency (IEPA) Construction Permit No. 17070024 (I.D. No. 031600QKI).

The test was conducted in accordance with the sampling and analytical procedures presented in Test Plan No. 024AS-473273-PP-68 dated August 23, 2018. A summary of the test program is presented in Table 1-1.

**TABLE 1-1**
**SUMMARY OF TEST PROGRAM**

| Date | Source | Activity/ Pollutants | Test Methods | No. of Runs | Run Duration |
|---|---|---|---|---|---|
| 12/11/18 | Baghouse Stack | Compliance/PM, VE | 1, 2, 3, 4, 5, 9 | 3 | 60 Minutes |

## 1.2 TEST PROGRAM PARTICIPANTS

A list of project participants is included below:

**Facility Information**

| | |
|---|---|
| Source Location: | MAT Asphalt, LLC |
| IEPA Permit I.D. No.: | 031600QKI |
| | 2055 West Pershing Road |
| | Chicago, IL 60609 |
| Project Contact: | Mr. Joe Haughey |
| Telephone: | 773-617-0789 |
| Email: | jhaughey@matasphalt.com |

**Testing Company Information**

| | |
|---|---|
| Testing Firm: | Montrose Air Quality Services, LLC |
| Contact: | Mr. Steve Flaherty |
| Title: | District Manager |
| Telephone: | 847-487-1580 Ext. 12417 |
| Email: | sflaherty@montrose-env.com |

Mr. Joseph Haughey of MAT Asphalt, LLC coordinated the test and monitored process operations during testing. Mr. Steve Flaherty, Mr. Rob Burton, and Mr. Alan Morales of Montrose performed the test. Mr. Steve Flaherty was the onsite field test supervisor and qualified source testing individual for the test.

## 1.3 SUMMARY OF TEST RESULTS

The test results are detailed in Section 4.0 of this document. The test results indicate that PM and VE were within their respective permit compliance limits. A summary of the test results is presented in Table 1-2.

**TABLE 1-2**
**SUMMARY OF COMPLIANCE TEST RESULTS**

| **TEST RUN NO.** : | **1** | **3** | **4** | | **Permit** |
|---|---|---|---|---|---|
| **TEST DATE** : | **12/11/18** | **12/11/18** | **12/11/18** | | **Compliance** |
| **TEST TIME** : | **08:00-09:15** | **12:32-13:39** | **14:10-15:15** | **Average** | **Limit** |
| **Particulate Matter** | | | | | |
| Concentration, gr/dscf | 0.0177 | 0.0221 | 0.0210 | 0.0203 | 0.04 |
| Emission rate, lb/hr | 4.41 | 5.04 | 4.97 | 4.81 | 30.59 |
| Emission rate, lb/ton | 0.0148 | 0.0170 | 0.0166 | 0.0161 | |
| **TEST RUN NO.** : | **1** | **2** | **3** | | |
| **TEST DATE** : | **12/11/18** | **12/11/18** | **12/11/18** | | **Compliance** |
| **TEST TIME** : | **08:05-09:05** | **10:05-11:05** | **12:40-13:40** | **Average** | **Limit** |
| **Visible Emissions** | | | | | |
| Opacity, Highest 6-min. avg. % | 1.0 | 0.8 | 0.4 | 0.7 | 20 |

# 2.0 SOURCE DESCRIPTION

## 2.1 FACILITY AND SOURCE DESCRIPTION

The compliance test was conducted on the baghouse stack at the MAT Asphalt, LLC asphalt plant in Chicago, Illinois for PM and VE determination. The source is a 400 ton/hr Natural Gas/Distillate Oil-Fired Drum Mix Asphalt Plant Mixer controlled by a Baghouse with Knockout Box and Fabric Filter.

## 2.2 SAMPLING LOCATIONS

The sampling location and number of sampling points were as follows:

| Sampling Location | Stack Diameter (inches) | Port Location Upstream from Disturbance (inches) | Port Location Downstream from Disturbance (inches) | No. of Ports | Sampling Points per Port | Total Points |
|---|---|---|---|---|---|---|
| Baghouse Stack | 60.5 | 84 | 300 | 2 | 12 | 24 |

## 2.3 OPERATING CONDITIONS AND PROCESS DATA

Plant personnel established the test conditions and collected all applicable process and control equipment operating data.

# 3.0 TEST METHOD DETAILS

## 3.1 LIST OF TEST METHODS

Testing was conducted pursuant to the following procedures:

- Code of Federal Regulations, Title 40, Part 60 (40 CFR 60), Appendix A, USEPA Methods 1, 2, 3, 4, 5, and 9
- Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III, Stationary Source Specific Methods

### 3.1.1 Sampling Locations (USEPA Method 1)

The sampling point locations were determined following the procedural requirements of USEPA Method 1. The sampling location and number of sampling points are provided in Subsection 2.2.

### 3.1.2 Volumetric Flow Rate (USEPA Method 2)

Gas velocity and volumetric flow rate were determined following USEPA Method 2 procedures. Velocity traverses were performed using a Type-S pitot tube. Temperature measurements were conducted using a digital read-out meter and a chromel-alumel (Type-K) thermocouple.

### 3.1.3 Molecular Weight (USEPA Method 3)

The stack gas molecular weight was determined following USEPA Method 3. Gas samples were collected in 16-liter Tedlar bags using an integrated bag collection system. The samples were analyzed for oxygen ($O_2$) and carbon dioxide ($CO_2$) concentrations using an Orsat analyzer.

### 3.1.4 Moisture Content (USEPA Method 4)

The stack gas moisture content was determined in conjunction with the USEPA Method 5 sampling train in accordance with USEPA Method 4, Section 16.1.

### 3.1.5 Particulate Matter Determination (USEPA Method 5)

PM was determined following the procedures described in USEPA Method 5 - Determination of Particulate Emissions from Stationary Sources.

#### 3.1.5.1 Sampling Apparatus

The PM sampling train met design specifications established by the USEPA and consisted of the following:

- Nozzle - Borosilicate glass with sharp, tapered leading edge.
- Probe - With a heating system capable of maintaining a probe exit temperature of 248 °F ± 25 °F.
- Pitot Tube - Type-S attached to probe for monitoring stack gas velocity.

- Heated Filter Holder - Borosilicate glass with a 4-in. Teflon frit filter support and a silicone rubber gasket. The holder design provides a positive seal against leakage from the outside or around the filter. A quartz-fiber filter meeting the specifications in USEPA Method 5 was installed in the filter holder. The filter holder was heated to 248 °F ± 25 °F. A thermocouple was placed in the back half of the filter support in direct contact with the sample stream.
- Draft Gauge - Inclined manometer with a readability of 0.01-in. $H_2O$ in the 0 to 10-in. range.
- Impingers - Four impingers connected in series with glass ball joints. The first, third, and fourth impingers were of the Greenburg-Smith design, but modified by replacing the standard tip with a ½-in. I.D. glass tube extending to within ½-in. of the bottom of the impinger flask. The second impinger was of the Greenburg-Smith design with a standard tip.
- Metering System - Apex Model 522, vacuum gauge, leak-free pump, thermometers capable of measuring temperature to within 5 °F, dry gas meter with ± 2 percent accuracy, and related equipment as required to maintain an isokinetic sampling rate and to determine sample volume.

#### 3.1.5.2 Sampling Procedures

Approximately 200 grams of silica gel was weighed and placed in a sealed impinger prior to each test run. Quartz-fiber filters were initially heated to 248 °F ± 25 °F for 2 to 3 hours, desiccated for at least 2 hours, and tare weighed to the nearest 0.1 mg on an analytical balance. The sampling train was set up with the probe as shown in Figure 3-1. The first and second impingers each contained 100 milliliters (mL) of deionized/distilled water, the third impinger was initially empty, and the fourth impinger contained silica gel.

The sampling train was leak-checked at the sampling site prior to each test run by plugging the inlet to the nozzle and pulling a 15-in. Hg vacuum, and at the conclusion of the test by plugging the inlet to the nozzle and pulling a vacuum equal to the highest vacuum reached during the test run.

The pitot tube and lines were leak-checked at the test site prior to and at the conclusion of each test run. The check was made by blowing into the impact opening of the pitot tube until 3 or more inches of water was recorded on the manometer and then capping the impact opening and holding it for 15 seconds to assure it was leak-free. The static pressure side of the pitot tube was leak-checked by the same procedure, except suction was used to obtain the 3-in. $H_2O$ manometer reading. Crushed ice was placed around the impingers to keep the temperature of the gases leaving the last impinger at 68 °F or less.

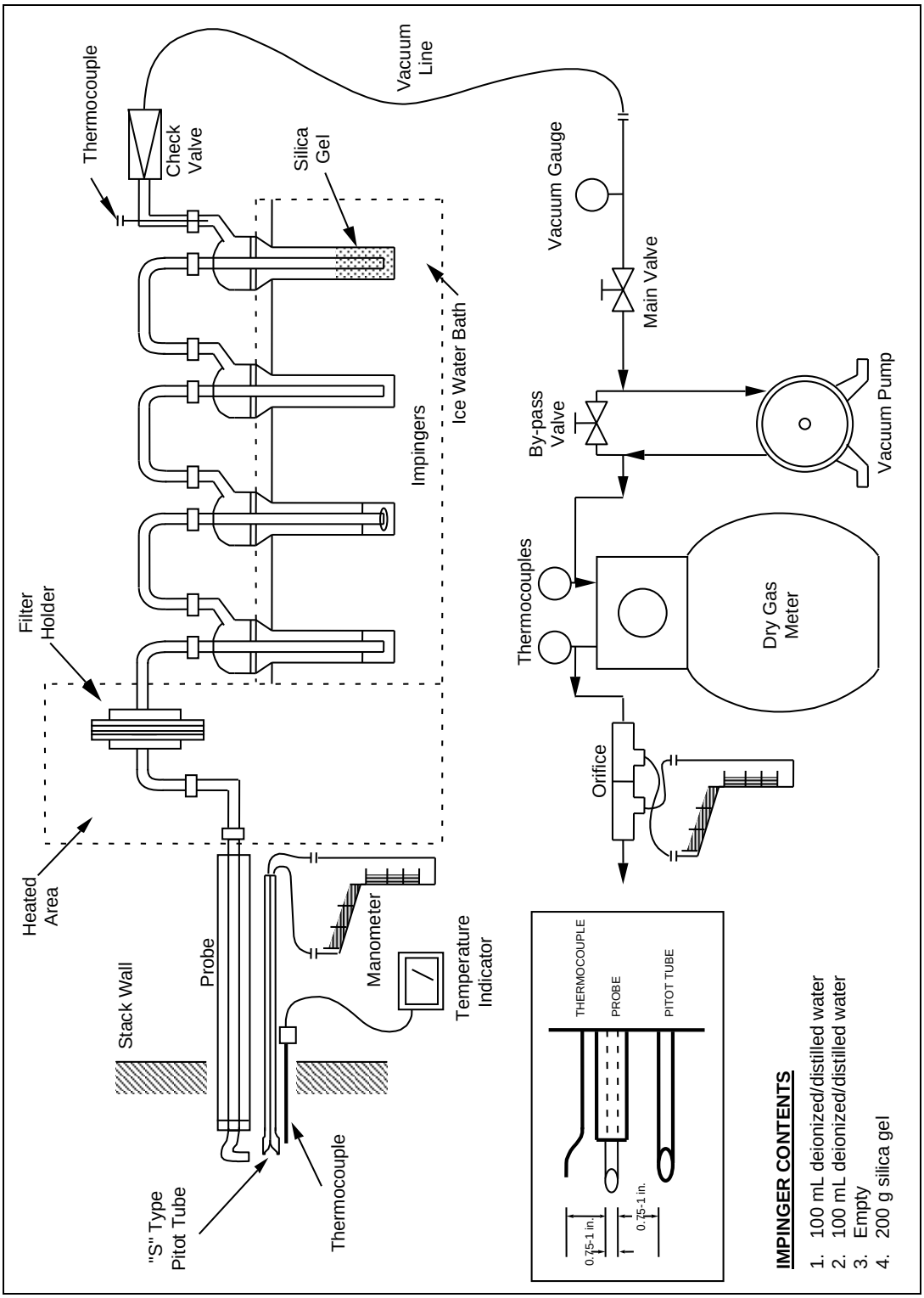
During sampling, stack gas and sampling train data were recorded at each sampling point and whenever significant changes occurred in stack flow conditions. Isokinetic sampling rates were set throughout the sampling period with the aid of a calculator.

#### 3.1.5.3 Sample Recovery Procedures

After sampling was completed, the sampling train was moved carefully from the test site to the cleanup area. The sample fractions were recovered as follows:

Container 1 - The filter was removed from its holder, placed in a petri dish, and sealed.

**FIGURE 3-1**
**USEPA METHOD 5 PARTICULATE MATTER SAMPLING TRAIN**



Container 2 - PM was removed from the probe with the aid of a brush and acetone rinsing. Loose PM and acetone washings from all sample-exposed surfaces prior to the filter were placed in a glass jar, sealed, and labeled. The liquid level was marked after the container was sealed.

Container 3 - 200 mL of acetone was taken for the blank analysis. The blank was obtained and treated in a similar manner as the contents of Container 2.

Contents of the first three impingers were measured for volume and discarded. The contents of the fourth impinger (silica gel) were placed in a polyethylene bottle for subsequent weighing to the nearest 0.5 gram.

#### 3.1.5.4 Analytical Procedures

The analytical procedures followed those described in USEPA Method 5.

Container 1 - The filter and any loose PM from this sample container were placed in a glass weighing dish, dried at 105 °C for 2 hours, placed in a desiccator for 24 hours, and weighed to a constant weight to the nearest 0.1 mg.

Container 2 - The acetone washings were transferred to a beaker with a tared Teflon liner, evaporated to dryness at ambient temperature and pressure, placed in a desiccator for 24 hours, and weighed to a constant weight to the nearest 0.1 mg.

Container 3 - The acetone blank was transferred to a beaker with a tared Teflon liner, evaporated to dryness at ambient temperature and pressure, placed in a desiccator for 24 hours, and weighed to a constant weight to the nearest 0.1 mg.

The term "constant weight" means a difference of no more than 0.5 mg or 1 percent of the total weight less tare weight, whichever is greater between two consecutive readings, with no less than 6 hours of desiccation between weighings.

### 3.1.6 Visible Emissions Determination (USEPA Method 9)

Visual opacity of emissions was determined in accordance with USEPA Method 9. A certified VE observer visually monitored and recorded the emission opacity (%) at 15-second intervals during each test run.

## 4.0 TEST RESULTS

The test results are presented in Table 4-1[1].

The calculation summaries, field data, laboratory data, process data, calibration data, and test program qualifications are included in the appendices.

### DISCUSSION

A total of four Method 5 PM test runs were conducted. Following the second test run, the Method 5 sampling train failed the post-test leak check, and an additional test run was conducted. Therefore, Table 4-1 presents the PM results for Test Run Nos. 1, 3, and 4.

[1] MEASUREMENT UNCERTAINTY STATEMENT
Both qualitative and quantitative factors contribute to field measurement uncertainty and should be taken into consideration when interpreting the results contained within this report. Whenever possible, Montrose personnel reduce the impact of these uncertainty factors through the use of approved and validated test methods. In addition, Montrose personnel perform routine instrument and equipment calibrations and ensure that the calibration standards, instruments, and equipment used during test events meet, at a minimum, test method specifications as well as the specifications of the Montrose Quality Manual and ASTM D7036-04. The limitations of the various methods, instruments, equipment, and materials utilized during this test have been reasonably considered, but the ultimate impact of the cumulative uncertainty of this project is not fully identified within the results of this report

## TABLE 4-1
## BAGHOUSE STACK PM AND VE TEST RESULTS

| **TEST RUN NO.** : | **1** | **3** | **4** | |
|---|---|---|---|---|
| **TEST DATE** : | **12/11/18** | **12/11/18** | **12/11/18** | |
| **TEST TIME** : | **08:00-09:15** | **12:32-13:39** | **14:10-15:15** | **Average** |
| **Plant Production Data** | | | | |
| Truck loads | 24 | 27 | 18 | 23 |
| Average ton/hr | 298.4 | 297.1 | 298.9 | 298.1 |
| **Stack Gas Parameters** | | | | |
| Temperature, av. °F | 253.8 | 267.4 | 271.0 | 264.1 |
| Velocity, av. ft/sec | 49.2 | 45.1 | 47.2 | 47.1 |
| Volumetric flow, acfm | 58,880 | 53,998 | 56,545 | 56,474 |
| Volumetric flow, scfm | 43,019 | 38,715 | 40,342 | 40,692 |
| Volumetric flow, dscfh | 1,742,412 | 1,593,668 | 1,656,583 | 1,664,221 |
| Moisture, av. % vol. | 32.5 | 31.4 | 31.6 | 31.8 |
| Carbon dioxide, av. % vol. db | 5.6 | 5.9 | 6.2 | 5.9 |
| Oxygen, av. % vol. db | 10.1 | 10.0 | 9.9 | 10.0 |
| **Particulate Sample** | | | | |
| Time, min. | 60.0 | 60.0 | 60.0 | |
| Volume, dscf | 40.895 | 36.137 | 36.817 | 37.949 |
| Filter media PM collected, mg | 31.0 | 29.5 | 23.3 | 27.9 |
| Probe wash PM collected, mg | 15.9 | 22.4 | 26.9 | 21.7 |
| Total filterable PM collected, mg | 46.9 | 51.9 | 50.1 | 49.6 |
| Isokinetic ratio, % | 108.9 | 105.2 | 103.1 | 105.7 |
| **Filterable PM** | | | | |
| Concentration, grains/dscf | 0.0177 | 0.0221 | 0.0210 | 0.0203 |
| Concentration, $x10^{-6}$ lb/dscf | 2.529 | 3.164 | 3.003 | 2.899 |
| Emission rate, lb/hr | 4.41 | 5.04 | 4.97 | 4.81 |
| Emission rate, lb/ton | 0.0148 | 0.0170 | 0.0166 | 0.0161 |

| **TEST RUN NO.** : | **1** | **2** | **3** | |
|---|---|---|---|---|
| **TEST DATE** : | **12/11/18** | **12/11/18** | **12/11/18** | |
| **TEST TIME** : | **08:05-09:05** | **10:05-11:05** | **12:40-13:40** | **Average** |
| **Visible Emissions** | | | | |
| Opacity, Highest 6-min. avg. % | 1.0 | 0.8 | 0.4 | 0.7 |

# APPENDIX A
# CALCULATION SUMMARIES

# USEPA Method 4
# Moisture Determination Sample Calculations

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Date:** 12/11/2018
**Run #:** 1

## *Data Input:*

| | |
|---|---|
| **Volume metered ($V_m$):** | 38.760 **$ft^3$** |
| **Meter calibration coefficient ($Y_d$):** | 0.995 **dimensionless** |
| **Barometric pressure ($P_{bar}$):** | 29.56 **inches Hg** |
| **Meter sample rate ($\Delta H$):** | 1.52 **inches $H_2O$** |
| **Meter inlet/outlet temperature ($T_m$):** | 33.8 **°F** |
| **Volume of moisture collected ($V_{lc}$):** | 418.2 **milliliters** |
| **Stack Temperature ($T_s$):** | 253.8 **°F** |
| **Static Pressure (St):** | -0.1 **inches $H_2O$** |

## *Sample calculations @ standard conditions (29.92 inches Hg, 68.0 °F):*

***Volume of sample, dry basis:***

$$Vm_{std} = V_m \times Y_d \times \left(\frac{528.0°R}{29.92"Hg}\right) \times \left(\frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m + 460}\right)$$ = **40.895 dscf**

***Volume of water vapor in sample:***

$$V_{wstd} = \frac{0.04707 ft^3}{ml} \times V_{lc}$$ = **19.685 scf**

***Fractional moisture content of stack gas:***

$$B_{ws} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$ = **0.3249 $B_{wo}$**

***Percent Moisture:***

$$\%moisture = B_{ws} \times 100$$ = **32.49 %**

***Fractional moisture content of stack gas at saturated conditions:***

$$T_{s(°K)} = ((T_s - 32) * 0.5556) + 273$$ = **396.2 °Kelvin**

$$P_{s(mmHg)} = \left(P_{bar} + \frac{S_t}{13.6}\right) \times 25.401$$ = **750.85 mm Hg**

$$B_{wos} = \frac{\sqrt{\left(10^{\left(A - \left(\frac{B}{(T_{s(°K)} - C)}\right)\right)}\right)}}{P_{s(mmHg)}}$$

*where:*
*A= 8.361*
*B=1893.5*
*C=27.65*

= **1.0000**

***Percent moisture at saturated conditions:***

$$\%moisture_{saturated} = B_{wos} \times 100$$ = **100.00 %**

***Percent moisture used for emissions calculations:***

= **32.49 %**

## USEPA Method 2
## Volumetric Flow Rate Sample Calculations (Circular Ducts)

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Date:** 12/11/2018
**Run #:** 1

### *Data Input*

| | | |
|---|---|---|
| **Carbon Dioxide ($CO_2$):** | 5.6 | **%** |
| **Oxygen ($O_2$):** | 10.1 | **%** |
| **Nitrogen ($N_2$):** | 84.3 | **%** |
| **Fractional Moisture Content ($B_{ws}$)** | 0.3249 | **dimensionless** |
| **Stack Temperature ($T_s$):** | 253.8 | **°F** |
| **Pitot Coefficient ($C_p$):** | 0.84 | **dimensionless** |
| **Average square root of ΔP** | 0.7051 | **inches $H_2O$** |
| **Barometric Pressure ($P_{bar}$):** | 29.56 | **inches Hg** |
| **Static Pressure ($S_t$)** | -0.10 | **inches $H_2O$** |
| **Stack diameter:** | 60.50 | **inches** |
| **Stack area ($A_s$):** | 19.9636 | **$ft^2$** |

### *Sample calculations @ standard conditions (29.92 inches Hg, 68.0 °F):*

***Dry molecular weight of stack gas:***

$$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times \%N_2)$$ = **29.300 lb/lb-mole**

***Molecular weight of stack gas, wet basis:***

$$M_s = (M_d \times (1 - B_{ws})) + (18 \times B_{ws})$$ = **25.628 lb/lb-mole**

***Absolute stack gas pressure:***

$$P_s = P_{bar} + \left(\frac{S_t}{13.6}\right)$$ = **29.553 inches $H_2O$**

***Stack gas velocity:***

$$V_s = 85.49 \times C_p \times \sqrt{\Delta P} \times \sqrt{\frac{(T_s + 460)}{(P_s \times M_s)}}$$ = **49.156 feet/second**

***Stack gas volumetric flow rate:***

$$Q_a = A_s \times V_s \times 60$$ = **58,880 acfm**

***Stack gas volumetric flow rate, wet basis:***

$$Q_{sw} = Q_a \times \left[\left(\frac{528°R}{29.92in.Hg}\right) \times \left(\frac{P_s}{T_s + 460}\right)\right]$$ = **43,019 scfm**

$$Q_{sw} = Q_a \times \left[\left(\frac{528°R}{29.92in.Hg}\right) \times \left(\frac{P_s}{T_s + 460}\right)\right] \times 60$$ = **2,581,117 scfh**

***Stack gas volumetric flow rate, dry basis:***

$$Q_{std} = Q_{sw} \times (1 - B_{ws})$$ = **29,040 dscfm**

$$Q_{std} = Q_{sw} \times (1 - B_{ws}) \times 60$$ = **1,742,412 dscfh**

# USEPA Method 5
## Particulate Calculation Summary

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Date:** 12/11/2018
**Run #:** 1

### *Data Input*

| | | | | |
|---|---|---|---|---|
| **Barometric pressure ($P_{bar}$):** | 29.56 | **inches Hg** | **Particulate Weight:** | |
| **Stack pressure ($P_s$):** | 29.55 | **Inches Hg Abs.** | **Filter** | 31.00 **milligrams** |
| **Test length (θ):** | 60.0 | **minutes** | **Probe Wash** | 15.91 **milligrams** |
| **Sample nozzle diameter ($D_n$):** | 0.2810 | **inches** | **Total weight ($M_n$):** | **46.91 milligrams** |
| **Sample nozzle area ($A_n$):** | 0.000431 | **$ft^3$** | | |
| **Stack temperature ($T_s$):** | 253.8 | **°F** | | |
| **Volume metered ($V_{mstd}$):** | 40.895 | **dscf** | | |
| **Stack gas velocity ($V_s$):** | 49.156 | **ft/sec** | | |
| **Stack gas volumetric flow ($Q_{std}$):** | 1,742,412 | **dscfh** | | |
| **Fractional Moisture content ($B_{ws}$):** | 0.3249 | | | |

### *Sample calculations @ standard conditions (29.92 inches Hg, 68.0 °F):*

***Percent Isokinetic:***

$$\%\text{Isokinetic} = \frac{0.0945 \times V_{mstd} \times (T_s + 460)}{P_s \times V_s \times \theta \times A_n \times (1 - B_{wo})}$$ = **108.9 % isokinetic**

***Total particulate concentration:***

$$C_s = \frac{\left(\frac{0.01543\,\text{grains}}{\text{mg}} \times M_n\right)}{V_{mstd}}$$ = **0.0177 gr/dscf**

$$C^1_s = \frac{\left(\frac{2.205 \times 10^{-6}\,\text{lb}}{\text{mg}} \times M_n\right)}{V_{mstd}}$$ = **2.529 x $10^{-6}$ lb/dscf**

***Total particulate emission rate:***

$$E_p = C^1_s \times Q_{std}$$ = **4.407 lb/hr**

## USEPA Method 4
## Moisture Determination Sample Calculations

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Date:** 12/11/2018
**Run #:** 3

### *Data Input:*

| | |
|---|---|
| **Volume metered ($V_m$):** | 35.195 **$ft^3$** |
| **Meter calibration coefficient ($Y_d$):** | 1.013 **dimensionless** |
| **Barometric pressure ($P_{bar}$):** | 29.56 **inches Hg** |
| **Meter sample rate ($\Delta H$):** | 1.13 **inches $H_2O$** |
| **Meter inlet/outlet temperature ($T_m$):** | 56.1 **°F** |
| **Volume of moisture collected ($V_{lc}$):** | 351.3 **milliliters** |
| **Stack Temperature ($T_s$):** | 267.4 **°F** |
| **Static Pressure (St):** | -0.1 **inches $H_2O$** |

### *Sample calculations @ standard conditions (29.92 inches Hg, 68.0 °F):*

***Volume of sample, dry basis:***

$$Vm_{std} = V_m \times Y_d \times \left(\frac{528.0°R}{29.92"Hg}\right) \times \left(\frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m + 460}\right)$$ = **36.137 dscf**

***Volume of water vapor in sample:***

$$V_{wstd} = \frac{0.04707 ft^3}{ml} \times V_{lc}$$ = **16.536 scf**

***Fractional moisture content of stack gas:***

$$B_{ws} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$ = **0.3139 $B_{wo}$**

***Percent Moisture:***

$$\%moisture = B_{ws} \times 100$$ = **31.39 %**

***Fractional moisture content of stack gas at saturated conditions:***

$$T_{s(°K)} = ((T_s - 32) * 0.5556) + 273$$ = **403.8 °Kelvin**

$$P_{s(mmHg)} = \left(P_{bar} + \frac{S_t}{13.6}\right) \times 25.401$$ = **750.85 mm Hg**

$$B_{wos} = \frac{\sqrt{\left(10^{\left(A - \left(\frac{B}{(T_{s(°K)} - C)}\right)\right)}\right)}}{P_{s(mmHg)}}$$

*where:*
*A= 8.361*
*B=1893.5*
*C=27.65*

= **1.0000**

***Percent moisture at saturated conditions:***

$$\%moisture_{saturated} = B_{wos} \times 100$$ = **100.00 %**

***Percent moisture used for emissions calculations:***

= **31.39 %**

## USEPA Method 2
## Volumetric Flow Rate Sample Calculations (Circular Ducts)

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Date:** 12/11/2018
**Run #:** 3

### *Data Input*

| | | |
|---|---|---|
| **Carbon Dioxide ($CO_2$):** | 5.9 | **%** |
| **Oxygen ($O_2$):** | 10.0 | **%** |
| **Nitrogen ($N_2$):** | 84.1 | **%** |
| **Fractional Moisture Content ($B_{ws}$)** | 0.3139 | **dimensionless** |
| **Stack Temperature ($T_s$):** | 267.4 | **°F** |
| **Pitot Coefficient ($C_p$):** | 0.84 | **dimensionless** |
| **Average square root of ΔP** | 0.6425 | **inches $H_2O$** |
| **Barometric Pressure ($P_{bar}$):** | 29.56 | **inches Hg** |
| **Static Pressure ($S_t$)** | -0.09 | **inches $H_2O$** |
| **Stack diameter:** | 60.50 | **inches** |
| **Stack area ($A_s$):** | 19.9636 | **$ft^2$** |

### *Sample calculations @ standard conditions (29.92 inches Hg, 68.0 °F):*

***Dry molecular weight of stack gas:***

$$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times \%N_2)$$ = **29.344 lb/lb-mole**

***Molecular weight of stack gas, wet basis:***

$$M_s = (M_d \times (1 - B_{ws})) + (18 \times B_{ws})$$ = **25.783 lb/lb-mole**

***Absolute stack gas pressure:***

$$P_s = P_{bar} + \left(\frac{S_t}{13.6}\right)$$ = **29.553 inches $H_2O$**

***Stack gas velocity:***

$$V_s = 85.49 \times C_p \times \sqrt{\Delta P} \times \sqrt{\frac{(T_s + 460)}{(P_s \times M_s)}}$$ = **45.080 feet/second**

***Stack gas volumetric flow rate:***

$$Q_a = A_s \times V_s \times 60$$ = **53,998 acfm**

***Stack gas volumetric flow rate, wet basis:***

$$Q_{sw} = Q_a \times \left[\left(\frac{528°R}{29.92in.Hg}\right) \times \left(\frac{P_s}{T_s + 460}\right)\right]$$ = **38,715 scfm**

$$Q_{sw} = Q_a \times \left[\left(\frac{528°R}{29.92in.Hg}\right) \times \left(\frac{P_s}{T_s + 460}\right)\right] \times 60$$ = **2,322,906 scfh**

***Stack gas volumetric flow rate, dry basis:***

$$Q_{std} = Q_{sw} \times (1 - B_{ws})$$ = **26,561 dscfm**

$$Q_{std} = Q_{sw} \times (1 - B_{ws}) \times 60$$ = **1,593,668 dscfh**

# USEPA Method 5
## Particulate Calculation Summary

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Date:** 12/11/2018
**Run #:** 3

### *Data Input*

| | | | |
|---|---|---|---|
| **Barometric pressure ($P_{bar}$):** | 29.56 **inches Hg** | **Particulate Weight:** | |
| **Stack pressure ($P_s$):** | 29.55 **Inches Hg Abs.** | **Filter** | 29.45 **milligrams** |
| **Test length ($\theta$):** | 60.0 **minutes** | **Probe Wash** | 22.40 **milligrams** |
| **Sample nozzle diameter ($D_n$):** | 0.2810 **inches** | **Total weight ($M_n$):** | **51.85 milligrams** |
| **Sample nozzle area ($A_n$):** | 0.000431 **$ft^3$** | | |
| **Stack temperature ($T_s$):** | 267.4 **°F** | | |
| **Volume metered ($V_{mstd}$):** | 36.137 **dscf** | | |
| **Stack gas velocity ($V_s$):** | 45.080 **ft/sec** | | |
| **Stack gas volumetric flow ($Q_{std}$):** | 1,593,668 **dscfh** | | |
| **Fractional Moisture content ($B_{ws}$):** | 0.3139 | | |

### *Sample calculations @ standard conditions (29.92 inches Hg, 68.0 °F):*

***Percent Isokinetic:***

$$\%Isokinetic = \frac{0.0945 \times V_{mstd} \times (T_s + 460)}{P_s \times V_s \times \theta \times A_n \times (1 - B_{wo})}$$ = **105.2 % isokinetic**

***Total particulate concentration:***

$$C_s = \frac{\left(\frac{0.01543\,grains}{mg} \times M_n\right)}{V_{mstd}}$$ = **0.0221 gr/dscf**

$$C^1_s = \frac{\left(\frac{2.205 \times 10^{-6}\,lb}{mg} \times M_n\right)}{V_{mstd}}$$ = **3.164 x $10^{-6}$ lb/dscf**

***Total particulate emission rate:***

$$E_p = C^1_s \times Q_{std}$$ = **5.042 lb/hr**

## USEPA Method 4
## Moisture Determination Sample Calculations

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Date:** 12/11/2018
**Run #:** 4

### *Data Input:*

| | | |
|---|---|---|
| **Volume metered ($V_m$):** | 36.362 | **$ft^3$** |
| **Meter calibration coefficient ($Y_d$):** | 1.013 | **dimensionless** |
| **Barometric pressure ($P_{bar}$):** | 29.56 | **inches Hg** |
| **Meter sample rate ($\Delta H$):** | 1.23 | **inches $H_2O$** |
| **Meter inlet/outlet temperature ($T_m$):** | 63.5 | **°F** |
| **Volume of moisture collected ($V_{lc}$):** | 360.7 | **milliliters** |
| **Stack Temperature ($T_s$):** | 271.0 | **°F** |
| **Static Pressure (St):** | -0.1 | **inches $H_2O$** |

### *Sample calculations @ standard conditions (29.92 inches Hg, 68.0 °F):*

***Volume of sample, dry basis:***

$$Vm_{std} = V_m \times Y_d \times \left(\frac{528.0°R}{29.92"Hg}\right) \times \left(\frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m + 460}\right)$$ = **36.817 dscf**

***Volume of water vapor in sample:***

$$V_{wstd} = \frac{0.04707 ft^3}{ml} \times V_{lc}$$ = **16.978 scf**

***Fractional moisture content of stack gas:***

$$B_{ws} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$ = **0.3156 $B_{wo}$**

***Percent Moisture:***

$$\%moisture = B_{ws} \times 100$$ = **31.56 %**

***Fractional moisture content of stack gas at saturated conditions:***

$$T_{s(°K)} = ((T_s - 32) * 0.5556) + 273$$ = **405.8 °Kelvin**

$$P_{s(mmHg)} = \left(P_{bar} + \frac{S_t}{13.6}\right) \times 25.401$$ = **750.85 mm Hg**

$$B_{wos} = \frac{\sqrt{\left(10^{\left(A - \left(\frac{B}{(T_{s(°K)} - C)}\right)\right)}\right)}}{P_{s(mmHg)}}$$

*where:*
*A= 8.361*
*B=1893.5*
*C=27.65*

= **1.0000**

***Percent moisture at saturated conditions:***

$$\%moisture_{saturated} = B_{wos} \times 100$$ = **100.00 %**

***Percent moisture used for emissions calculations:***

= **31.56 %**

## USEPA Method 2
## Volumetric Flow Rate Sample Calculations (Circular Ducts)

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Date:** 12/11/2018
**Run #:** 4

### *Data Input*

| | | |
|---|---|---|
| **Carbon Dioxide ($CO_2$):** | 6.2 | **%** |
| **Oxygen ($O_2$):** | 9.9 | **%** |
| **Nitrogen ($N_2$):** | 83.9 | **%** |
| **Fractional Moisture Content ($B_{ws}$)** | 0.3156 | **dimensionless** |
| **Stack Temperature ($T_s$):** | 271.0 | **°F** |
| **Pitot Coefficient ($C_p$):** | 0.84 | **dimensionless** |
| **Average square root of ΔP** | 0.6713 | **inches $H_2O$** |
| **Barometric Pressure ($P_{bar}$):** | 29.56 | **inches Hg** |
| **Static Pressure ($S_t$)** | -0.09 | **inches $H_2O$** |
| **Stack diameter:** | 60.50 | **inches** |
| **Stack area ($A_s$):** | 19.9636 | **$ft^2$** |

### *Sample calculations @ standard conditions (29.92 inches Hg, 68.0 °F):*

***Dry molecular weight of stack gas:***

$$M_d = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times \%N_2)$$ = **29.388 lb/lb-mole**

***Molecular weight of stack gas, wet basis:***

$$M_s = (M_d \times (1 - B_{ws})) + (18 \times B_{ws})$$ = **25.794 lb/lb-mole**

***Absolute stack gas pressure:***

$$P_s = P_{bar} + \left(\frac{S_t}{13.6}\right)$$ = **29.553 inches $H_2O$**

***Stack gas velocity:***

$$V_s = 85.49 \times C_p \times \sqrt{\Delta P} \times \sqrt{\frac{(T_s + 460)}{(P_s \times M_s)}}$$ = **47.207 feet/second**

***Stack gas volumetric flow rate:***

$$Q_a = A_s \times V_s \times 60$$ = **56,545 acfm**

***Stack gas volumetric flow rate, wet basis:***

$$Q_{sw} = Q_a \times \left[\left(\frac{528°R}{29.92in.Hg}\right) \times \left(\frac{P_s}{T_s + 460}\right)\right]$$ = **40,342 scfm**

$$Q_{sw} = Q_a \times \left[\left(\frac{528°R}{29.92in.Hg}\right) \times \left(\frac{P_s}{T_s + 460}\right)\right] \times 60$$ = **2,420,526 scfh**

***Stack gas volumetric flow rate, dry basis:***

$$Q_{std} = Q_{sw} \times (1 - B_{ws})$$ = **27,610 dscfm**

$$Q_{std} = Q_{sw} \times (1 - B_{ws}) \times 60$$ = **1,656,583 dscfh**

# USEPA Method 5
# Particulate Calculation Summary

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Date:** 12/11/2018
**Run #:** 4

## *Data Input*

| | | | | |
|---|---|---|---|---|
| **Barometric pressure ($P_{bar}$):** | 29.56 | **inches Hg** | **Particulate Weight:** | |
| **Stack pressure ($P_s$):** | 29.55 | **Inches Hg Abs.** | **Filter** | 23.25 **milligrams** |
| **Test length ($\theta$):** | 60.0 | **minutes** | **Probe Wash** | 26.89 **milligrams** |
| **Sample nozzle diameter ($D_n$):** | 0.2810 | **inches** | **Total weight ($M_n$):** | **50.14 milligrams** |
| **Sample nozzle area ($A_n$):** | 0.000431 | **$ft^3$** | | |
| **Stack temperature ($T_s$):** | 271.0 | **°F** | | |
| **Volume metered ($V_{mstd}$):** | 36.817 | **dscf** | | |
| **Stack gas velocity ($V_s$):** | 47.207 | **ft/sec** | | |
| **Stack gas volumetric flow ($Q_{std}$):** | 1,656,583 | **dscfh** | | |
| **Fractional Moisture content ($B_{ws}$):** | 0.3156 | | | |

## *Sample calculations @ standard conditions (29.92 inches Hg, 68.0 °F):*

***Percent Isokinetic:***

$$\%\text{Isokinetic} = \frac{0.0945 \times V_{mstd} \times (T_s + 460)}{P_s \times V_s \times \theta \times A_n \times (1 - B_{wo})}$$

= **103.1 % isokinetic**

***Total particulate concentration:***

$$C_s = \frac{\left(\frac{0.01543\,\text{grains}}{\text{mg}} \times M_n\right)}{V_{mstd}}$$

= **0.0210 gr/dscf**

$$C^1_s = \frac{\left(\frac{2.205 \times 10^{-6}\,\text{lb}}{\text{mg}} \times M_n\right)}{V_{mstd}}$$

= **3.003 x $10^{-6}$lb/dscf**

***Total particulate emission rate:***

$$E_p = C^1_s \times Q_{std}$$

= **4.975 lb/hr**

# APPENDIX B
# FIELD DATA

MONTROSE AIR QUALITY SERVICES

# TRAVERSE POINT LOCATIONS FOR CIRCULAR AND RECTANGULAR STACKS AND DUCTS

024AS-473273-RT-238

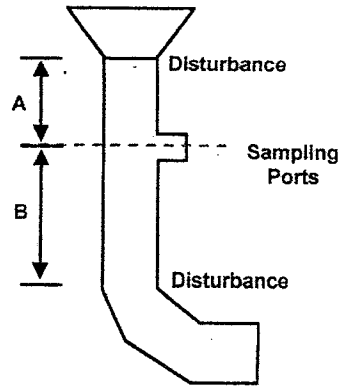
Facility MAT
Date 12-11-18
Sampling Location Baghouse Exh.
Inside of Far Wall to
Outside of Port (Distance C) 63.5 in.
Inside of Near Wall to
Outside of Port (Distance D) 3.0 in
Stack ID (Distance C- Distance D) 60.5 in.
Port Distance Downstream From Disturbance (B) >300 in.
Port Distance Upstream From Disturbance (A) >84 in.
Equivalent Diameters Downstream From Disturbance (B) ~~>300~~ 4.96 (≥ 2.0) 1.39
Equivalent Diameters Upstream From Disturbance (A) 1.39 (≥ 0.5)
Number of Ports Used 2 Traverse Points / Port 12

Note: Sketch Stack/Ports/Control Device on Back of Form

Equivalent Diameters Downstream From Disturbance (B) =
[ Distance B / Stack ID ]

Equivalent Diameters Upstream From Disturbance (A) =
[ Distance A / Stack ID ]

Equivalent Diameter For a Square or Rectangular Stack =
[ (2 x L x W) / (L + W) ]




Port ID_____ in. (for monorail bracket specs.)
Port Length Outside of Stack _____ in. (for monorail bracket specs.)

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Port Traverse Point Number | Fractional % of Stack I.D. (frac. %) | Stack I.D. (inches) | Product of Columns 2 and 3 (inches) | Port Depth (inches) | Traverse Point Location From Outside of Port (Sum of 4 and 5 in inches) |
| 1 | 0.021 | 60.5 | 1.27 | 3.0 | 4.27 |
| 2 | 0.067 | ↓ | 4.05 | | 7.05 |
| 3 | 0.118 | ↓ | 7.14 | | 10.14 |
| 4 | 0.177 | | 10.71 | | 13.71 |
| 5 | 0.250 | | 15.13 | | 18.13 |
| 6 | 0.356 | | 21.54 | | 24.54 |
| 7 | 0.644 | | 38.96 | | 41.96 |
| 8 | 0.750 | | 45.34 | | 48.34 |
| 9 | 0.923 | | 55.84 | | 52.84 |
| 10 | 0.982 | | 59.36 | | 56.36 |
| 11 | 0.933 | | 56.45 | | 59.45 |
| 12 | 0.979 | | 59.23 | | 62.23 |

25 of 135

For Stacks / Ducts ≤ 24 inches ID – No traverse point shall be located less than 0.5 inches from stack wall

For Stacks / Ducts > 24 inches ID – No traverse point shall be located less than 1.0 inches from stack wall

QA/QC Check:
Completeness [illegible] Legibility [illegible] Accuracy [illegible] Specifications [illegible]

Method 1 Calculator Signature/Date [illegible] 12/11/18

Field Supervisor Signature/Date [illegible] 12/12/18

LOCATION OF TRAVERSE POINTS IN CIRCULAR STACKS

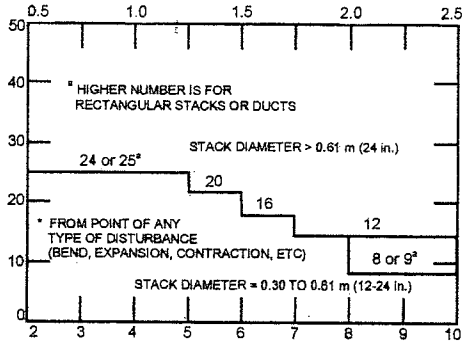
| Pts | 4 | 6 | 8 | 10 | (12) |
|---|---|---|---|---|---|
| 1 | 6.7 | 4.4 | 3.2 | 2.6 | 2.1 |
| 2 | 25.0 | 14.6 | 10.5 | 8.2 | 6.7 |
| 3 | 75.0 | 29.6 | 19.4 | 14.6 | 11.8 |
| 4 | 93.3 | 70.4 | 32.3 | 22.6 | 17.7 |
| 5 | | 85.4 | 67.7 | 34.2 | 25.0 |
| 6 | | 95.6 | 80.6 | 65.8 | 35.6 |
| 7 | | | 89.5 | 77.4 | 64.4 |
| 8 | | | 96.8 | 85.4 | 75.0 |
| 9 | | | | 91.8 | 82.3 |
| 10 | | | | 97.4 | 88.2 |
| 11 | | | | | 93.3 |
| 12 | | | | | 97.9 |

LOCATION OF TRAVERSE POINTS IN RECTANGULAR STACKS
CEMS*

| Pts | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| 1 | 25.0 | 16.7 | 12.5 | 10.0 | 8.3 | 7.1 | 6.3 | 5.6 |
| 2 | 75.0 | 50.0 | 37.5 | 30.0 | 25.0 | 21.4 | 18.8 | 16.7 |
| 3 | | 83.3 | 62.5 | 50.0 | 41.7 | 35.7 | 31.3 | 27.8 |
| 4 | | | 87.5 | 70.0 | 58.3 | 50.0 | 43.8 | 38.9 |
| 5 | | | | 90.0 | 75.0 | 64.3 | 56.3 | 50.0 |
| 6 | | | | | 91.7 | 78.6 | 68.8 | 61.1 |
| 7 | | | | | | 92.9 | 81.3 | 72.2 |
| 8 | | | | | | | 93.8 | 83.3 |
| 9 | | | | | | | | 94.4 |

*3 point CEMS RATA traverse point locations (valid for rectangular and round stacks)

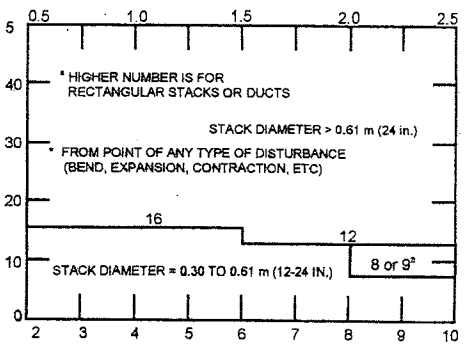
DUCT DIAMETERS UPSTREAM FROM FLOW DISTURBANCE* (DISTANCE A)




DUCT DIAMETERS DOWNSTREAM FROM FLOW DISTURBANCE* (DISTANCE B)

MINIMUM NUMBER OF TRAVERSE POINTS
ISOKINETIC TESTING

DUCT DIAMETERS UPSTREAM FROM FLOW DISTURBANCE* (DISTANCE A)




DUCT DIAMETERS DOWNSTREAM FROM FLOW DISTURBANCE* (DISTANCE B)

MINIMUM NUMBER OF TRAVERSE POINTS
FOR VELOCITY (NON-ISOKINETIC) TRAVERSES

MONTROSE AIR QUALITY SERVICES

# USEPA METHOD 5 FIELD DATA

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PLANT | MAT Asphalt | AMBIENT TEMPERATURE | 30 | PROBE HEATER SETTING | 253 | FILTER TARE, mg | | NOZZLE ID | Glass M5 |
| DATE | 12-11-18 | BAROMETRIC PRESSURE | 29.56 | HEATER BOX SETTING | 252 | FILTER LOT NO. | | DIA. 1, in. | 0.281 |
| LOCATION | Cheyenne | ASSUMED MOISTURE, % | 23 | METER $\Delta H_@$ | 1.943 | FILTER PETRI LABEL NO. | | DIA. 2, in. | 0.280 |
| OPERATOR | S. Robert T. | PROBE LENGTH, in. | 84 | $C_p$ FACTOR | 0.84 | ACETONE LOT NO. | 179319 | DIA. 3, in. | 0.282 |
| STACK NO. | BH Stack | NOZZLE DIAMETER, in. | 0.281 | $Y_d$ FACTOR | 0.995 | HEXANE LOT NO. | | DIA. AVG., in. | 0.281 |
| RUN NO. | 1 | STACK DIAMETER, in. | 60.5 | PROBE/PITOT NO. | 5062 / 8281 | DI WATER LOT NO. | | ΔD ≤ 0.004 in. | (YES) NO |
| SAMPLE BOX NO. | AVFX | NUMBER OF PORTS | 2 | MAGNEHELIC GAUGE ID | NA | ISOPROPANOL LOT NO. | | DENTS | YES (NO) |
| METER BOX NO. | 0805021 | TOTAL NUMBER OF POINTS | 24 | ALNOR ID | NA | TOLUENE LOT NO. | | SHARP EDGE | (YES) NO |
| START TIME | 0800 | MINUTES PER POINT | 2.5 | GAUGE SENSITIVITY, in $H_2O$ | 0.01 | NIST REFERENCE T/C ID | T/C #7 | UNDAMAGED | (YES) NO |

| CLOCK TIME (Hrs) | TRAVERSE POINT NUMBER | SAMPLING TIME (Q) min. | STATIC PRESSURE (in. $H_2O$) | STACK TEMP ($T_S$) °F | VELOCITY HEAD (ΔP) in. H2O (ΔP) | VELOCITY HEAD (ΔP) in. H2O SQ RT (ΔP) | DGM ORIFICE (ΔH) in. $H_2O$ ACTUAL | DGM ORIFICE (ΔH) in. $H_2O$ DESIRED | GAS SAMPLE VOLUME (Vm) ft³ | DGM TEMPERATURE INLET ($Tm_{in}$) °F | DGM TEMPERATURE OUTLET ($Tm_{out}$) °F | FILTER EXIT °F | PROBE TEMP °F | AUXILIARY EXIT °F | FINAL IMPINGER °F | PUMP VACUUM (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0800 | SW1 | 0 | -0.10 | 255 | 0.55 | | 1.7 | 1.67 | 787.588 | 30 | AMB | 236 | 251 | | 29 | 3 |
| | 2 | 2.5 | | 256 | 0.57 | | 1.7 | 1.73 | 789.3 | 30 | GNEW | 233 | 252 | | 30 | 3 |
| 0805 | 3 | 5 | | 259 | 0.53 | | 1.6 | 1.61 | ~~791.0~~ 791.330 | | | 246 | 250 | | 32 | 2 |
| | 4 | 7.5 | | 257 | 0.57 | | 1.7 | 1.73 | 792.5 | 30 | | 250 | 251 | | 36 | 2 |
| 0810 | 5 | 10 | | 257 | 0.52 | | 1.6 | 1.58 | 794.3 | 31 | | 256 | 249 | | 47 | 3 |
| | 6 | 12.5 | | 257 | 0.50 | | 1.5 | 1.52 | 796.0 | 31 | | 258 | 250 | | 59 | 2 |
| 0815 | 7 | 15 | | 257 | 0.56 | | 1.7 | 1.70 | 797.7 | 31 | | 260 | 250 | | 56 | 2 |
| | 8 | 17.5 | | 253 | 0.49 | | 1.5 | 1.49 | 799.1 | 32 | | 260 | 239 | | 54 | 3 |
| 0820 | 9 | 20 | | 251 | 0.45 | | 1.4 | 1.37 | 800.7 | 32 | | 257 | 238 | | 52 | 2 |
| | 10 | 22.5 | | 251 | 0.46 | | 1.4 | 1.40 | 802.3 | 33 | | 255 | 239 | | 53 | 2 |
| 0825 | 11 | 25 | | 250 | 0.41 | | 1.2 | 1.25 | 804.1 | 33 | | 252 | 238 | | 51 | 2 |
| | 12 | 27.5 | | 249 | 0.42 | | 1.3 | 1.28 | 805.6 | 33 | | 249 | 238 | | 50 | 2 |
| ~~0830~~/0840 | SE-1 | 30 | | 255 | 0.63 | | 1.9 | 1.92 | 807.2 | 34 | | 255 | 239 | | 53 | 3 |
| | 2 | 32.5 | | 259 | 0.64 | | 2.0 | 1.95 | 808.6 | 34 | | 261 | 239 | | 55 | 3 |
| 0845 | 3 | 35 | | 260 | 0.61 | | 1.9 | 1.86 | 810.9 | 36 | | 268 | 238 | | 59 | 3 |
| | 4 | 37.5 | | 261 | 0.57 | | 1.7 | 1.73 | 812.5 | 36 | | 270 | 241 | | 64 | 2 |
| 0850 | 5 | 40 | | 260 | 0.53 | | 1.6 | 1.61 | 814.2 | 37 | | 256 | 242 | | 64 | 3 |
| | 6 | 42.5 | | 258 | ~~0.51~~ 0.42 | | 1.3 | 1.28 | 815.9 | 37 | | 252 | 243 | | 65 | 2 |
| * 0855/0900 | 7 | 45 | | 258 | 0.41 | | 1.2 | 1.25 | 817.6 | 37 | | 252 | 241 | | 48 | 2 |
| | 8 | 47.5 | | 256 | 0.39 | | 1.2 | 1.19 | 818.9 | 36 | | 252 | 241 | | 51 | 2 |
| 0905 | 9 | 50 | | 257 | 0.40 | | 1.2 | 1.22 | 820.2 | 37 | | 252 | 242 | | 50 | 2 |
| | 10 | 52.5 | | 257 | 0.47 | | 1.3 | 1.28 | 821.8 | 37 | | 251 | 241 | | 49 | 2 |
| 0910 | 11 | 55 | | 256 | 0.46 | | 1.4 | 1.43 | 823.0 | 37 | | 249 | 242 | | 48 | 2 |
| | 12 | 57.5 | | 255 | 0.49 | | 1.5 | 1.53 | 824.6 | 38 | | 243 | 241 | | 46 | 2 |
| 0915 | | 60 | | | | | | | 826.348 | | | | | | | |
| AVERAGE | 24 | 60 | -0.10 | 253.8 | — | 0.7051 | 1.52 | — | 38.760 | 33.8 | — | ~250 | ~250 | — | ≤65 | MAX 3 |

ALT-011 T/C CALIBRATION CHECK
DIFFERENCE MUST BE ≤ (± 2.0 °F)

| | |
|---|---|
| TRAIN T/C, °F | 30 |
| REF. T/C, °F | 30 |

| | | | | | |
|---|---|---|---|---|---|
| TRAIN T/C, °F | 30 | | 30 | 31 | 30 |
| REF. T/C, °F | 30 | | 30 | 30 | 30 |

| IMPINGERS | VOLUME (ml) OR WEIGHT (g) | | | | | S.G. WEIGHT |
|---|---|---|---|---|---|---|
| IMPINGER NO. | #1 | #2 | #3 | #4 | #5 | grams |
| FINAL | 320 | 216 | 60 | / | / | 222.2 |
| INITIAL | 200 | 200 | 0 | / | / | 200.0 |
| NET COLLECTED | 120 | 16 | 60 | / | / | 22.2 |
| TOTAL CONDENSATE COLLECTED (specify ml or g) | | | | | | 418.2 |

| ORSAT DATA | TIME | $CO_2$ | $O_2$ |
|---|---|---|---|
| TRIAL 1 | 1730 | 5.6 | 10.1 |
| TRIAL 2 | 1735 | 5.6 | 10.1 |
| TRIAL 3 | 1740 | 5.6 | 10.1 |
| Average | | 5.6 | 10.1 |

| LEAK CHECK | |
|---|---|
| TRAIN PRE: | 0.001 CFM@15"Hg |
| POST: | 0.001 CFM@15"Hg |
| PITOT PRE: | +/- 0K/ok @ > 3"$H_2O$ |
| POST: | +/- 0K/ok @ > 3"$H_2O$ |

Form FDF 4003.00

* Paused test to add ice to impingen bucket (5-mins total pause)

MONTROSE AIR QUALITY SERVICES

# USEPA METHOD 5 FIELD DATA

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PLANT | MAT Asphalt | AMBIENT TEMPERATURE | 31 | PROBE HEATER SETTING | 250 | FILTER TARE, mg | | NOZZLE ID | Glass | | |
| DATE | 12-11-68 | BAROMETRIC PRESSURE | 29.56 | HEATER BOX SETTING | 250 | FILTER LOT NO. | | DIA. 1, in. | 0.251 | | |
| LOCATION | Chicago, IL | ASSUMED MOISTURE, % | 30 | METER $\Delta H_@$ | 1.943 | FILTER PETRI LABEL NO. | | DIA. 2, in. | 0.250 | | |
| OPERATOR | S. FLAHERTY | PROBE LENGTH, in. | 84 | $C_p$ FACTOR | 0.84 | ACETONE LOT NO. | 174319 | DIA. 3, in. | 0.252 | | |
| STACK NO. | BH Stack | NOZZLE DIAMETER, in. | 0.281 | $Y_d$ FACTOR | 0.995 | HEXANE LOT NO. | | DIA. AVG., in. | 0.281 | | |
| RUN NO. | 2 | STACK DIAMETER, in. | 60.5 | PROBE/PITOT NO. | 5062/8281 | DI WATER LOT NO. | | $\Delta D \leq 0.004$ in. | YES | NO | |
| SAMPLE BOX NO. | APEX | NUMBER OF PORTS | 2 | MAGNEHELIC GAUGE ID | NA | ISOPROPANOL LOT NO. | | DENTS | YES | NO | |
| METER BOX NO. | 0808024 | TOTAL NUMBER OF POINTS | 24 | ALNOR ID | | TOLUENE LOT NO. | | SHARP EDGE | YES | NO | |
| START TIME | 1000 | MINUTES PER POINT | 2.5 | GAUGE SENSITIVITY, in $H_2O$ | | NIST REFERENCE T/C ID | | UNDAMAGED | YES | NO | |

| CLOCK TIME (Hrs) | TRAVERSE POINT NUMBER | SAMPLING TIME (Q) min. | STATIC PRESSURE (in. $H_2O$) | STACK TEMP ($T_S$) °F | VELOCITY HEAD (ΔP) in. H2O | | DGM ORIFICE (ΔH) in. $H_2O$ | | GAS SAMPLE VOLUME (Vm) $ft^3$ | DGM TEMPERATURE | | FILTER EXIT °F | PROBE TEMP °F | AUXILIARY EXIT °F | FINAL IMPINGER °F | PUMP VACUUM (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (ΔP) | SQ RT (ΔP) | ACTUAL | DESIRED | | INLET ($Tm_{in}$) °F | OUTLET ($Tm_{out}$) °F | | | | | |
| 1000 | SE 1 | 0 | -0.09 | 261 | 0.65 | | 1.8 | 1.81 | 829.031 | 37 | | 254 | 242 | | 35 | 1 |
| | 2 | 2.5 | | 262 | 0.64 | | 1.8 | 1.71 | 830.8 | 37 | | 252 | 241 | | 34 | 1 |
| 1005 | 3 | 5 | | 261 | 0.62 | | 1.7 | 1.73 | 832.6 | 37 | | 262 | 240 | | 34 | 1 |
| | 4 | 7.5 | | 264 | 0.63 | | 1.8 | 1.76 | 834.3 | 37 | | 259 | 240 | | 37 | 1 |
| 1010 | 5 | 10 | | 264 | 0.61 | | 1.7 | 1.70 | 836.0 | 38 | | 263 | 251 | | 38 | 1 |
| | 6 | 12.5 | | 263 | 0.58 | | 1.6 | 1.62 | 837.8 | 38 | | 257 | 250 | | 39 | 1 |
| 1015 | 7 | 15 | | 263 | 0.55 | | 1.5 | 1.54 | 839.4 | 38 | | 249 | 236 | | 42 | 1 |
| | 8 | 17.5 | | 262 | 0.55 | | 1.5 | 1.54 | 841.1 | 39 | | 252 | 236 | | 43 | 1 |
| 1020 | 9 | 20 | | 263 | 0.52 | | 1.5 | 1.46 | 842.7 | 40 | | 253 | 237 | | 45 | 1 |
| | 10 | 22.5 | | 263 | 0.45 | | 1.3 | 1.26 | 844.3 | 40 | | 246 | 238 | | 46 | 1 |
| 1025 | 11 | 25 | | 264 | 0.43 | | 1.2 | 1.21 | 845.8 | 41 | | 241 | 237 | | 47 | 1 |
| | 12 | 27.5 | | 262 | 0.45 | | 1.3 | 1.27 | 847.2 | 41 | | 235 | 238 | | 48 | 1 |
| 1032/1035 | SW 1 | 30 | | 248 | 0.47 | | 1.4 | 1.35 | 848.72 | 41 | | 234 | 248 | | 41 | 1 |
| | 2 | 32.5 | | 243 | 0.48 | | 1.4 | 1.39 | 850.3 | 42 | | 237 | 255 | | 41 | 1 |
| 1040 | 3 | 35 | | 245 | 0.49 | | 1.4 | 1.42 | 851.8 | 42 | | 237 | 253 | | 41 | 1 |
| | 4 | 37.5 | | 258 | 0.54 | | 1.5 | 1.53 | 853.4 | 42 | | 239 | 257 | | 40 | 1 |
| 1045 | 5 | 40 | | 261 | 0.49 | | 1.4 | 1.36 | 855.0 | 43 | | 242 | 235 | | 41 | 1 |
| | 6 | 42.5 | | 261 | 0.45 | | 1.3 | 1.27 | 856.6 | 43 | | 246 | 231 | | 42 | 1 |
| 1050 | 7 | 45 | | 261 | 0.45 | | 1.3 | 1.27 | 858.1 | 43 | | 241 | 233 | | 43 | 1 |
| | 8 | 47.5 | | 259 | 0.49 | | 1.4 | 1.39 | 859.6 | 43 | | 232 | 231 | | 45 | 1 |
| 1055 | 9 | 50 | | 257 | 0.47 | | 1.3 | 1.34 | 861.1 | 44 | | 231 | 252 | | 46 | 1 |
| | 10 | 52.5 | | 257 | 0.45 | | 1.3 | 1.28 | 862.5 | 44 | | 225 | 253 | | 47 | 1 |
| 1100 | 11 | 55 | | 257 | 0.41 | | 1.2 | 1.17 | 864.1 | 44 | | 226 | 257 | | 48 | 1 |
| | 12 | 57.5 | | 257 | 0.42 | | 1.2 | 1.20 | 865.5 | 45 | | 231 | 264 | | 47 | 1 |
| 1105 | | 60 | | | | | | | 867.005 | | | | | | | |
| AVERAGE | 24 | 60 | -0.09 | 259.0 | — | 0.7135 | 1.45 | — | 37.974 | 40.8 | — | ~250 | ~250 | — | ≤48 | MAY 1 |

| ALT-011 T/C CALIBRATION CHECK | TRAIN T/C, °F | |
|---|---|---|
| DIFFERENCE MUST BE ≤ (± 2.0 °F) | REF. T/C, °F | |

| TRAIN T/C, °F | | | | | | |
|---|---|---|---|---|---|---|
| REF. T/C, °F | | | | | | |

| IMPINGERS | VOLUME (ml) OR WEIGHT (g) | | | | | S.G. WEIGHT |
|---|---|---|---|---|---|---|
| IMPINGER NO. | #1 | #2 | #3 | #4 | #5 | grams |
| FINAL | 300 | 300 | 20 | | | 209.9 |
| INITIAL | 100 | 100 | 0 | | | 200.0 |
| NET COLLECTED | 200 | 200 | 20 | | | 9.9 |
| TOTAL CONDENSATE COLLECTED (specify ml or g) | | | | | | 429.9 |

| ORSAT DATA | TIME | $CO_2$ | $O_2$ |
|---|---|---|---|
| TRIAL 1 | 1815 | 6.0 | 10.0 |
| TRIAL 2 | 1820 | 6.0 | 10.0 |
| TRIAL 3 | 1825 | 6.0 | 10.0 |
| Average | | 6.0 | 10.0 |

| LEAK CHECK | | |
|---|---|---|
| TRAIN PRE: | 0.001 | CFM@15"Hg |
| POST: | 0.032 | CFM@15"Hg 5% |
| PITOT PRE: | +/- OK/OK | @ > 3"$H_2O$ |
| POST: | +/- OK/OK | @ > 3"$H_2O$ |

Form FDF 4003.00

MONTROSE AIR QUALITY SERVICES

# USEPA METHOD 5 FIELD DATA

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PLANT | MAT A, Inlet | AMBIENT TEMPERATURE | 35 | PROBE HEATER SETTING | ~250 | FILTER TARE, mg | | NOZZLE ID | Glass |
| DATE | 12-11-18 | BAROMETRIC PRESSURE | 29.56 | HEATER BOX SETTING | ~250 | FILTER LOT NO. | | DIA. 1, in. | 0.281 |
| LOCATION | Chicago IL | ASSUMED MOISTURE, % | 30 | METER ΔH@ ~~1.743~~ | 1.816 | FILTER PETRI LABEL NO. | | DIA. 2, in. | 0.280 |
| OPERATOR | S. FLAHERTY | PROBE LENGTH, in. | 84 | $C_p$ FACTOR | 0.84 | ACETONE LOT NO. | 179314 | DIA. 3, in. | 0.282 |
| STACK NO. | B# Exh. | NOZZLE DIAMETER, in. | 0.281 | $Y_d$ FACTOR | 1.013 ~~0.995~~ | HEXANE LOT NO. | | DIA. AVG., in. | 0.281 |
| RUN NO. | 3 | STACK DIAMETER, in. | 60.5 | PROBE/PITOT NO. | S281/S062 | DI WATER LOT NO. | | ΔD ≤ 0.004 in. | ~~YES~~ NO |
| SAMPLE BOX NO. | APEX | NUMBER OF PORTS | 2 | MAGNEHELIC GAUGE ID | | ISOPROPANOL LOT NO. | | DENTS | YES ~~NO~~ |
| METER BOX NO. | ~~Sup~~ | TOTAL NUMBER OF POINTS | 24 | ALNOR ID | | TOLUENE LOT NO. | | SHARP EDGE | ~~YES~~ NO |
| START TIME | ~~9~~ 1232 | MINUTES PER POINT | 2.5 | GAUGE SENSITIVITY, in $H_2O$ | 0.01 | NIST REFERENCE T/C ID | | UNDAMAGED | ~~YES~~ NO |

0808023

| CLOCK TIME (Hrs) | TRAVERSE POINT NUMBER | SAMPLING TIME (Q) min. | STATIC PRESSURE (in. $H_2O$) | STACK TEMP ($T_S$) °F | VELOCITY HEAD (ΔP) in. H2O | | DGM ORIFICE (ΔH) in. $H_2O$ | | GAS SAMPLE VOLUME (Vm) $ft^3$ | DGM TEMPERATURE | | FILTER EXIT °F | PROBE TEMP °F | AUXILIARY EXIT °F | FINAL IMPINGER °F | PUMP VACUUM (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (ΔP) | SQ RT (ΔP) | ACTUAL | DESIRED | | INLET ($Tm_{in}$) °F | OUTLET ($Tm_{out}$) °F | | | | | |
| 1232 | SW 1 | 0 | -0.09 | 247 | 0.46 | | 1.3 | 1.25 | 210.080 | 48 | | 234 | 256 | | 41 | 2 |
| | 2 | 2.5 | | 251 | 0.46 | | 1.2 | 1.25 | 211.6 | 49 | | 233 | 258 | | 39 | 2 |
| 1237 | 3 | 5 | | 263 | 0.51 | | 1.4 | 1.36 | 213.1 | 50 | | 237 | 258 | | 40 | 1 |
| | 4 | 7.5 | | 263 | 0.40 | | 1.1 | 1.07 | 214.7 | 50 | | 233 | 260 | | 40 | 1 |
| 1242 | 5 | 10 | | 270 | 0.38 | | 1.0 | 1.01 | 216.1 | 51 | | 236 | 253 | | 42 | 1 |
| | 6 | 12.5 | | 271 | 0.37 | | 0.98 | 0.98 | 217.5 | 52 | | 240 | 253 | | 44 | 1 |
| 1247 | 7 | 15 | | 270 | 0.41 | | 1.1 | 1.09 | 218.9 | 53 | | 256 | 263 | | 45 | 1 |
| | 8 | 17.5 | | 268 | 0.40 | | 1.1 | 1.07 | 220.7 | 54 | | 257 | 237 | | 46 | 1 |
| 1352 | 9 | 20 | | 266 | 0.38 | | 1.1 | 1.02 | 222.2 | 54 | | 249 | 235 | | 47 | 1 |
| | 10 | 22.5 | | 266 | 0.35 | | 0.94 | 0.94 | 223.3 | 55 | | 239 | 236 | | 48 | 1 |
| 1357 | 11 | 25 | | 265 | 0.32 | | 0.86 | 0.86 | 224.8 | 56 | | 238 | 250 | | 48 | 1 |
| | 12 | 27.5 | | 264 | 0.31 | | 0.84 | 0.84 | 226.2 | 56 | | 228 | 247 | | 48 | 1 |
| 1302/1309 | SE-1 | 30 | | 268 | 0.56 | | 1.5 | 1.51 | 227.555 | 57 | | 250 | 247 | | 49 | 1 |
| | 2 | | | 270 | 0.57 | | 1.5 | 1.53 | 229.0 | 57 | | 251 | 249 | | 51 | 1 |
| 1314 | 3 | 35 | | 270 | 0.59 | | 1.6 | 1.56 | 231.0 | 58 | | 244 | 250 | | 51 | 1 |
| | 4 | | | 272 | 0.52 | | 1.4 | 1.39 | 232.5 | 58 | | 256 | 250 | | 53 | 1 |
| 1319 | 5 | 40 | | 273 | 0.48 | | 1.3 | 1.29 | 234.2 | 58 | | 263 | 251 | | 55 | 1 |
| | 6 | | | 270 | 0.47 | | 1.3 | 1.26 | 235.8 | 59 | | 265 | 235 | | 55 | 1 |
| 1324 | 7 | 45 | | 273 | 0.35 | | 0.94 | 0.94 | 237.4 | 60 | | 262 | 233 | | 61 | 1 |
| | 8 | | | 271 | 0.34 | | 0.92 | 0.92 | 238.8 | 61 | | 259 | 231 | | 63 | 1 |
| 1329 | 9 | 50 | | 271 | 0.34 | | 0.92 | 0.92 | 240.1 | 61 | | 254 | 230 | | 63 | 1 |
| | 10 | | | 273 | 0.36 | | 0.97 | 0.97 | 241.5 | 62 | | 243 | 241 | | 63 | 1 |
| 1334 | 11 | 55 | | 272 | 0.34 | | 0.92 | 0.92 | 242.9 | 63 | | 237 | 236 | | 63 | 1 |
| | 12 | | | 271 | 0.34 | | 0.92 | 0.92 | 244.1 | 64 | | 240 | 239 | | 64 | 1 |
| 1339 | | 60 | | | | ✓ | | | 245.368 | | | | | | | |
| AVERAGE | 24 | 60 | -0.09 | 267.4 | — | 0.6425 | 1.13 | — | 35.195 | 56.1 | — | ~245 | ~245 | | ≤64 | MAX 1 |

AT PORT ✓ LEAK

227.555
227.648

| ALT-011 T/C CALIBRATION CHECK | TRAIN T/C, °F | |
|---|---|---|
| DIFFERENCE MUST BE ≤ (± 2.0 °F) | REF. T/C, °F | |

-0.093

| TRAIN T/C, °F | | | | | | |
|---|---|---|---|---|---|---|
| REF. T/C, °F | | | | | | |

| IMPINGERS | VOLUME (ml) OR WEIGHT (g) | | | | | S.G. WEIGHT |
|---|---|---|---|---|---|---|
| IMPINGER NO. | #1 | #2 | #3 | #4 | #5 | grams |
| FINAL | 330 | 200 | 12 | | | 209.3 |
| INITIAL | ~~200~~ | ~~100~~ | 0 | | | 200 |
| NET COLLECTED | 230 | 100 | 12 | | | 9.3 |
| TOTAL CONDENSATE COLLECTED (specify ml or g) | | | | | | 351.3 |

35.195 ✓jm

| ORSAT DATA | TIME | $CO_2$ | $O_2$ |
|---|---|---|---|
| TRIAL 1 | 1745 | 5.9 | 10.0 |
| TRIAL 2 | 1750 | 5.9 | 10.0 |
| TRIAL 3 | 1755 | 5.9 | 10.0 |
| Average | | 5.9 | 10.0 |

| LEAK CHECK | | |
|---|---|---|
| TRAIN PRE: | 0.001 | CFM@15"Hg |
| POST: | 0.001 | CFM@~~6~~ 4" Hg |
| PITOT PRE: | +/- 0.0 | @ > 3"$H_2O$ |
| POST: | +/- 0.0 | @ > 3"$H_2O$ |

Form FDF 4003.00

MONTROSE AIR QUALITY SERVICES

# USEPA METHOD _____ FIELD DATA

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PLANT | MAT Asphalt | AMBIENT TEMPERATURE | 36 | PROBE HEATER SETTING | ~250 | FILTER TARE, mg | | NOZZLE ID | Glass | | |
| DATE | 12-11-18 | BAROMETRIC PRESSURE | 29.56 | HEATER BOX SETTING | ~250 | FILTER LOT NO. | | DIA. 1, in. | 0.281 | | |
| LOCATION | Chicago IL | ASSUMED MOISTURE, % | 30 | METER $\Delta H_@$ | 1.816 | FILTER PETRI LABEL NO. | | DIA. 2, in. | 0.282 | | |
| OPERATOR | S. FLAHERTY | PROBE LENGTH, in. | 84 | $C_p$ FACTOR | 0.84 | ACETONE LOT NO. | 179319 | DIA. 3, in. | 0.280 | | |
| STACK NO. | BH EXH. | NOZZLE DIAMETER, in. | 0.281 | $Y_d$ FACTOR | 1.013 | HEXANE LOT NO. | | DIA. AVG., in. | 0.281 | | |
| RUN NO. | 4 | STACK DIAMETER, in. | 60.5 | PROBE/PITOT NO. | S2S1/5062 | DI WATER LOT NO. | | ΔD ≤ 0.004 in. | ~~YES~~ | NO | |
| SAMPLE BOX NO. | APEX | NUMBER OF PORTS | 2 | MAGNEHELIC GAUGE ID | | ISOPROPANOL LOT NO. | | DENTS | YES | ~~NO~~ | |
| METER BOX NO. | 08080023 | TOTAL NUMBER OF POINTS | 24 | ALNOR ID | | TOLUENE LOT NO. | | SHARP EDGE | ~~YES~~ | NO | |
| START TIME | 1410 | MINUTES PER POINT | 2.5 | GAUGE SENSITIVITY, in $H_2O$ | | NIST REFERENCE T/C ID | | UNDAMAGED | ~~YES~~ | NO | |

| CLOCK TIME (Hrs) | TRAVERSE POINT NUMBER | SAMPLING TIME (Q) min. | STATIC PRESSURE (in. $H_2O$) | STACK TEMP ($T_S$) °F | VELOCITY HEAD (ΔP) in. H2O | | DGM ORIFICE (ΔH) in. $H_2O$ | | GAS SAMPLE VOLUME (Vm) $ft^3$ | DGM TEMPERATURE | | FILTER EXIT °F | PROBE TEMP °F | AUXILIARY EXIT °F | FINAL IMPINGER °F | PUMP VACUUM (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (ΔP) | SQ RT (ΔP) | ACTUAL | DESIRED | | INLET ($Tm_{in}$) °F | OUTLET ($Tm_{out}$) °F | | | | | |
| 1410 | SE 1 | 0 | -0.09 | 271 | 0.62 | | 1.7 | 1.66 | 245.777 | 65 | | 242 | 243 | | 53 | 2 |
| | 2 | 2.5 | | 272 | 0.63 | | 1.7 | 1.70 | 247.5 | 65 | | 243 | 243 | | 52 | 2 |
| 1415 | 3 | 5 | | 271 | 0.58 | | 1.6 | 1.57 | 249.3 | 65 | | 244 | 244 | | 51 | 2 |
| | 4 | 7.5 | | 271 | 0.57 | | 1.5 | 1.54 | 251.1 | 65 | | 246 | 245 | | 50 | 2 |
| 1420 | 5 | 10 | | 273 | 0.52 | | 1.4 | 1.41 | 252.8 | 65 | | 251 | 243 | | 53 | 1 |
| | 6 | 12.5 | | 272 | 0.50 | | 1.4 | 1.35 | 254.4 | 65 | | 252 | 242 | | 55 | 1 |
| 1425 | 7 | 15 | | 271 | 0.38 | | 1.0 | 1.03 | 255.9 | 64 | | 253 | 241 | | 56 | 1 |
| | 8 | 17.5 | | 271 | 0.35 | | 0.95 | 0.95 | 257.4 | 64 | | 254 | 240 | | 56 | 1 |
| 1430 | 9 | 20 | | 272 | 0.36 | | 0.97 | 0.97 | 258.7 | 64 | | 244 | 239 | | 57 | 1 |
| | 10 | 22.5 | | 272 | 0.37 | | 1.0 | 1.00 | 260.1 | 64 | | 243 | 241 | | 57 | 1 |
| 1435 | 11 | 25 | | 271 | 0.42 | | 1.1 | 1.14 | 261.4 | 64 | | 245 | 240 | | 57 | 1 |
| | 12 | 27.5 | | 270 | 0.40 | | 1.1 | 1.08 | 262.9 | 63 | | 248 | 242 | | 58 | 1 |
| 1440/1445 | SW 1 | 30 | | 269 | 0.51 | | 1.4 | 1.38 | 264.339 | 63 | | 237 | 244 | | 53 | 1 |
| | 2 | 32.5 | | 270 | 0.54 | | 1.5 | 1.46 | 266.1 | 63 | | 239 | 242 | | 54 | 1 |
| 1450 | 3 | 35 | | 269 | 0.53 | | 1.4 | 1.40 | 267.8 | 63 | | 241 | 243 | | 56 | 1 |
| | 4 | 37.5 | | 272 | 0.53 | | 1.4 | 1.43 | 269.4 | 63 | | 242 | 241 | | 58 | 1 |
| 1455 | 5 | 40 | | 271 | 0.39 | | 1.0 | 1.05 | 271.0 | 63 | | 244 | 240 | | 59 | 1 |
| | 6 | 42.5 | | 274 | 0.39 | | 1.1 | 1.05 | 272.4 | 63 | | 249 | 244 | | 61 | 1 |
| 1500 | 7 | 45 | | 274 | 0.42 | | 1.1 | 1.13 | 273.8 | 63 | | 254 | 243 | | 63 | 1 |
| | 8 | 47.5 | | 271 | 0.45 | | 1.2 | 1.21 | 275.3 | 63 | | 253 | 243 | | 64 | 1 |
| 1505 | 9 | 50 | | 270 | 0.39 | | 1.0 | 1.05 | 276.8 | 62 | | 251 | 243 | | 64 | 1 |
| | 10 | 52.5 | | 269 | 0.39 | | 1.1 | 1.05 | 278.3 | 62 | | 248 | 242 | | 63 | 1 |
| 1510 | 11 | 55 | | 270 | 0.36 | | 0.97 | 0.97 | 279.6 | 62 | | 248 | 243 | | 59 | 1 |
| | 12 | 57.5 | | 269 | 0.33 | | 0.89 | 0.89 | 280.9 | 62 | | 245 | 244 | | 56 | 1 |
| 1515 | | 60 | | | | | | | 282.285 | | | | | | | |
| AVERAGE | 24 | 60 | -0.09 | 271.0 | — | 0.6713 | 1.23 | — | 36.362 | 63.5 | — | ~250 | ~250 | | ≤64 | MAX 2 |

Leak Check @ port change

264.339 → 264.485

| ALT-011 T/C CALIBRATION CHECK | TRAIN T/C, °F | |
|---|---|---|
| DIFFERENCE MUST BE ≤ (± 2.0 °F) | REF. T/C, °F | |

| TRAIN T/C, °F | | | | | | |
|---|---|---|---|---|---|---|
| REF. T/C, °F | | | | | | |

| IMPINGERS | VOLUME (ml) OR WEIGHT (g) | | | | | S.G. WEIGHT |
|---|---|---|---|---|---|---|
| IMPINGER NO. | #1 | #2 | #3 | #4 | #5 | grams |
| FINAL | 334 | 196 | 18 | / | / | 212.7 |
| INITIAL | 100 | 100 | 0 | / | / | 200.0 |
| NET COLLECTED | 234 | 96 | 18 | / | / | 12.7 |
| TOTAL CONDENSATE COLLECTED (specify ml or g) | | | | | | 360.7 |

| ORSAT DATA | TIME | $CO_2$ | $O_2$ |
|---|---|---|---|
| TRIAL 1 | 1800 | 6.2 | 9.9 |
| TRIAL 2 | 1805 | 6.2 | 10.0 |
| TRIAL 3 | 1810 | 6.2 | 9.8 |
| Average | | 6.2 | 9.9 |

| LEAK CHECK | ~~7~~ 7" |
|---|---|
| TRAIN PRE: | 0.001 CFM@~~15~~ 7" Hg |
| POST: | 0.001 CFM@~~15~~ 7" Hg |
| PITOT PRE: | +/- 0% @ > 3"$H_2O$ |
| POST: | +/- 0% @ > 3"$H_2O$ |

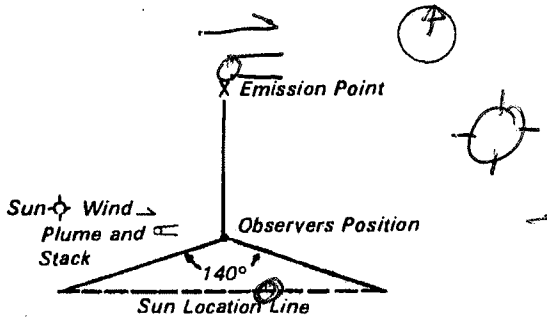
Form FDF 4003.00

MONTROSE
AIR QUALITY SERVICES

*Visible Emission Observation Form*

| | |
|---|---|
| SOURCE NAME: MAT Asphalt | OBSERVATION DATE: 12-11-2018 |
| ADDRESS: 2055 W Pershing Road | START TIME: 8:05 |
| CITY: Chicago | STATE: IL ZIP: 60609 |
| PHONE | SOURCE ID NUMBER: 0 |
| PROCESS EQUIPMENT: Mix Drum | OPERATING MODE: MAX |
| CONTROL EQUIPMENT: Baghouse | OPERATING MODE: MAX |
| DESCRIBE EMISSION POINT START: Undisturbed | STOP: Undisturbed |
| HEIGHT ABOVE GROUND LEVEL START: 40ft STOP: 40ft | HEIGHT RELATIVE TO OBSERVER START: 35ft STOP: 35ft |
| DISTANCE FROM OBSERVER START: 200ft STOP: 200 ft | DIRECTION FROM OBSERVER START: NW STOP: NW |
| DESCRIBE EMISSIONS START: Water Vapor | STOP: Water Vapor |
| EMISSION COLOR START: N/A STOP: N/A | PLUME TYPE: CONTINUOUS ☑ FUGITIVE ☐ INTERMITTENT ☐ |
| WATER DROPLETS PRESENT: NO ☑ YES ☐ | IF WATER DROPLET PLUME: ATTACHED ☐ DETACHED ☐ |
| POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START: East end of Plume | STOP: East end of Plume |
| DESCRIBE BACKGROUND START: Clear | STOP: clear |
| BACKGROUND COLOR START: Sky Blue STOP: Sky Blue | SKY CONDITIONS START: clear STOP: clear |
| WIND SPEED START: 6mph STOP: 6mph | WIND DIRECTION START: East STOP: East |
| AMBIENT TEMP. START: 29°F STOP: 29°F | WET BULB TEMP. / RH,percent |

Source Layout Sketch — Draw North Arrow




| SEC / MIN | 0 | 15 | 30 | 45 | SEC / MIN | 0 | 15 | 30 | 45 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 35 | 5 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 5 | 36 | 0 | 0 | 0 | 0 |
| 7 | 5 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 5 | 0 | 39 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 5 | 5 | 41 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 43 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0 | 0 | 44 | 0 | 0 | 0 | 0 |
| 15 | 0 | 0 | 0 | 0 | 45 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 0 | 0 | 51 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 0 | 0 | 52 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 0 | 0 | 53 | 0 | 0 | 0 | 0 |
| 24 | 0 | 0 | 0 | 0 | 54 | 0 | 0 | 0 | 0 |
| 25 | 0 | 0 | 0 | 0 | 55 | 0 | 0 | 0 | 0 |
| 26 | 0 | 0 | 0 | 0 | 56 | 0 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | 0 |
| 28 | 0 | 5 | 0 | 0 | 58 | 0 | 0 | 0 | 0 |
| 29 | 0 | 0 | 0 | 0 | 59 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 60 | 0 | 0 | 6 | 0 |

| | |
|---|---|
| AVERAGE OPACITY FOR HIGHEST PERIOD: 0.3 | NUMBER OF READINGS ABOVE % WERE: 7 |
| RANGE OF OPACITY READINGS MINIMUM: 0 | MAXIMUM: 5 |
| OBSERVER'S NAME (PRINT): Alan Morales | |
| OBSERVER'S SIGNATURE: Alan Morales | DATE: 12-11-2018 |
| ORGANIZATION: Montrose | |
| CERTIFIED BY: Whitlow Green | DATE: 09-05-2018 |
| VERIFIED BY | DATE |

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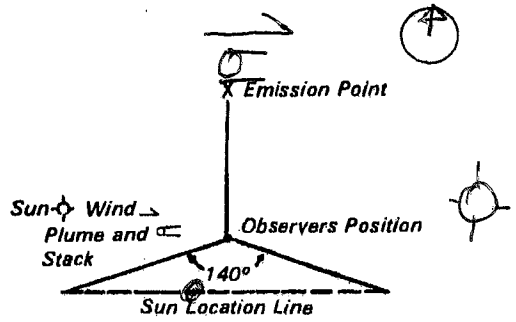
(2)

*Visible Emission Observation Form*

| | |
|---|---|
| **SOURCE NAME** Mid Asphalt | **OBSERVATION DATE** 12-11-2018 |
| **ADDRESS** 2055 W Pershing Road | **START TIME** 10:05 |
| | **STOP TIME** 11:05 |
| **CITY** Chicago **STATE** IL **ZIP** 60609 | |
| **PHONE** | **SOURCE ID NUMBER** |
| **PROCESS EQUIPMENT** Mix Drum | **OPERATING MODE** MAX |
| **CONTROL EQUIPMENT** Bag house | **OPERATING MODE** MAX |
| **DESCRIBE EMISSION POINT** START Undisturbed STOP Undisturbed | |
| **HEIGHT ABOVE GROUND LEVEL** START 40 ft STOP 40 ft | **HEIGHT RELATIVE TO OBSERVER** START 35 ft STOP 35 ft |
| **DISTANCE FROM OBSERVER** START 200 ft STOP 200 ft | **DIRECTION FROM OBSERVER** START NW STOP NW |
| **DESCRIBE EMISSIONS** START Water Vapor STOP Water Vapor | |
| **EMISSION COLOR** START N/A STOP N/A | **PLUME TYPE: CONTINUOUS** ☒ **FUGITIVE** ☐ **INTERMITTENT** ☐ |
| **WATER DROPLETS PRESENT:** NO ☒ YES ☐ | **IF WATER DROPLET PLUME:** ATTACHED ☐ DETACHED ☐ |
| **POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED** START 100 ft E of Plume STOP 100 ft E of Plume | |
| **DESCRIBE BACKGROUND** START Clear STOP Clear | |
| **BACKGROUND COLOR** START Sky Blue STOP Sky Blue | **SKY CONDITIONS** START Clear STOP Clear |
| **WIND SPEED** START 6-8 mph STOP 6-8 mph | **WIND DIRECTION** START East STOP East |
| **AMBIENT TEMP.** START 32 °F STOP 32 °F | **WET BULB TEMP.** / **RH.percent** |

| SEC / MIN | 0 | 15 | 30 | 45 | SEC / MIN | 0 | 15 | 30 | 45 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 32 | 0 | 5 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 |
| 7 | 0 | 0 | 0 | 0 | 37 | 5 | 0 | 5 | 5 |
| 8 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 43 | 0 | 0 | 0 | 0 |
| 14 | 0 | 5 | 0 | 0 | 44 | 0 | 0 | 0 | 0 |
| 15 | 0 | 0 | 5 | 0 | 45 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 5 | 5 | 49 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 0 | 0 | 51 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 0 | 0 | 52 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 0 | 0 | 53 | 0 | 0 | 0 | 0 |
| 24 | 0 | 0 | 0 | 0 | 54 | 0 | 0 | 0 | 0 |
| 25 | 0 | 0 | 0 | 0 | 55 | 0 | 0 | 0 | 0 |
| 26 | 0 | 0 | 0 | 0 | 56 | 0 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | 0 |
| 28 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 0 | 0 |
| 29 | 0 | 0 | 0 | 0 | 59 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 |

*Source Layout Sketch* *Draw North Arrow*




| | |
|---|---|
| **AVERAGE OPACITY FOR HIGHEST PERIOD** 0.6 | **NUMBER OF READINGS ABOVE % WERE** 0 |
| **RANGE OF OPACITY READINGS** MINIMUM 0 | MAXIMUM 5 |
| **OBSERVER'S NAME (PRINT)** Alan Morales | |
| **OBSERVER'S SIGNATURE** | **DATE** 12-11-2018 |
| **ORGANIZATION** Montrose | |
| **CERTIFIED BY** Whitlow Green | **DATE** 09-05-2018 |
| **VERIFIED BY** | **DATE** |

**COMMENTS**

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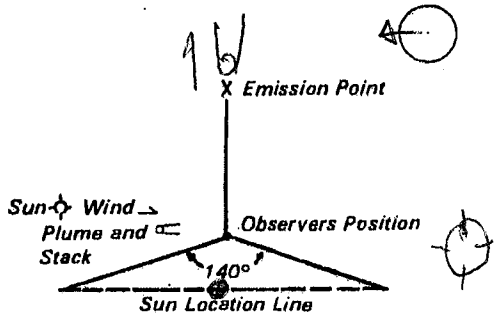
## Visible Emission Observation Form

| | | |
|---|---|---|
| SOURCE NAME: Mat asphalt | OBSERVATION DATE: 12-11-2018 | START TIME: 12:40 |
| ADDRESS: 2055 W Pershing Road | | STOP TIME: 13:40 |
| CITY: Chicago | STATE: IL | ZIP: 60609 |
| PHONE | SOURCE ID NUMBER | |
| PROCESS EQUIPMENT: Mix drum | OPERATING MODE: MAX | |
| CONTROL EQUIPMENT: Baghouse | OPERATING MODE: MAX | |
| DESCRIBE EMISSION POINT: START Undisturbed | STOP Undisturbed | |
| HEIGHT ABOVE GROUND LEVEL: START 40 ft STOP 40 ft | HEIGHT RELATIVE TO OBSERVER: START 35 ft STOP 35 ft | |
| DISTANCE FROM OBSERVER: START 250 ft STOP 250 ft | DIRECTION FROM OBSERVER: START NE STOP NE | |
| DESCRIBE EMISSIONS: START Water Vapor | STOP Water Vapor | |
| EMISSION COLOR: START N/A STOP N/A | PLUME TYPE: CONTINUOUS ☑ FUGITIVE ☐ INTERMITTENT ☐ | |
| WATER DROPLETS PRESENT: NO ☑ YES ☐ | IF WATER DROPLET PLUME: ATTACHED ☐ DETACHED ☐ | |
| POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: START East of Plume | STOP East of Plume | |
| DESCRIBE BACKGROUND: START Clear | STOP Clear | |
| BACKGROUND COLOR: START Sky Blue STOP Sky Blue | SKY CONDITIONS: START Clear STOP | |
| WIND SPEED: START 6 mph STOP 4 mph | WIND DIRECTION: START E STOP E | |
| AMBIENT TEMP: START 30°F STOP 30° F | WET BULB TEMP. | RH, percent |

| SEC / MIN | 0 | 15 | 30 | 45 | SEC / MIN | 0 | 15 | 30 | 45 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 5 |
| 3 | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 35 | 5 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 |
| 7 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 43 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0 | 0 | 44 | 0 | 0 | 0 | 0 |
| 15 | 0 | 0 | 0 | 0 | 45 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 0 | 0 | 51 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 0 | 0 | 52 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 0 | 0 | 53 | 0 | 0 | 0 | 0 |
| 24 | 0 | 0 | 0 | 0 | 54 | 0 | 0 | 0 | 0 |
| 25 | 0 | 0 | 0 | 0 | 55 | 0 | 0 | 0 | 0 |
| 26 | 0 | 0 | 0 | 0 | 56 | 0 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | 0 |
| 28 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 0 | 0 |
| 29 | 0 | 0 | 0 | 0 | 59 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 |

Source Layout Sketch — Draw North Arrow




| | |
|---|---|
| AVERAGE OPACITY FOR HIGHEST PERIOD: 0.2 | NUMBER OF READINGS ABOVE % WERE: 2 |
| RANGE OF OPACITY READINGS: MINIMUM 0 | MAXIMUM 5 |
| OBSERVER'S NAME (PRINT): Alan Morales | |
| OBSERVER'S SIGNATURE: Alan Morales | DATE: 12-11-2018 |
| ORGANIZATION: Montrose | |
| CERTIFIED BY: Whitney Green | DATE: 09-05-2018 |
| VERIFIED BY | DATE |

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# IMPINGER RECOVERY DATA SHEET

024AS-473273-RT-238

33 of 135

| | | | |
|---|---|---|---|
| **Company:** | MAT Asphalt | **Date Set-up:** | 12-11-18 |
| **Location:** | Chicago, IL | **Test Date:** | 12-11-18 |
| **Source:** | Baghouse Exhaust | **Date Recovered:** | 12-11-18 |
| **Run No.:** | 1-4 | **USEPA Method:** | 5 |
| | | **Corresponding Filter Wgt:** | NA |
| | | **Filter Container No:** | NA |

**Measurement Method:** Weight or Volume

| ~~Impinger~~ Run No. | Impinger Contents | Initial wt/vol g/mL | Final wt/vol g/mL | Difference wt/vol g/mL | Sample Container No. |
|---|---|---|---|---|---|
| 1 | Silica Gel (SG) | 200.0 | 222.2 | 22.2 | NA |
| 2 | SG | 200.0 | 209.9 | 9.9 | NA |
| 3 | SG | 200.0 | 209.3 | 9.3 | NA |
| 4 | SG | 200.0 | 212.7 | 12.7 | NA |
| 5 | | | | | |
| 6 | | | | | |

Balance Calibration Check ( Acceptance limit is plus or minus 0.5 grams)

| | | | |
|---|---|---|---|
| Standard certified weight ID | 1000131738 | Balance ID | Cert.# 01038641A |
| Standard certified weight | 500.0 grams | Operator | S. FLAHERTY |
| Balance reading | 500.0 grams | Cal date | 10/22/18 |
| Difference | 0.0 grams | | |

FORM FDF 4007.00

# APPENDIX C
# LABORATORY DATA

MONTROSE
AIR QUALITY SERVICES

Texas NELAP ID: T104704428-17-10

# ANALYTICAL REPORT

| | |
|---|---|
| *Project Name:* | MAT Asphalt |
| *Lab Project Number:* | 08-1285 |
| *Sample Location:* | Baghouse at Chicago, IL |
| *Sample Date:* | 12/11/18 |
| *Analysis Date(s):* | 12/11/18 – 12/17/18 |
| *COC Number(s):* | 02603 |
| *Analytical Method:* | USEPA Method 5 |

*Prepared For:*
Montrose Air Quality Services
951 N. Old Rand Road, Unit 106
Wauconda, IL 60084
Project Mgr: Steve Flaherty
Phone: (847) 487-1580 x12417
Fax: (847) 487-1587
Email: sflaherty@montrose-env.com

*Prepared By:*
Montrose Air Quality Services
951 N. Old Rand Road, Unit 106
Wauconda, IL 60084
Eric Vogt, Lab Manager
Phone: (847) 487-1580 Ext 12416
Fax: (847) 487-1587
Email:evogt@montrose-env.com

# Project Narrative

### *Sample Receipt and Custody*

This report contains the results of analyses performed on samples received under the project name referenced on the cover page. Analytical results reported under this project name apply only to the samples as received and properly identified in the signed chain-of-custody included in this report.

Ten (10) samples were received at ambient temperature on 12/12/18 by J. Ruggaber at the Chicago North laboratory in Wauconda, Illinois. Sample receipt criteria are listed on the Sample Receipt Checklist included in this report.

Upon receipt, the samples were stored in a locked cage with access only to authorized Montrose Air Quality Services personnel except during analysis.

### *Analysis Procedure*

The samples were analyzed for filterable particulate matter following the general analytical procedures in USEPA Method 5 and MAQS SOP A0005 rev 11.

### *Analytical Task Schedule*

A chronology of the specific steps of the method analysis is given in the Task Schedule included in this report.

### *Calibration*

Gravimetric measurements were performed using the Ohaus Adventurer Pro balance with a readability of 0.1 milligrams and an Ohaus Scout balance with a readability of 0.1 grams. The Adventurer Pro balance was calibrated daily using a certified Class 1 200.0 gram weight. Linearity of the Adventurer Pro balance was verified daily with 0.2, 1.0, 100.0 and 200.0 grams which bracketed the range of sample weights measured. Accuracy and linearity of the Scout balance was verified with 1.0, 100.0 and 200.0 gram weights.

### *QC Notes*

Unless otherwise noted, the analyses met the QC requirements set forth by the test method, applicable method SOP, the TNI Standard and, where applicable, the project test plan. There were no deviations from the test method and no non-standard conditions that may affect the quality of the test data.

### *Reporting Notes*

Final Method 5 acetone wash net particulate matter (PM) mass values have been acetone blank corrected.

### *Laboratory Accreditation*

USEPA Method 5 is included in MAQS's current scope of accreditation under TCEQ/NELAP. Analytes not included in MAQS's current scope of accreditation or offered for accreditation under TCEQ/NELAP are identified with a "UA" flag in the notes column of the analytical report.

Report reviewed and approved by:

Eric Vogt
Laboratory Manager
Chicago North Laboratory
Montrose Air Quality Services, LLC

12/19/18
Date

# ANALYTICAL SUMMARY

MONTROSE AIR QUALITY SERVICES

**Client:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Sample Date:** 12/11/2018
**Analysis:** Filterable PM

**Method:** USEPA Method 5
**Analysis Date:** 12/11 - 12/17/18
**Reporting Date:** 12/18/2018
**Project Number:** 08-1285
**Analyst:** J. Ruggaber



*Method 5 Filterable PM*

| Identification | LIMS Number | Solvent Mass (g) | Tare (mg) | Wt 1 (mg) | Wt 2 (mg) | Wt 1 - WT 2 (mg) | difference (%) | PM (mg) | PM (blank corr.) (mg) | Total M5 PM (mg) |
|---|---|---|---|---|---|---|---|---|---|---|
| R1 Filter | 27361 | - | 543.7 | 574.8 | 574.6 | 0.20 | N/A | 31.00 | - | 46.91 |
| R1 PW | 27356 | 136.4 | 3807.4 | 3823.8 | 3823.5 | 0.30 | N/A | 16.25 | 15.91 | |
| R2 Filter | 27362 | - | 563.6 | 598.9 | 598.6 | 0.30 | N/A | 35.15 | - | 52.43 |
| R2 PW | 27357 | 69.3 | 3913.9 | 3931.5 | 3931.2 | 0.30 | N/A | 17.45 | 17.28 | |
| R3 Filter | 27363 | - | 552.6 | 582.0 | 582.1 | -0.10 | N/A | 29.45 | - | 51.85 |
| R3 PW | 27358 | 118.7 | 3891.0 | 3913.8 | 3913.6 | 0.20 | N/A | 22.70 | 22.40 | |
| R4 Filter | 27364 | - | 546.5 | 569.9 | 569.6 | 0.30 | N/A | 23.25 | - | 50.14 |
| R4 PW | 27359 | 102.3 | 4186.6 | 4213.7 | 4213.8 | -0.10 | N/A | 27.15 | 26.89 | |
| Acetone Blank | 27360 | 99.8 | 3894.5 | 3894.7 | 3894.8 | -0.10 | N/A | 0.25 | - | - |
| Filter Blank | 27365 | - | 555.8 | 555.9 | 555.9 | 0.00 | N/A | 0.10 | - | - |

*QC*

| Identification | QC Type | Volume (mL) | Tare (mg) | Wt 1 (mg) | Wt 2 (mg) | Wt 1 - Wt 2 (mg) | PM Wt (mg) | Target PM Wt (mg) | Accuracy (%) | Pass/Fail |
|---|---|---|---|---|---|---|---|---|---|---|
| LCS | PM | 100 | 61973.1 | 62073.3 | 62073.5 | 0.2 | 100.3 | 100.09 | 100.2 | Pass |

Template Control ID: USEPA-M5-Template-051T-REV3

MONTROSE
951 Old Rand Road # 106
Wauconda, IL 60084

NELAP ACCREDITED TNI LABORATORY

## Montrose Air Quality Services Analytical Report

Texas NELAP ID: T 104704428-17-10

MAT Asphalt
Chicago, IL
Baghouse Exhaust

**Lab Project #:** 08-1285
**Project Manager:** Steve Flaherty
**Received:** 12/12/2018
**Reported:** 12/19/2018

**Sample ID:** Run 1 PW
Lab Sample #: 27356
**Date Sampled:** 12/11/2018
**Field #:** 27561

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 15.91 | mg | |

**Sample ID:** Run 2 PW
Lab Sample #: 27357
**Date Sampled:** 12/11/2018
**Field #:** 27562

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 17.28 | mg | |

**Sample ID:** Run 3 PW
Lab Sample #: 27358
**Date Sampled:** 12/11/2018
**Field #:** 27558

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 22.40 | mg | |

**Sample ID:** Run 4 PW
Lab Sample #: 27359
**Date Sampled:** 12/11/2018
**Field #:** 27555

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 26.89 | mg | |

**Sample ID:** Acetone Blank
Lab Sample #: 27360
**Date Sampled:** 12/11/2018
**Field #:** 27559

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 0.25 | mg | |

**Sample ID:** Run 1 Filter
Lab Sample #: 27361
**Date Sampled:** 12/11/2018
**Field #:** 26047

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 31.00 | mg | |

MONTROSE
951 Old Rand Road # 106
Wauconda, IL 60084

## Montrose Air Quality Services Analytical Report

Texas NELAP ID: T 104704428-17-10

MAT Asphalt
Chicago, IL
Baghouse Exhaust

**Lab Project #:** 08-1285
**Project Manager:** Steve Flaherty
**Received:** 12/12/2018
**Reported:** 12/19/2018

**Sample ID:** Run 2 Filter
Lab Sample #: 27362
Date Sampled: 12/11/2018
Field #: 27785

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 35.15 | mg | |

**Sample ID:** Run 3 Filter
Lab Sample #: 27363
Date Sampled: 12/11/2018
Field #: 27288

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 29.45 | mg | |

**Sample ID:** Run 4 Filter
Lab Sample #: 27364
Date Sampled: 12/11/2018
Field #: 26045

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 23.25 | mg | |

**Sample ID:** Filter Blank
Lab Sample #: 27365
Date Sampled: 12/11/2018
Field #: 27158

| Analyte | Method | Analyst | Analysis Date | Result | Units | Notes |
|---|---|---|---|---|---|---|
| Particulate | USEPA Method 5 | Joel Ruggaber | 12/18/2018 | 0.10 | mg | |

Notes:
UA - Unaccredited analyte not within the laboratory's current scope of accreditation or not offered for accreditation under TCEQ/NELAP
NA - Sample not tested for this analyte.
D - Value calculated from dilution.
J - Value less than the low standard but above the Limit of Detection (LOD).
L - Sample leaked before receipt.
H - Value greater than the high standard.
X - Quality control deficiency or failure observed.

# USEPA METHOD 5 TASK SCHEDULE

Client: MAT Asphalt

Location: Chicago, IL

Project Manager: Steve Flaherty

Date Sampled: 12/11/18

Lab Project #: 08-1285

Spreadsheet Template ID: USEPA Method 5/202-Partic-Template-060T-REV4

Analyst: J. Ruggaber

Sodium Chloride Solution QC Sample: 1.0009 g/L NaCl in DI Water, 9/18/18

Acetone Manufacturer and Lot: J.T. Baker, Lot 0000196204

| DATE | TIME | EQUIPMENT | TASK |
|---|---|---|---|
| 12/11/18 | 16:30 | Desiccator #2 | Place labeled beakers with TFE liners in desiccator (store 24 hrs) |
| 12/13/18 | 10:18 | Oven #2 | Heat filters in oven at 105°C (min. 2 hours) |
| 12/13/18 | 12:31 | Desiccator #2 | Place filters in desiccator (store min. 24 hours) |
| 12/13/18 | 9:11 | Balance #1 | Weigh conditioned beaker liners and record tares |
| 12/13 - 12/14/18 | - | - | Dry down 100 mL of sodium chloride solution in a beaker using hot plate or oven |
| 12/13 – 12/14/18 | - | - | Dry down probe washes in labeled beakers with liners |
| 12/14/18 | 8:45 | Desiccator #2 | Place beakers in desiccator (store min. 24 hours) |
| 12/17/18 | 10:47 | Balance #1 | Probe Wash (PW) beaker liner weighing #1 |
| 12/17/18 | 16:50 | Balance #1 | PW beaker liner weighing #2 (min. 6 hrs after Wt. #1) |
| N/A | N/A | N/A | PW beaker liner weighing #3 (min. 6 hrs after Wt. #2) |
| N/A | N/A | N/A | PW beaker liner weighing #4 (min. 6 hrs after Wt. #3) |
| 12/17/18 | 10:51 | Balance #1 | Sodium Chloride (NaCl) beaker liner weighing #1 |
| 12/17/18 | 16:54 | Balance #1 | NaCl beaker weighing #2 (min. 6 hrs after Wt. #1) |
| N/A | N/A | N/A | NaCl beaker weighing #3 (min. 6 hrs after Wt. #2) |
| 12/17/18 | 10:53 | Balance #1 | Filter weighing #1 (min. 24 hrs in desiccator) |
| 12/17/18 | 16:55 | Balance #1 | Filter weighing #2 (min. 6 hrs after Wt. #1) |
| N/A | N/A | N/A | Filter weighing #3 (min. 6 hrs after Wt. #2) |
| N/A | N/A | N/A | Filter weighing #4 (min. 6 hrs after Wt. #3) |
| 12/19/18 | - | - | Prepare report |
| | | | Report QA review |

MONTROSE
AIR QUALITY SERVICES

# *Sample Receipt Checklist*

Client Name: MAT Asphalt

Site Location: Chicago, IL

MAQS Project Manager: Steve Flaherty

Sample Collection Date(s): 12/11/18

Chain-of-Custody Number(s): 02603

Chain-of-Custody Form(s):

| | |
|---|---|
| Custody release signatures, dates, and times present: | Yes |
| Preservation code noted: | Yes |
| Project information clearly identified: | Yes |
| Sample information clearly identified: | Yes |
| Analysis request clearly identified: | Yes |
| Report tier level noted: | Yes |

Sample Containers:

| | |
|---|---|
| Quantity of samples match number on the COC | Yes |
| Container label ID numbers and descriptions match COC | Yes |
| All containers received in good condition | Yes |
| Liquid levels at marked heights on containers | Yes |
| All container labels are legible | Yes |
| All sample IDs are unique | Yes |
| Samples received in correct container type | Yes |
| Samples received within the required holding time | Yes |
| Samples received under the required preservation code | Yes |
| Sample receipt temperature (°F) [ ] Meets applicable method limit | N/A |

Non-Conformances and/or Corrective Actions Applied:

All criteria for sample acceptance met

Samples Received by: Joel Ruggaber

signature

Date and Time received: 12/12/18 16:30

Form LF0002

MONTROSE
AIR QUALITY SERVICES

# Chain of Custody Record Number: 02603

024AS-473273-RT-238

43 of 135

| Lab Project No. (Lab use only) | Client Name | Client Location |
|---|---|---|
| 08-1285 | MAT Asphalt | Chicago, IL |
| **MAQS Project Number** | **MAQS Test Plan Number** | **MAQS Project Manager** |
| 024AS-473273 | 024AS-473273-PP-68 | Steve Flaherty |
| **MAQS Sampler Name** | **Laboratory (Wauconda or Pasadena)** | **Subcontracted Laboratory (if applicable)** |
| AM, RB, SF | Wauconda | N/A |
| **Engineering or Compliance Test Samples** | Compliance | |

| Label Number | Sample Date | Time of Collection[2] | Sample Identification | Number of Containers | Container Type (Petri, Bottle, Bag, Tube, Summa, Bomb) | Preservation Code | Analysis Request[1] | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 27561 | 12-11-18 | | Run 1 PW | 1 | 500W | 1 | X | | | | |
| 27562 | 12-11-18 | | Run 2 PW | 1 | " | 1 | " | | | | |
| 27558 | 12-11-18 | | Run 3 PW | 1 | " | 1 | " | | | | |
| 27555 | 12-11-18 | | Run 4 PW | 1 | " | 1 | " | | | | |
| 27559 | 12-11-18 | | Acetone Blank | 1 | 500W | 1 | " | | | | |
| 26047 | 12-11-18 | | R1 Filter | 1 | Petri | 1 | " | | | | |
| 27785 | 12-11-18 | | R2 Filter | 1 | " | 1 | " | | | | |
| 27288 | 12-11-18 | | R3 Filter | 1 | " | 1 | " | | | | |
| 26045 | 12-11-18 | | R4 Filter | 1 | " | 1 | " | | | | |
| 27155 | 12-11-18 | | Filter Blank | 1 | " | 1 | " | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Preservation Code: 1 = Ambient Temp. 2 = 4°C (Ice Packs) 3 = Dry Ice 4 = Other (Noted)

| Special Instructions: | (1) Relinquished By | (2) Relinquished By | (3) Relinquished By | SHIPMENT: |
|---|---|---|---|---|
| | (1) Date / Time 12/11/18 1630 | (2) Date / Time 12/12/18 @ 1620 | (3) Date / Time | Hand Carry |
| Date test results needed: 12-25-18 | (1) Company MAQS | (2) Company Montrose | (3) Company | FedEx |
| Reporting level: Engineering (Compliance) | (1) Received By | (2) Received By | (3) Received By | UPS |
| Route results through: S. FLAHERTY | (1) Date / Time 12/11/18 @ 1630 | (2) Date / Time 12/12/18 16:30 | (3) Date / Time | Custody Seal Applied |
| Project manager signature: | (1) Company Montrose | (2) Company MAQS | (3) Company | Yes (No) |

1 – Analysis request must be confirmed by project manager signature

2 – Time of collection applicable to samples requiring specific holding time limits and/or bag spike recovery determination

Form LF0001

# APPENDIX D
# PROCESS DATA

**Company:** MAT Asphalt
**Location:** Chicago, IL
**Source:** Baghouse Exhaust
**Test Date:** 12/11/2018

**Production Data**

| Run 1 | | | Run 2 (Void) | | | Run 3 | | | Run 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Produciton Rate | Baghouse Pressure | Time | Produciton Rate | Baghouse Pressure | Time | Produciton Rate | Baghouse Pressure | Time | Produciton Rate | Baghouse Pressure |
| hh:mm:ss | tons/hr | ("wc) | hh:mm:ss | tons/hr | ("wc) | hh:mm:ss | tons/hr | ("wc) | hh:mm:ss | tons/hr | ("wc) |
| 7:57:57 | 299 | 2.810 | 9:57:57 | 306 | 3.036 | 12:27:57 | 296 | 3.039 | 14:09:57 | 294 | 2.946 |
| 8:03:57 | 292 | 8.891 | 10:03:57 | 299 | 2.979 | 12:33:57 | 297 | 2.982 | 14:15:57 | 296 | 2.580 |
| 8:09:57 | 297 | 2.945 | 10:09:57 | 307 | 3.015 | 12:39:57 | 294 | 2.794 | 14:21:57 | 301 | 2.347 |
| 8:15:57 | 293 | 2.939 | 10:15:57 | 303 | 3.015 | 12:45:57 | 302 | 2.922 | 14:27:57 | 303 | 2.539 |
| 8:21:57 | 299 | 2.885 | 10:21:57 | 305 | 3.094 | 12:51:57 | 302 | 2.799 | 14:33:57 | 296 | 2.729 |
| 8:27:57 | 291 | 2.787 | 10:27:57 | 311 | 3.255 | 12:57:57 | 295 | 2.594 | 14:39:57 | 297 | 2.550 |
| 8:33:57 | 297 | 2.811 | 10:33:57 | 313 | 3.097 | 13:03:57 | 304 | 2.545 | 14:45:57 | 297 | 2.618 |
| 8:39:57 | 302 | 2.920 | 10:39:57 | 305 | 2.859 | 13:09:57 | 296 | 2.579 | 14:51:57 | 302 | 2.666 |
| 8:45:57 | 300 | 2.955 | 10:45:57 | 302 | 2.849 | 13:15:57 | 292 | 2.400 | 14:57:57 | 298 | 2.630 |
| 8:51:57 | 299 | 2.803 | 10:51:57 | 305 | 2.932 | 13:21:57 | 291 | 2.688 | 15:03:57 | 309 | 2.431 |
| 8:57:57 | 297 | 2.915 | 10:57:57 | 299 | 2.919 | 13:27:57 | 297 | 2.479 | 15:09:57 | 294 | 2.260 |
| 9:03:57 | 305 | 2.804 | 11:03:57 | 308 | 2.992 | 13:33:57 | 297 | 2.597 | 15:15:57 | 300 | 2.503 |
| 9:09:57 | 299 | 2.872 | 11:09:57 | 303 | 3.055 | 13:39:57 | 299 | 2.523 | | | |
| 9:15:57 | 308 | 2.948 | | | | | | | | | |
| Averages: | 298.4 | 3.306 | Averages: | 305.1 | 3.007 | Averages: | 297.1 | 2.688 | Averages: | 298.9 | 2.567 |

* STACK TEST * GOPi 10/30/18 1pm

# Daily Totals Report for 12/11/18 Gencor

## Manual

| Material Name | Material Description | Mix To Silo | Mix To Reject |
|---|---|---|---|
| | | 0 Ton | 106.5 Ton |
| Antistrip | Antistrip | 0 Ton | 0 Ton |
| Virgin Scale | Virgin Scale | 86.2 Ton | 25.6 Ton |
| Rap Scale | Rap Scale | 47.4 Ton | 11.8 Ton |
| Total | | 133.5 Ton | 37.7 Ton |

## N70 St.SC N70 State Surface 231431 (19524R-81BIT006X)

| Material Name | Material Description | Mix To Silo | Mix To Reject |
|---|---|---|---|
| AC | | 142.7 Ton | 0.4 Ton |
| Antistrip | Antistrip | 0.395 Ton | 0.002 Ton |
| FRAP | 3/16 Minus Rap | 519.4 Ton | 3.8 Ton |
| FM20 | Hanson 028FM20 | 843.5 Ton | 6.1 Ton |
| CM13 | Hanson 022CM13 | 503.1 Ton | 3.7 Ton |
| FM22 | Hanson 038FM22 | 758.5 Ton | 5.6 Ton |
| CRAP | 5/8-3/16 Rap | 519.3 Ton | 3.8 Ton |
| MF | Mineral Fill | 33.1 Ton | 0.2 Ton |
| Virgin Scale | Virgin Scale | 2084.3 Ton | 15.3 Ton |
| Rap Scale | Rap Scale | 1045.1 Ton | 7.6 Ton |
| Total | | 3234.7 Ton | 23 Ton |

## All

| Material Name | Material Description | Mix To Silo | Mix To Reject |
|---|---|---|---|
| AC | | 142.7 Ton | 0.4 Ton |
| Antistrip | Antistrip | 0.395 Ton | 0.002 Ton |
| FRAP | 3/16 Minus Rap | 519.4 Ton | 3.8 Ton |
| FM20 | Hanson 028FM20 | 843.5 Ton | 6.1 Ton |
| CM13 | Hanson 022CM13 | 503.1 Ton | 3.7 Ton |
| FM22 | Hanson 038FM22 | 758.5 Ton | 5.6 Ton |
| CRAP | 5/8-3/16 Rap | 519.3 Ton | 3.8 Ton |
| MF | Mineral Fill | 33.1 Ton | 0.2 Ton |
| Virgin Scale | Virgin Scale | 2084.3 Ton | 15.3 Ton |
| Rap Scale | Rap Scale | 1045.1 Ton | 7.6 Ton |
| Total | | 3234.7 Ton | 23 Ton |

TOTAL TONS PRODUCED 12-11-18



GMS 410421 419357

GMSC 4398 4425

11 HRS.

12-11-2018 16:34:11

# MAT Asphalt

## Customer ticket list broken by product type and unit

Friday, December 14, 2018 4:05:04 PM

Chicago Plant
Report Parameters:
Time out: 12/11/2018 8:00:00 AM - 12/11/2018 9:15:59 AM (24) TRUCKS LOADED

12/11/2018 Tuesday
Product Type: Produced Unit: Tons

| Ticket Number | Customer Name | Customer Number | Job Name | Job Number | Location | Formula (mix) | Product Code | Product Description | Qtty | Taxable |
|---|---|---|---|---|---|---|---|---|---|---|
| 309244 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.78 | Yes |
| 309245 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 14.45 | Yes |
| 309246 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 21.15 | No |
| 309247 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 21.09 | Yes |
| 309248 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.85 | Yes |
| 309249 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.93 | Yes |
| 309250 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.49 | Yes |
| 309251 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.76 | Yes |
| 309252 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.42 | Yes |
| 309253 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.00 | Yes |
| 309254 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 12.86 | Yes |
| 309255 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.79 | Ye |
| 6 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.03 | |
| AT | | 50000 | Marina | Marina | Marina | 231431 | M- | N-70 | 20.46 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Construction Leasing Inc. | | | | Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | N70 SURFACE | 231431TW | Surface(81BIT006X) | | |
| 15 309258 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 12.57 | Yes |
| 16 309259 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 20.69 | Yes |
| 17 309260 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 19.54 | Yes |
| 18 309261 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 13.65 | Yes |
| 19 309262 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.43 | Yes |
| 20 309263 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 13.42 | Yes |
| 21 309264 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 21.38 | Yes |
| 22 309265 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.00 | Yes |
| 23 309266 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.11 | Yes |
| 24 309267 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.66 | Yes |
| | | | | | | | | **Produced 453.51 Tons** | | |

# RECORDATION

12-11-2018 07:57:57

Genco

F B **MIX:** N70 St.SC **RATE:** 299tph **TEMP:** 311.7°F **RUN TOTAL:** 744.2Ton **AC CONTENT:** 6.1%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.4 | 190.4 | 62.5 | 61.7 | 471.8 | 5.5 |
| Rap Scale | 9.8 | 95.2 | 30.5 | 32.9 | 248.7 | 1.9 |
| +A/C #1 | 1.328 | 13.47 | 6 | 4.5 (34.6) | 32.503 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 196.2 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.8 (47.3) | 176 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 116.9 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.9 | 15 | 15.8 (32.9) | 120.2 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.1 | 15.5 | 15.6 (33.4) | 120.6 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 7.7 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.716 | 6.2 | | 3.2 | 16.7 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.917% | 0.654% | 0% |

AC% VIRGIN TOTAL% 4.5 %

ANTISTRIP TOTAL% 0.037 %

AC TOTAL% (actual) 6.07 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):201.61tph Rap Rate(Wet):97tph

BH INLET: 322°F

BH OUTLET: 266°F

BH PRESSURE: 2.81"W

BlueSmoke PRESS: 0.25"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:03:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 292tph **TEMP:** 315°F **RUN TOTAL:** 774.1Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.2 | 192.1 | 62.5 | 63.2 | 491 | 5.6 |
| Rap Scale | 9.8 | 96.1 | 30.5 | 31.5 | 258.6 | 1.9 |
| +A/C #1 | 1.315 | 12.72 | 6 | 4.4 (32.8) | 33.818 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.4 (62.4) | 203.9 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.9 (47.3) | 183 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.2 (34.9) | 121.5 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.6 | 15 | 15.6 (32.9) | 125 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 125.4 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 8 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.691 | 7.9 | | 4.1 | 17.39 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.96% | 0.684% | 0% |

AC% VIRGIN TOTAL% 4.37 %

ANTISTRIP TOTAL% 0.038 %

AC TOTAL% (actual) 6.02 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):203.4tph Rap Rate(Wet):97.92tph

BH INLET: 323°F

BH OUTLET: 267°F

BH PRESSURE: 2.891"W

BlueSmoke PRESS: -0.018"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:09:57

Genco

F B **MIX:** N70 St.SC **RATE:** 297tph **TEMP:** 319.8°F **RUN TOTAL:** 803.5Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 18.6 | 187 | 62.5 | 62.6 | 509.6 | 5.5 |
| Rap Scale | 9.9 | 98.2 | 30.5 | 32 | 268.4 | 1.9 |
| +A/C #1 | 1.28 | 13.23 | 6 | 4.5 (34.4) | 35.098 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 25.4 (62.4) | 211.7 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.8 | 22.5 | 22.9 (47.3) | 190 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 126.1 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.3 | 15 | 15.5 (32.9) | 129.7 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.7 (33.4) | 130.2 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 8.3 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.661 | 5.6 | | 3 | 18.05 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.909% | 0.648% | 0% |

AC% VIRGIN TOTAL% 4.46 %

ANTISTRIP TOTAL% 0.037 %

AC TOTAL% (actual) 6.02 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):197.95tph Rap Rate(Wet):100.11tph

BH INLET: 321°F

BH OUTLET: 268°F

BH PRESSURE: 2.945"W

BlueSmoke PRESS: 0.369"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:15:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 293tph **TEMP:** 325.8°F **RUN TOTAL:** 833.2Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19 | 195.9 | 62.5 | 63.6 | 528.5 | 5.6 |
| Rap Scale | 9.8 | 97 | 30.5 | 31.2 | 278.2 | 1.9 |
| +A/C #1 | 1.305 | 13.05 | 6 | 4.4 (33.9) | 36.403 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 25.4 (62.4) | 219.5 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.9 (47.3) | 197 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.3 (34.9) | 130.8 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.2 | 15 | 15.5 (32.9) | 134.5 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.7 (33.4) | 135 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 8.6 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.684 | 8.2 | | 4.2 | 18.73 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.92% | 0.656% | 0% |

AC% VIRGIN TOTAL% 4.45 % State ID: 231431

ANTISTRIP TOTAL% 0.038 % ARB Lot#:

AC TOTAL% (actual) 6.02 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):207.37tph Rap Rate(Wet):98.91tph

BH INLET: 321°F

BH OUTLET: 266°F

BH PRESSURE: 2.939"W

BlueSmoke PRESS: 0.138"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:21:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 299tph **TEMP:** 320.5°F **RUN TOTAL:** 862.9Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19 | 188.6 | 62.5 | 62.2 | 547.5 | 5.6 |
| Rap Scale | 9.7 | 98.5 | 30.5 | 32.4 | 287.9 | 1.9 |
| +A/C #1 | 1.31 | 13.08 | 6 | 4.4 (34) | 37.713 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 227.3 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.3 | 22.5 | 23 (47.3) | 204 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.2 (34.9) | 135.4 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.3 | 15 | 15.5 (32.9) | 139.2 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 139.7 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 8.9 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.596 | 6 | | 3.2 | 19.33 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.927% | 0.66% | 0% |

AC% VIRGIN TOTAL% 4.38 %

ANTISTRIP TOTAL% 0.037 %

AC TOTAL% (actual) 5.96 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):199.65tph Rap Rate(Wet):100.42tph

BH INLET: 321°F

BH OUTLET: 267°F

BH PRESSURE: 2.885"W

BlueSmoke PRESS: 0.302"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:27:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 291tph **TEMP:** 324.6°F **RUN TOTAL:** 892.7Ton **AC CONTENT:** 6.1%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.2 | 191.1 | 62.5 | 61.9 | 566.7 | 5.5 |
| Rap Scale | 9.7 | 100.9 | 30.5 | 32.9 | 297.6 | 1.9 |
| +A/C #1 | 1.311 | 12.87 | 6 | 4.5 (33.1) | 39.023 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.5 (62.4) | 235 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.9 (47.3) | 211 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15.2 (34.9) | 140 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.5 | 15 | 15.5 (32.9) | 144 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 144.5 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 9.2 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.672 | 5.7 | | 3 | 20 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.942% | 0.671% | 0% |

AC% VIRGIN TOTAL% 4.46 % State ID: 231431

ANTISTRIP TOTAL% 0.038 % ARB Lot#:

AC TOTAL% (actual) 6.07 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):202.31tph Rap Rate(Wet):102.86tph

BH INLET: 321°F

BH OUTLET: 267°F

BH PRESSURE: 2.787"W

BlueSmoke PRESS: 0.067"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:33:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 297tph **TEMP:** 326°F **RUN TOTAL:** 922.4Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19 | 188.7 | 62.5 | 61.4 | 585.7 | 5.6 |
| Rap Scale | 9.7 | 101.2 | 30.5 | 33.3 | 307.4 | 1.9 |
| +A/C #1 | 1.302 | 13.17 | 6 | 4.4 (34.3) | 40.325 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 242.8 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 23 (47.3) | 218 | 5.1 |
| Virgin Feeder #5 | 4.7 | 46.4 | 15 | 15.2 (34.9) | 144.7 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.9 | 15 | 15.7 (32.9) | 148.8 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.4 | 15.5 | 15.5 (33.4) | 149.3 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 9.5 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.716 | 7.9 | | 4.2 | 20.72 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.94% | 0.67% | 0% |

AC% VIRGIN TOTAL% 4.43 %

ANTISTRIP TOTAL% 0.037 %

AC TOTAL% (actual) 6.04 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):199.82tph Rap Rate(Wet):103.18tph

BH INLET: 321°F

BH OUTLET: 266°F

BH PRESSURE: 2.811"W

BlueSmoke PRESS: 0.008"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:39:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 302tph **TEMP:** 322.1°F **RUN TOTAL:** 951.9Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 18.9 | 174.2 | 62.5 | 60.1 | 604.5 | 5.6 |
| Rap Scale | 9.8 | 101.4 | 30.5 | 34.4 | 317.2 | 1.9 |
| +A/C #1 | 1.295 | 13.08 | 6 | 4.3 (34.1) | 41.621 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.9 | 25 | 25.5 (62.4) | 250.6 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.8 | 22.5 | 22.8 (47.3) | 225 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.3 | 15 | 15.2 (34.9) | 149.3 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.3 | 15 | 15.5 (32.9) | 153.5 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 154.1 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 9.8 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.613 | 3.4 | | 1.9 | 21.33 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.938% | 0.668% | 0% |

AC% VIRGIN TOTAL% 4.33 % State ID: 231431

ANTISTRIP TOTAL% 0.037 % ARB Lot#:

AC TOTAL% (actual) 5.94 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):184.44tph Rap Rate(Wet):103.32tph

BH INLET: 320°F

BH OUTLET: 267°F

BH PRESSURE: 2.92"W

BlueSmoke PRESS: 0.242"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:45:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 300tph **TEMP:** 321.3°F **RUN TOTAL:** 981.8Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19 | 181.1 | 62.5 | 60.8 | 623.5 | 5.5 |
| Rap Scale | 9.8 | 95 | 30.5 | 33.7 | 327 | 1.9 |
| +A/C #1 | 1.313 | 13.23 | 6 | 4.4 (34.5) | 42.933 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 78.3 | 25 | 25.5 (62.4) | 258.4 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 22.9 (47.3) | 232 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.1 (34.9) | 154 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.7 | 15 | 15.5 (32.9) | 158.3 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 158.9 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 10.1 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.561 | 2.5 | | 1.4 | 21.89 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.923% | 0.658% | 0% |

AC% VIRGIN TOTAL% 4.42 %

ANTISTRIP TOTAL% 0.037 %

AC TOTAL% (actual) 6 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):191.7tph Rap Rate(Wet):96.84tph

BH INLET: 323°F

BH OUTLET: 268°F

BH PRESSURE: 2.955"W

BlueSmoke PRESS: -0.07"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:51:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 299tph **TEMP:** 319.4°F **RUN TOTAL:** 1011.3Ton **AC CONTENT:** 6.1%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 18.8 | 199.6 | 62.5 | 63.9 | 642.4 | 5.6 |
| Rap Scale | 9.7 | 96.5 | 30.5 | 30.8 | 336.7 | 1.9 |
| +A/C #1 | 1.293 | 13.47 | 6 | 4.5 (35) | 44.227 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.5 (62.4) | 266.2 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.7 | 22.5 | 22.8 (47.3) | 239 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.3 | 15 | 15.2 (34.9) | 158.6 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.0 | 15 | 15.4 (32.9) | 163.1 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.7 (33.4) | 163.6 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 10.4 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.659 | 9 | | 4.5 | 22.55 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.925% | 0.659% | 0% |

AC% VIRGIN TOTAL% 4.5 %

ANTISTRIP TOTAL% 0.037 %

AC TOTAL% (actual) 6.09 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):211.36tph Rap Rate(Wet):98.33tph

BH INLET: 325°F
BH OUTLET: 270°F
BH PRESSURE: 2.803"W
BlueSmoke PRESS: 0.118"W
DUST DIVERTED To SILO
AC Tank In Use # 1
Silo Filling # 5
MOTORS INTERLOCKED

# RECORDATION

12-11-2018 08:57:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 297tph **TEMP:** 316.3°F **RUN TOTAL:** 1041Ton **AC CONTENT:** 6.1%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19 | 197.8 | 62.5 | 64.2 | 661.4 | 5.5 |
| Rap Scale | 9.7 | 94.8 | 30.5 | 30.5 | 346.4 | 1.9 |
| +A/C #1 | 1.311 | 13.44 | 6 | 4.5 (35) | 45.538 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.5 (62.4) | 274 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.4 | 22.5 | 22.7 (47.3) | 246 | 5.1 |
| Virgin Feeder #5 | 4.7 | 46.2 | 15 | 15.1 (34.9) | 163.2 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.3 | 15 | 15.5 (32.9) | 167.9 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.7 | 15.5 | 15.6 (33.4) | 168.4 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 10.7 | 0 |
| Antistrip | 0 | 0.112 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.706 | 6.1 | | 3.1 | 23.26 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.923% | 0.658% | 0% |

AC% VIRGIN TOTAL% 4.52 %

ANTISTRIP TOTAL% 0.038 %

AC TOTAL% (actual) 6.11 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):209.41tph Rap Rate(Wet):96.65tph

BH INLET: 321°F

BH OUTLET: 270°F

BH PRESSURE: 2.915"W

BlueSmoke PRESS: 0.068"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 5

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 09:03:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 305tph **TEMP:** 317.2°F **RUN TOTAL:** 1071.2Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.5 | 196 | 62.5 | 63.4 | 680.9 | 5.5 |
| Rap Scale | 9.6 | 97.3 | 30.5 | 31.4 | 356.1 | 1.9 |
| +A/C #1 | 1.335 | 13.38 | 6 | 4.3 (34.9) | 46.873 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 78.9 | 25 | 25.7 (62.4) | 281.7 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.8 (47.3) | 253 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15.1 (34.9) | 167.9 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.7 | 15 | 15.6 (32.9) | 172.6 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 173.2 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 11 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.631 | 8.3 | | 4.2 | 23.89 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.904% | 0.644% | 0% |

AC% VIRGIN TOTAL% 4.33 %

ANTISTRIP TOTAL% 0.036 %

AC TOTAL% (actual) 5.88 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):207.51tph Rap Rate(Wet):99.18tph

BH INLET: 319°F

BH OUTLET: 268°F

BH PRESSURE: 2.804"W

BlueSmoke PRESS: 0.464"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 5

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 09:09:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 299tph **TEMP:** 316.3°F **RUN TOTAL:** 1101.3Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.4 | 201.4 | 62.5 | 63.6 | 700.3 | 5.5 |
| Rap Scale | 9.7 | 96.1 | 30.5 | 31.1 | 365.8 | 1.9 |
| +A/C #1 | 1.334 | 13.29 | 6 | 4.5 (33.8) | 48.208 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.3 | 25 | 25.3 (62.4) | 289.5 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.9 (47.3) | 260 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.1 | 15 | 15.1 (34.9) | 172.5 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 48.1 | 15 | 15.7 (32.9) | 177.4 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 178 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 11.3 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.612 | 7.4 | | 3.8 | 24.5 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.932% | 0.664% | 0% |

AC% VIRGIN TOTAL% 4.44 %

ANTISTRIP TOTAL% 0.037 %

AC TOTAL% (actual) 6.04 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):213.21tph Rap Rate(Wet):97.92tph

BH INLET: 320°F

BH OUTLET: 267°F

BH PRESSURE: 2.872"W

BlueSmoke PRESS: 0.086"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 5

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 09:15:57

Genco

F B **MIX:** N70 St.SC **RATE:** 308tph **TEMP:** 312.7°F **RUN TOTAL:** 1131.5Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.6 | 195.3 | 62.5 | 63.5 | 719.9 | 5.5 |
| Rap Scale | 9.7 | 95.4 | 30.5 | 31 | 375.4 | 1.9 |
| +A/C #1 | 1.341 | 13.81 | 6 | 4.5 (35.8) | 49.549 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.9 | 25 | 25.3 (62.4) | 297.3 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.7 (47.3) | 267 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15 (34.9) | 177.2 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 49.2 | 15 | 15.9 (32.9) | 182.2 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.6 (33.4) | 182.7 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 11.6 | 0 |
| Antistrip | 0 | 0.109 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.594 | 2.1 | | 1.1 | 25.1 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.912% | 0.65% | 0% |

AC% VIRGIN TOTAL% 4.45 %

ANTISTRIP TOTAL% 0.035 %

AC TOTAL% (actual) 6.01 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):206.75tph Rap Rate(Wet):97.25tph

BH INLET: 319°F

BH OUTLET: 267°F

BH PRESSURE: 2.948"W

BlueSmoke PRESS: 0.281"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 5

MOTORS INTERLOCKED

# MAT Asphalt

## Customer ticket list broken by product type and unit

Chicago Plant
Friday, December 14, 2018 4:05:40 PM
Report Parameters:
Time out: 12/11/2018 10:00:00 AM - 12/11/2018 11:05:59 AM (31) TRUCKS LOADED

**12/11/2018 Tuesday**
Product Type: Produced Unit: Tons

| | Ticket Number | Customer Name | Customer Number | Job Name | Job Number | Location | Formula (mix) | Product Code | Product Description | Qtty | Taxable |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 309280 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 12.48 | Yes |
| 2 | 309281 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.22 | No |
| 3 | 309282 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 13.00 | Yes |
| 4 | 309283 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.62 | No |
| 5 | 309284 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.22 | No |
| 6 | 309285 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 13.86 | Yes |
| 7 | 309286 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.47 | Yes |
| 8 | 309287 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.77 | No |
| 9 | 309288 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 13.58 | Yes |
| 10 | 309289 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.63 | Yes |
| 11 | 309290 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 19.79 | Yes |
| 12 | 309291 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.25 | Yes |
| 13 | 309292 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.67 | Yes |
| 14 | 309293 | Illinois Paving | 39950 | | | Illinois & Rush | 231431 N70 | M-231431TW | N-70 Surface(81BIT006X) | 15.30 | Yes |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | SURFACE | | | | |
| 15 | 309294 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.82 | No |
| 16 | 309295 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.18 | Yes |
| 17 | 309296 | Illinois Paving | 39950 | | | Illinois & Rush | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 13.75 | Yes |
| 18 | 309297 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.97 | Yes |
| 19 | 309298 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 20.42 | Yes |
| 20 | 309299 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.88 | No |
| 21 | 309300 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.20 | Yes |
| 22 | 309301 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.38 | No |
| 23 | 309302 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 21.26 | No |
| 24 | 309303 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.36 | Yes |
| 25 | 309304 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 14.15 | Yes |
| 26 | 309305 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.32 | No |
| 27 | 309306 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 12.84 | Yes |
| 28 | 309307 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.63 | No |
| 29 | 309308 | Sanchez Construction Services | 72820 | Patching | Cable | Loomis & Roosevelt | 231431 N70 SURFACE | M-232521 | N-70 Surface | 12.63 | Yes |
| 30 | 309309 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.68 | Yes |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 43rd\r\nM18410 (EvothermWMA) | | | | | |
| 309310 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 21.01 | Yes |
| | | | | | | | | **Produced 564.34 Tons** | | |

# RECORDATION

12-11-2018 09:57:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 306tph **TEMP:** 321.5°F **RUN TOTAL:** 1342.9Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.6 | 199.6 | 62.5 | 64.1 | 857 | 5.6 |
| Rap Scale | 9.6 | 95.4 | 30.5 | 30.6 | 442.8 | 1.9 |
| +A/C #1 | 1.348 | 13.59 | 6 | 4.4 (35.3) | 58.95 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 351.7 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.8 | 22.5 | 22.8 (47.3) | 316 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 209.6 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.2 | 15 | 15.4 (32.9) | 215.8 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 216.2 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 13.8 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.649 | 9.1 | | 4.5 | 29.77 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.911% | 0.649% | 0% |

AC% VIRGIN TOTAL% 4.45 %

ANTISTRIP TOTAL% 0.036 %

AC TOTAL% (actual) 6.01 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):211.31tph Rap Rate(Wet):97.24tph

BH INLET: 324°F

BH OUTLET: 272°F

BH PRESSURE: 3.036"W

BlueSmoke PRESS: -0.017"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:03:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 299tph **TEMP:** 323.3°F **RUN TOTAL:** 1373.2Ton **AC CONTENT:** 6.1%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.9 | 196.6 | 62.5 | 64.5 | 876.9 | 5.6 |
| Rap Scale | 9.5 | 95.3 | 30.5 | 30 | 452.3 | 1.9 |
| +A/C #1 | 1.352 | 13.65 | 6 | 4.5 (34.9) | 60.302 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.4 (62.4) | 359.5 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 22.9 (47.3) | 323 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15.1 (34.9) | 214.3 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.2 | 15 | 15.4 (32.9) | 220.5 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 221 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 14.1 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.766 | 4.4 | | 2.3 | 30.54 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.895% | 0.638% | 0% |

AC% VIRGIN TOTAL% 4.61 %

ANTISTRIP TOTAL% 0.037 %

AC TOTAL% (actual) 6.14 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):208.16tph Rap Rate(Wet):97.15tph

BH INLET: 325°F

BH OUTLET: 272°F

BH PRESSURE: 2.979"W

BlueSmoke PRESS: 0.128"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:09:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 307tph **TEMP:** 325.2°F **RUN TOTAL:** 1403.7Ton **AC CONTENT:** 6.1%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.9 | 201.1 | 62.5 | 64.8 | 896.8 | 5.6 |
| Rap Scale | 9.6 | 91.4 | 30.5 | 29.7 | 461.9 | 1.9 |
| +A/C #1 | 1.36 | 13.96 | 6 | 4.5 (36.2) | 61.662 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 367.3 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.3 | 22.5 | 23 (47.3) | 330 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15.1 (34.9) | 218.9 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.2 | 15 | 15.5 (32.9) | 225.3 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 225.8 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 14.4 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.659 | 6.8 | | 3.4 | 31.19 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.885% | 0.63% | 0% |

AC% VIRGIN TOTAL% 4.55 % State ID: 231431

ANTISTRIP TOTAL% 0.036 % ARB Lot#:

AC TOTAL% (actual) 6.06 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):212.95tph Rap Rate(Wet):93.19tph

BH INLET: 327°F

BH OUTLET: 272°F

BH PRESSURE: 3.015"W

BlueSmoke PRESS: 0.406"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:15:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 303tph **TEMP:** 320.2°F **RUN TOTAL:** 1434.3Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.9 | 195.6 | 62.5 | 63.4 | 916.7 | 5.5 |
| Rap Scale | 9.5 | 95.1 | 30.5 | 31.3 | 471.4 | 1.9 |
| +A/C #1 | 1.368 | 13.26 | 6 | 4.4 (34.7) | 63.03 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.4 (62.4) | 375.1 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.9 (47.3) | 337 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 223.6 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 49.5 | 15 | 15.6 (32.9) | 230.2 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 230.6 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 14.7 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.537 | 3.4 | | 1.8 | 31.73 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.878% | 0.626% | 0% |

AC% VIRGIN TOTAL% 4.38 %

ANTISTRIP TOTAL% 0.037 %

AC TOTAL% (actual) 5.89 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):207.04tph Rap Rate(Wet):96.96tph

BH INLET: 322°F

BH OUTLET: 273°F

BH PRESSURE: 3.015"W

BlueSmoke PRESS: 0.116"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:21:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 305tph **TEMP:** 328.6°F **RUN TOTAL:** 1464.8Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 20 | 199 | 62.5 | 63.2 | 936.6 | 5.5 |
| Rap Scale | 9.6 | 97.3 | 30.5 | 31.4 | 481 | 1.9 |
| +A/C #1 | 1.363 | 13.65 | 6 | 4.4 (35.7) | 64.393 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.3 (62.4) | 382.9 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.8 (47.3) | 344 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 228.2 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.9 | 15 | 15.5 (32.9) | 235 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.6 (33.4) | 235.3 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 15 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.671 | 6.8 | | 3.5 | 32.4 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.892% | 0.636% | 0% |

AC% VIRGIN TOTAL% 4.47 % State ID: 231431

ANTISTRIP TOTAL% 0.036 % ARB Lot#:

AC TOTAL% (actual) 6 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):210.66tph Rap Rate(Wet):99.16tph

BH INLET: 323°F

BH OUTLET: 271°F

BH PRESSURE: 3.094"W

BlueSmoke PRESS: 0.332"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:27:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 311tph **TEMP:** 325.4°F **RUN TOTAL:** 1495.1Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.8 | 192 | 62.5 | 63.2 | 956.4 | 5.5 |
| Rap Scale | 9.5 | 95.6 | 30.5 | 31.3 | 490.5 | 1.9 |
| +A/C #1 | 1.351 | 13.71 | 6 | 4.4 (36.5) | 65.744 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 78.1 | 25 | 25.4 (62.4) | 390.6 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 22.9 (47.3) | 351 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.7 | 15 | 15.2 (34.9) | 232.8 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.9 | 15 | 15.6 (32.9) | 239.8 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.5 (33.4) | 240.1 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 15.3 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.55 | 0.3 | | 0.2 | 32.95 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.862% | 0.614% | 0% |

AC% VIRGIN TOTAL% 4.41 %

ANTISTRIP TOTAL% 0.036 %

AC TOTAL% (actual) 5.89 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):203.32tph Rap Rate(Wet):97.49tph

BH INLET: 323°F

BH OUTLET: 273°F

BH PRESSURE: 3.255"W

BlueSmoke PRESS: 0.246"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:33:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 313tph **TEMP:** 335.5°F **RUN TOTAL:** 1525.1Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.4 | 192.6 | 62.5 | 63.1 | 975.8 | 5.5 |
| Rap Scale | 9.5 | 95.1 | 30.5 | 31.3 | 500 | 1.9 |
| +A/C #1 | 1.338 | 13.84 | 6 | 4.3 (37.2) | 67.082 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.5 (62.4) | 398.4 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.9 (47.3) | 358 | 5.1 |
| Virgin Feeder #5 | 4.7 | 46.2 | 15 | 15.1 (34.9) | 237.5 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 46.9 | 15 | 15.4 (32.9) | 244.6 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 244.9 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 15.6 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.661 | 8.3 | | 4.3 | 33.61 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.875% | 0.624% | 0% |

AC% VIRGIN TOTAL% 4.42 % State ID: 231431

ANTISTRIP TOTAL% 0.035 % ARB Lot#:

AC TOTAL% (actual) 5.92 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):203.94tph Rap Rate(Wet):96.93tph

BH INLET: 323°F

BH OUTLET: 272°F

BH PRESSURE: 3.097"W

BlueSmoke PRESS: -0.006"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:39:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 305tph **TEMP:** 339.4°F **RUN TOTAL:** 1555.1Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.6 | 195.7 | 62.5 | 62.6 | 995.4 | 5.5 |
| Rap Scale | 9.5 | 95.6 | 30.5 | 32 | 509.5 | 1.9 |
| +A/C #1 | 1.336 | 13.5 | 6 | 4.5 (34.3) | 68.418 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 25.4 (62.4) | 406.2 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 22.9 (47.3) | 365 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.3 | 15 | 15.1 (34.9) | 242.1 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.6 | 15 | 15.6 (32.9) | 249.3 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 249.7 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 15.9 | 0 |
| Antistrip | 0 | 0.111 | 0 | 0 (24) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.725 | 3.4 | | 1.7 | 34.34 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.902% | 0.643% | 0% |

AC% VIRGIN TOTAL% 4.45 %

ANTISTRIP TOTAL% 0.036 %

AC TOTAL% (actual) 6 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):207.21tph Rap Rate(Wet):97.44tph

BH INLET: 323°F

BH OUTLET: 271°F

BH PRESSURE: 2.859"W

BlueSmoke PRESS: 0.238"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 4

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:45:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 302tph **TEMP:** 334.9°F **RUN TOTAL:** 1585.4Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.6 | 196.4 | 62.5 | 64.4 | 1015 | 5.5 |
| Rap Scale | 9.6 | 97.6 | 30.5 | 30.2 | 519.2 | 1.9 |
| +A/C #1 | 1.344 | 13.38 | 6 | 4.5 (35) | 69.762 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 414 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.9 (47.3) | 372 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.2 (34.9) | 246.8 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.7 | 15 | 15.6 (32.9) | 254.1 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 254.5 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 16.2 | 0 |
| Antistrip | 0 | 0.073 | 0.4 | 0.4 (15.9) | 0 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.52 | 4.5 | | 2.3 | 34.86 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.909% | 0.648% | 0% |

AC% VIRGIN TOTAL% 4.46 %

ANTISTRIP TOTAL% 0.024 %

AC TOTAL% (actual) 6.02 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):207.92tph Rap Rate(Wet):99.49tph

BH INLET: 322°F

BH OUTLET: 270°F

BH PRESSURE: 2.849"W

BlueSmoke PRESS: 0.212"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:51:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 305tph **TEMP:** 328.5°F **RUN TOTAL:** 1615.6Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.6 | 195.5 | 62.5 | 63.7 | 1034.5 | 5.6 |
| Rap Scale | 9.6 | 96.1 | 30.5 | 30.9 | 528.7 | 1.9 |
| +A/C #1 | 1.34 | 13.56 | 6 | 4.5 (35.3) | 71.102 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.9 | 25 | 25.4 (62.4) | 421.8 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.7 | 22.5 | 22.7 (47.3) | 379 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15.1 (34.9) | 251.4 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 48.3 | 15 | 15.7 (32.9) | 258.9 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.1 | 15.5 | 15.7 (33.4) | 259.3 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 16.5 | 0 |
| Antistrip | 0.006 | 0.074 | 0.4 | 0.4 (16.5) | 0.006 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.607 | 5.9 | | 3 | 35.46 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.9% | 0.641% | 0% |

AC% VIRGIN TOTAL% 4.47 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 6.01 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):206.97tph Rap Rate(Wet):97.96tph

BH INLET: 320°F

BH OUTLET: 270°F

BH PRESSURE: 2.932"W

BlueSmoke PRESS: 0.386"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 10:57:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 299tph **TEMP:** 323.9°F **RUN TOTAL:** 1645.5Ton **AC CONTENT:** 6.2%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.4 | 194.8 | 62.5 | 63.7 | 1053.9 | 5.6 |
| Rap Scale | 9.6 | 96.7 | 30.5 | 30.9 | 538.3 | 1.9 |
| +A/C #1 | 1.324 | 13.62 | 6 | 4.5 (34.7) | 72.426 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.5 | 25 | 25.3 (62.4) | 429.5 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 22.8 (47.3) | 386 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.1 (34.9) | 256 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.9 | 15 | 15.5 (32.9) | 263.7 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.2 | 15.5 | 15.7 (33.4) | 264.1 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 16.8 | 0 |
| Antistrip | 0.007 | 0.074 | 0.4 | 0.4 (16.5) | 0.013 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.693 | 7.3 | | 3.7 | 36.16 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.911% | 0.649% | 0% |

AC% VIRGIN TOTAL% 4.51 % State ID: 231431

ANTISTRIP TOTAL% 0.025 % ARB Lot#:

AC TOTAL% (actual) 6.08 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):206.25tph Rap Rate(Wet):98.62tph

BH INLET: 320°F

BH OUTLET: 269°F

BH PRESSURE: 2.919"W

BlueSmoke PRESS: 0.2"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 11:03:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 308tph **TEMP:** 322.7°F **RUN TOTAL:** 1675.7Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.5 | 194.3 | 62.5 | 63.2 | 1073.4 | 5.6 |
| Rap Scale | 9.6 | 96.4 | 30.5 | 31.4 | 548 | 1.9 |
| +A/C #1 | 1.337 | 13.56 | 6 | 4.5 (35.8) | 73.763 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.3 (62.4) | 437.3 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.8 (47.3) | 393 | 5.1 |
| Virgin Feeder #5 | 4.7 | 46.6 | 15 | 15.2 (34.9) | 260.7 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.7 | 15 | 15.7 (32.9) | 268.5 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.6 (33.4) | 268.9 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 17.1 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (16.1) | 0.021 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.58 | 6.1 | | 3.1 | 36.74 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.895% | 0.638% | 0% |

AC% VIRGIN TOTAL% 4.4 % State ID: 231431

ANTISTRIP TOTAL% 0.023 % ARB Lot#:

AC TOTAL% (actual) 5.94 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):205.77tph Rap Rate(Wet):98.24tph

BH INLET: 321°F

BH OUTLET: 270°F

BH PRESSURE: 2.992"W

BlueSmoke PRESS: 0.172"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 11:09:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 303tph **TEMP:** 320.8°F **RUN TOTAL:** 1705.8Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.6 | 193.2 | 62.5 | 63.2 | 1093 | 5.6 |
| Rap Scale | 9.6 | 95.6 | 30.5 | 31.3 | 557.5 | 1.9 |
| +A/C #1 | 1.327 | 13.2 | 6 | 4.4 (34.3) | 75.09 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 445.1 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.9 (47.3) | 400 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.2 (34.9) | 265.3 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.7 | 47.2 | 15 | 15.4 (32.9) | 273.2 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 273.6 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 17.4 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (16.2) | 0.028 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.691 | 4.7 | | 2.4 | 37.43 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.913% | 0.65% | 0% |

AC% VIRGIN TOTAL% 4.4 % State ID: 231431

ANTISTRIP TOTAL% 0.023 % ARB Lot#:

AC TOTAL% (actual) 5.96 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):204.58tph Rap Rate(Wet):97.44tph

BH INLET: 320°F

BH OUTLET: 270°F

BH PRESSURE: 3.055"W

BlueSmoke PRESS: 0.187"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# MAT Asphalt

## Customer ticket list broken by product type and unit

Chicago Plant
Friday, December 14, 2018 4:06:34 PM

Report Parameters:
Time out: 12/11/2018 12:32:00 PM - 12/11/2018 1:39:59 PM (27) trucks LOADED

**12/11/2018 Tuesday**
Product Type: Produced Unit: Tons

| | Ticket Number | Customer Name | Customer Number | Job Name | Job Number | Location | Formula (mix) | Product Code | Product Description | Qtty | Taxable |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 309342 | Sanchez Construction Services | 72820 | Sewer | Sewer | Sewer Structure\r\nAncillary P-N-7226C\r\nSouthChicago & Ingleside (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 15.21 | No |
| 2 | 309343 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.34 | Yes |
| 3 | 309344 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.74 | No |
| 4 | 309345 | B & T Underground | 06295 | | | 11305 S.Spaulding | 231431 N70 SURFACE | M-232521 | N-70 Surface | 5.07 | Yes |
| 5 | 309346 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.27 | No |
| 6 | 309347 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.68 | Yes |
| 7 | 309348 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.60 | No |
| 8 | 309349 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.17 | Yes |
| 9 | 309350 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.94 | No |
| 10 | 309351 | Sanchez Paving Company | 72825 | | | Lake & Kedzie | 231431 N70 SURFACE | M-232521 | N-70 Surface | 11.54 | Yes |
| 11 | 309352 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 21.12 | Yes |
| 12 | 309353 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.50 | No |
| 13 | 309354 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.97 | Yes |
| 14 | 309355 | MAT Construction | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to | 231431 N70 | M-231431TW | N-70 Surface(81BIT006X) | 20.84 | No |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Leasing Inc. | | | | Damen)\r\nEvotherm WMA | SURFACE | | | | |
| 15 | 309356 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.58 | Yes |
| 16 | 309357 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.49 | Yes |
| 17 | 309358 | Sanchez Paving Company | 72825 | | | Lake & Kedzie | 231431 N70 SURFACE | M-232521 | N-70 Surface | 11.79 | Yes |
| 18 | 309359 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.04 | Yes |
| 19 | 309360 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.08 | No |
| 20 | 309361 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.97 | No |
| 21 | 309362 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 21.33 | Yes |
| 22 | 309363 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.86 | Yes |
| 23 | 309364 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.80 | No |
| 24 | 309365 | Sanchez Paving Company | 72825 | | | Lake & Kedzie | 231431 N70 SURFACE | M-232521 | N-70 Surface | 19.52 | Yes |
| 25 | 309366 | Sanchez Construction Services | 72820 | Sewer | Sewer | Sewer Structure\r\nAncillary P-N-7226C\r\nSouthChicago & Ingleside (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 12.59 | No |
| 26 | 309367 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.43 | Yes |
| 27 | 309368 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.18 | No |
| | | | | | | | | | **Produced 504.65 Tons** | | |

# RECORDATION

12-11-2018 12:27:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 296tph **TEMP:** 334.7°F **RUN TOTAL:** 2095Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.3 | 194.2 | 62.5 | 64.4 | 1346.2 | 5.5 |
| Rap Scale | 9.4 | 94.6 | 30.5 | 30.3 | 680.7 | 1.9 |
| +A/C #1 | 1.317 | 13.05 | 6 | 4.5 (33.5) | 92.344 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.9 | 25 | 25.4 (62.4) | 546.6 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.8 | 22.5 | 22.7 (47.3) | 491.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.3 | 15 | 15.1 (34.9) | 325.9 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.6 | 15 | 15.6 (32.9) | 335.6 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.1 | 15.5 | 15.7 (33.4) | 336.2 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 21.4 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (15.8) | 0.121 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.57 | 10.1 | | 5.2 | 45.92 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.927% | 0.66% | 0% |

AC% VIRGIN TOTAL% 4.44 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 6.03 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):205.59tph Rap Rate(Wet):96.45tph

BH INLET: 323°F

BH OUTLET: 273°F

BH PRESSURE: 3.039"W

BlueSmoke PRESS: 0.145"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 12:33:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 297tph **TEMP:** 332°F **RUN TOTAL:** 2124.7Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.3 | 193.8 | 62.5 | 64.4 | 1365.5 | 5.5 |
| Rap Scale | 9.4 | 93.7 | 30.5 | 30.3 | 690.2 | 1.9 |
| +A/C #1 | 1.313 | 12.96 | 6 | 4.3 (33.8) | 93.657 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 25.4 (62.4) | 554.4 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 23 (47.3) | 498.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.2 (34.9) | 330.6 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.0 | 15 | 15.4 (32.9) | 340.4 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.2 | 15.5 | 15.7 (33.4) | 341 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 21.7 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (16) | 0.129 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.742 | 10 | | 5.2 | 46.67 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.919% | 0.655% | 0% |

AC% VIRGIN TOTAL% 4.36 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 5.94 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):205.16tph Rap Rate(Wet):95.56tph

BH INLET: 323°F

BH OUTLET: 273°F

BH PRESSURE: 2.982"W

BlueSmoke PRESS: 0.249"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 12:39:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 294tph **TEMP:** 333.5°F **RUN TOTAL:** 2154.2Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.2 | 194.9 | 62.5 | 64.4 | 1384.7 | 5.6 |
| Rap Scale | 9.4 | 92.9 | 30.5 | 30.3 | 699.5 | 1.9 |
| +A/C #1 | 1.31 | 13.08 | 6 | 4.4 (34.1) | 94.968 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.5 (62.4) | 562.1 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.7 | 22.5 | 22.8 (47.3) | 505.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.2 (34.9) | 335.2 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.6 | 15 | 15.5 (32.9) | 345.2 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.2 | 15.5 | 15.7 (33.4) | 345.8 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 22 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (15.9) | 0.136 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.607 | 7.6 | | 3.9 | 47.27 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.9% | 0.641% | 0% |

AC% VIRGIN TOTAL% 4.47 %

ANTISTRIP TOTAL% 0.024 %

AC TOTAL% (actual) 6.01 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):206.32tph Rap Rate(Wet):94.7tph

BH INLET: 324°F

BH OUTLET: 274°F

BH PRESSURE: 2.794"W

BlueSmoke PRESS: 0.146"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 12:45:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 302tph **TEMP:** 331.8°F **RUN TOTAL:** 2183.9Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.3 | 194.4 | 62.5 | 63.6 | 1404 | 5.6 |
| Rap Scale | 9.4 | 94.6 | 30.5 | 31.1 | 708.9 | 1.9 |
| +A/C #1 | 1.315 | 13.26 | 6 | 4.4 (34.9) | 96.283 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 25.3 (62.4) | 569.9 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.8 | 22.5 | 22.8 (47.3) | 512.4 | 5.1 |
| Virgin Feeder #5 | 4.7 | 46.7 | 15 | 15.3 (34.9) | 339.9 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 48.1 | 15 | 15.6 (32.9) | 350 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.1 | 15.5 | 15.7 (33.4) | 350.6 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 22.3 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (16) | 0.143 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.547 | 1.7 | | 0.9 | 47.82 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.893% | 0.636% | 0% |

AC% VIRGIN TOTAL% 4.36 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 5.89 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):205.78tph Rap Rate(Wet):96.44tph

BH INLET: 326°F

BH OUTLET: 274°F

BH PRESSURE: 2.922"W

BlueSmoke PRESS: 0.213"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 12:51:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 302tph **TEMP:** 333.2°F **RUN TOTAL:** 2213.6Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.3 | 191.2 | 62.5 | 63.7 | 1423.3 | 5.6 |
| Rap Scale | 9.3 | 94 | 30.5 | 30.9 | 718.2 | 1.9 |
| +A/C #1 | 1.317 | 13.26 | 6 | 4.5 (34.4) | 97.601 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.5 (62.4) | 577.7 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.3 | 22.5 | 23.1 (47.3) | 519.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.2 (34.9) | 344.5 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 45.8 | 15 | 15.8 (32.9) | 354.8 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.1 | 15.5 | 15.8 (33.4) | 355.4 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (30.1) | 22.6 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (16) | 0.15 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.72 | 9 | | 4.7 | 48.54 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.904% | 0.644% | 0% |

AC% VIRGIN TOTAL% 4.42 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 5.97 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):202.43tph Rap Rate(Wet):95.81tph

BH INLET: 326°F

BH OUTLET: 275°F

BH PRESSURE: 2.799"W

BlueSmoke PRESS: 0.39"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 12:57:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 295tph **TEMP:** 330.6°F **RUN TOTAL:** 2243.5Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.4 | 194.9 | 62.5 | 63.3 | 1442.7 | 5.6 |
| Rap Scale | 9.4 | 97.8 | 30.5 | 31.5 | 727.6 | 1.9 |
| +A/C #1 | 1.328 | 13.11 | 6 | 4.4 (34.2) | 98.929 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.3 (62.4) | 585.5 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.3 | 22.5 | 22.9 (47.3) | 526.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 349.2 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.7 | 15 | 15.5 (32.9) | 359.6 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.1 | 15.5 | 15.7 (33.4) | 360.2 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 22.9 | 0 |
| Antistrip | 0.007 | 0.070 | 0.4 | 0.4 (15.9) | 0.157 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.544 | 5.6 | | 2.8 | 49.08 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.902% | 0.643% | 0% |

AC% VIRGIN TOTAL% 4.46 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 6.01 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):206.39tph Rap Rate(Wet):99.7tph

BH INLET: 323°F

BH OUTLET: 274°F

BH PRESSURE: 2.594"W

BlueSmoke PRESS: 0.21"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 13:03:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 304tph **TEMP:** 329°F **RUN TOTAL:** 2273.1Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.2 | 194.8 | 62.5 | 64 | 1462 | 5.5 |
| Rap Scale | 9.4 | 92.2 | 30.5 | 30.5 | 737 | 1.9 |
| +A/C #1 | 1.316 | 13.47 | 6 | 4.4 (35.8) | 100.244 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 593.3 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.9 (47.3) | 533.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.2 (34.9) | 353.8 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.2 | 15 | 15.4 (32.9) | 364.4 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 365 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 23.2 | 0 |
| Antistrip | 0.007 | 0.070 | 0.4 | 0.4 (15.8) | 0.164 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.49 | 3.8 | | 1.9 | 49.57 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.842% | 0.6% | 0% |

AC% VIRGIN TOTAL% 4.43 %

ANTISTRIP TOTAL% 0.023 %

AC TOTAL% (actual) 5.88 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):206.2tph Rap Rate(Wet):93.96tph

BH INLET: 324°F

BH OUTLET: 274°F

BH PRESSURE: 2.545"W

BlueSmoke PRESS: 0.376"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 13:09:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 296tph **TEMP:** 325.8°F **RUN TOTAL:** 2303.3Ton **AC CONTENT:** 6.1%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.7 | 190.4 | 62.5 | 62.7 | 1481.6 | 5.6 |
| Rap Scale | 9.4 | 96.4 | 30.5 | 32 | 746.3 | 1.9 |
| +A/C #1 | 1.35 | 13.23 | 6 | 4.5 (34.5) | 101.594 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 25.4 (62.4) | 601.1 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 23 (47.3) | 540.4 | 5.1 |
| Virgin Feeder #5 | 4.7 | 46.6 | 15 | 15.2 (34.9) | 358.5 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.9 | 47.2 | 15 | 15.4 (32.9) | 369.2 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.2 | 15.5 | 15.8 (33.4) | 369.8 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 23.6 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (16) | 0.171 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.556 | 5.7 | | 3 | 50.13 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.911% | 0.649% | 0% |

AC% VIRGIN TOTAL% 4.44 %

ANTISTRIP TOTAL% 0.024 %

AC TOTAL% (actual) 6 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):201.54tph Rap Rate(Wet):98.3tph

BH INLET: 323°F

BH OUTLET: 274°F

BH PRESSURE: 2.579"W

BlueSmoke PRESS: 0.258"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 13:15:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 292tph **TEMP:** 335.2°F **RUN TOTAL:** 2333.1Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.3 | 198.5 | 62.5 | 64.9 | 1500.9 | 5.5 |
| Rap Scale | 9.4 | 95.6 | 30.5 | 30 | 755.7 | 1.9 |
| +A/C #1 | 1.322 | 12.87 | 6 | 4.5 (33.4) | 102.916 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.4 (62.4) | 608.8 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.9 (47.3) | 547.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 363.1 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.9 | 48.4 | 15 | 15.8 (32.9) | 374.1 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.1 | 15.5 | 15.7 (33.4) | 374.6 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 23.9 | 0 |
| Antistrip | 0.007 | 0.070 | 0.4 | 0.4 (15.5) | 0.179 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.576 | 7.2 | | 3.6 | 50.71 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.873% | 0.622% | 0% |

AC% VIRGIN TOTAL% 4.51 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 6.01 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):210.18tph Rap Rate(Wet):97.48tph

BH INLET: 325°F
BH OUTLET: 274°F
BH PRESSURE: 2.4"W
BlueSmoke PRESS: 0.417"W
DUST DIVERTED To SILO
AC Tank In Use # 1
Silo Filling # 3
MOTORS INTERLOCKED

# RECORDATION

12-11-2018 13:21:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 291tph **TEMP:** 325.6°F **RUN TOTAL:** 2362.5Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.3 | 193.5 | 62.5 | 63.8 | 1520.2 | 5.5 |
| Rap Scale | 9.2 | 92.9 | 30.5 | 30.8 | 765 | 1.9 |
| +A/C #1 | 1.305 | 13.2 | 6 | 4.6 (34.3) | 104.221 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 78.8 | 25 | 25.7 (62.4) | 616.6 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.8 | 22.5 | 22.8 (47.3) | 554.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15.1 (34.9) | 367.7 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.7 | 15 | 15.6 (32.9) | 378.9 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.6 (33.4) | 379.4 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 24.2 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (16) | 0.186 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.769 | 6.8 | | 3.5 | 51.48 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.866% | 0.617% | 0% |

AC% VIRGIN TOTAL% 4.56 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 6.04 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):204.83tph Rap Rate(Wet):94.73tph

BH INLET: 326°F

BH OUTLET: 275°F

BH PRESSURE: 2.688"W

BlueSmoke PRESS: 0.266"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 13:27:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 297tph **TEMP:** 324.6°F **RUN TOTAL:** 2392Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.3 | 191.3 | 62.5 | 63.4 | 1539.5 | 5.6 |
| Rap Scale | 9.3 | 94 | 30.5 | 31.2 | 774.3 | 1.9 |
| +A/C #1 | 1.311 | 13.23 | 6 | 4.5 (34.3) | 105.532 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.9 | 25 | 24.8 (62.4) | 624.4 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 22.4 (47.3) | 561.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.0 | 15 | 14.7 (34.9) | 372.4 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 54.8 | 15 | 16.3 (32.9) | 383.7 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.1 | 15.5 | 15.3 (33.4) | 384.2 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 24.5 | 0 |
| Antistrip | 0.007 | 0.070 | 0.4 | 0.4 (15.7) | 0.193 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.626 | 3.8 | | 2 | 52.1 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.897% | 0.639% | 0% |

AC% VIRGIN TOTAL% 4.48 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 6.01 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):202.5tph Rap Rate(Wet):95.78tph

BH INLET: 325°F

BH OUTLET: 276°F

BH PRESSURE: 2.479"W

BlueSmoke PRESS: 0.244"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 13:33:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 297tph **TEMP:** 325°F **RUN TOTAL:** 2421.6Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.3 | 190 | 62.5 | 63.3 | 1558.8 | 5.5 |
| Rap Scale | 9.4 | 93.6 | 30.5 | 31.4 | 783.6 | 1.9 |
| +A/C #1 | 1.314 | 13.11 | 6 | 4.5 (34) | 106.846 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 632.2 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.9 (47.3) | 568.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.3 | 15 | 15.1 (34.9) | 377 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.7 | 15 | 15.5 (32.9) | 388.5 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.7 (33.4) | 389 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 24.8 | 0 |
| Antistrip | 0.007 | 0.070 | 0.4 | 0.4 (15.7) | 0.2 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.714 | 7.4 | | 3.9 | 52.82 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.907% | 0.646% | 0% |

AC% VIRGIN TOTAL% 4.44 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 5.99 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):201.11tph Rap Rate(Wet):95.46tph

BH INLET: 329°F

BH OUTLET: 277°F

BH PRESSURE: 2.597"W

BlueSmoke PRESS: 0.598"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 13:39:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 299tph **TEMP:** 321.8°F **RUN TOTAL:** 2451.2Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.3 | 203.7 | 62.5 | 63.3 | 1578.1 | 5.6 |
| Rap Scale | 9.3 | 90.6 | 30.5 | 31.4 | 792.9 | 1.9 |
| +A/C #1 | 1.315 | 13.17 | 6 | 4.4 (34.1) | 108.161 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.9 | 25 | 25.5 (62.4) | 640 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.9 (47.3) | 575.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.3 | 15 | 15.1 (34.9) | 381.6 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.3 | 15 | 15.5 (32.9) | 393.3 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 393.8 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 25.1 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (15.9) | 0.207 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.626 | 3.9 | | 1.9 | 53.44 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.889% | 0.633% | 0% |

AC% VIRGIN TOTAL% 4.42 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 5.95 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):215.66tph Rap Rate(Wet):92.33tph

BH INLET: 326°F

BH OUTLET: 278°F

BH PRESSURE: 2.523"W

BlueSmoke PRESS: 0.244"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# MAT Asphalt

## Customer ticket list broken by product type and unit

Chicago Plant
Friday, December 14, 2018 4:07:34 PM

Report Parameters:
Time out: 12/11/2018 2:10:00 PM - 12/11/2018 3:10:59 PM (18) TRUCKS LOADED

**12/11/2018 Tuesday**
Product Type: Produced Unit: Tons

| | Ticket Number | Customer Name | Customer Number | Job Name | Job Number | Location | Formula (mix) | Product Code | Product Description | Qtty | Taxable |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 309377 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 21.61 | Yes |
| 2 | 309378 | Sanchez Construction Services | 72820 | Sewer | Sewer | Sewer Structure\r\nAncillary P-N-7226C\r\nSouthChicago & Ingleside (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 12.62 | No |
| 3 | 309379 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.63 | Yes |
| 4 | 309380 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.65 | Yes |
| 5 | 309381 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.13 | No |
| 6 | 309382 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.40 | No |
| 7 | 309383 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.07 | Yes |
| 8 | 309384 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.89 | No |
| 9 | 309385 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.91 | Yes |
| 10 | 309386 | Sanchez Paving Company | 72825 | | | Lake & Kedzie | 231431 N70 SURFACE | M-232521 | N-70 Surface | 11.94 | Yes |
| 11 | 309387 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.52 | Yes |
| 12 | 309388 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.11 | Yes |
| 13 | 309389 | MAT Construction Leasing Inc. | 50000 | B-4-152 | B-4-152-T | Arterial North B-4-152 \r\nWilson(LSD to Damen)\r\nEvotherm WMA | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.08 | No |
| 14 | 309390 | Sanchez | 72820 | Sewer | Sewer | Sewer | 231431 | M- | N-70 | 13.36 | No |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Construction Services | | | | Structure\r\nAncillary P-N-7226C\r\nSouthChicago & Ingleside (EvothermWMA) | N70 SURFACE | 231431TW | Surface(81BIT006X) | | |
| 15 | 309391 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 19.73 | Yes |
| 16 | 309392 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 21.04 | Yes |
| 17 | 309393 | Sanchez Construction Services | 72820 | Sewer | Sewer | Sewer Structure\r\nAncillary P-N-7226C\r\nSouthChicago & Ingleside (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 4.09 | No |
| 18 | 309394 | MAT Construction Leasing Inc. | 50000 | Marina | Marina | Marina Crossing\r\n2075 W 43rd\r\nM18410 (EvothermWMA) | 231431 N70 SURFACE | M-231431TW | N-70 Surface(81BIT006X) | 20.66 | Yes |
| | | | | | | | | | | **Produced 326.44 Tons** | |

# RECORDATION

12-11-2018 14:09:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 294tph **TEMP:** 320.4°F **RUN TOTAL:** 2600.9Ton **AC CONTENT:** 6.1%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.7 | 190.5 | 62.5 | 63.3 | 1675.4 | 5.6 |
| Rap Scale | 9.5 | 95.1 | 30.5 | 31.3 | 840.5 | 1.9 |
| +A/C #1 | 1.342 | 13.2 | 6 | 4.5 (33.6) | 114.788 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 678.9 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.9 (47.3) | 610.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 404.9 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.2 | 15 | 15.4 (32.9) | 417.3 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 417.8 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 26.6 | 0 |
| Antistrip | 0.007 | 0.073 | 0.4 | 0.4 (16.2) | 0.243 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.717 | 9.6 | | 5 | 56.77 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.936% | 0.667% | 0% |

AC% VIRGIN TOTAL% 4.51 %

ANTISTRIP TOTAL% 0.025 %

AC TOTAL% (actual) 6.12 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):201.66tph Rap Rate(Wet):96.93tph

BH INLET: 320°F

BH OUTLET: 276°F

BH PRESSURE: 2.946"W

BlueSmoke PRESS: 0.286"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 1

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 14:15:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 296tph **TEMP:** 321.5°F **RUN TOTAL:** 2631Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.6 | 194.2 | 62.5 | 63.4 | 1695 | 5.5 |
| Rap Scale | 9.6 | 95.4 | 30.5 | 31.3 | 850 | 1.9 |
| +A/C #1 | 1.332 | 13.17 | 6 | 4.5 (34.2) | 116.12 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.5 (62.4) | 686.6 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.9 (47.3) | 617.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.3 | 15 | 15.2 (34.9) | 409.5 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.0 | 15 | 15.4 (32.9) | 422 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.2 | 15.5 | 15.8 (33.4) | 422.6 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 26.9 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (16.2) | 0.25 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.791 | 5.9 | | 3.1 | 57.56 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.896% | 0.638% | 0% |

AC% VIRGIN TOTAL% 4.48 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 6.01 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):205.58tph Rap Rate(Wet):97.27tph

BH INLET: 324°F

BH OUTLET: 275°F

BH PRESSURE: 2.58"W

BlueSmoke PRESS: 0.126"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 14:21:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 301tph **TEMP:** 321.5°F **RUN TOTAL:** 2660.9Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.4 | 195 | 62.5 | 63.5 | 1714.4 | 5.6 |
| Rap Scale | 9.6 | 96 | 30.5 | 31.2 | 859.6 | 1.9 |
| +A/C #1 | 1.32 | 13.11 | 6 | 4.4 (34.1) | 117.44 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.8 | 25 | 25.4 (62.4) | 694.4 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 22.9 (47.3) | 624.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15.1 (34.9) | 414.2 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.5 | 15 | 15.6 (32.9) | 426.8 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 427.4 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 27.2 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (16) | 0.257 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.641 | 5.5 | | 2.8 | 58.2 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.928% | 0.661% | 0% |

AC% VIRGIN TOTAL% 4.37 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 5.96 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):206.41tph Rap Rate(Wet):97.81tph

BH INLET: 325°F

BH OUTLET: 275°F

BH PRESSURE: 2.347"W

BlueSmoke PRESS: 0.234"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 14:27:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 303tph **TEMP:** 322.3°F **RUN TOTAL:** 2691Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.4 | 190.6 | 62.5 | 63 | 1733.8 | 5.6 |
| Rap Scale | 9.7 | 95 | 30.5 | 31.5 | 869.3 | 1.9 |
| +A/C #1 | 1.326 | 13.47 | 6 | 4.4 (35.1) | 118.766 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.4 (62.4) | 702.2 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.9 (47.3) | 631.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.3 | 15 | 15.1 (34.9) | 418.8 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.7 | 15 | 15.6 (32.9) | 431.6 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.8 | 15.5 | 15.6 (33.4) | 432.2 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 27.5 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (15.7) | 0.264 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.603 | 3.5 | | 1.9 | 58.8 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.916% | 0.653% | 0% |

AC% VIRGIN TOTAL% 4.44 % State ID: 231431

ANTISTRIP TOTAL% 0.023 % ARB Lot#:

AC TOTAL% (actual) 6.01 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):201.83tph Rap Rate(Wet):96.84tph

BH INLET: 322°F

BH OUTLET: 274°F

BH PRESSURE: 2.539"W

BlueSmoke PRESS: 0.185"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 14:33:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 296tph **TEMP:** 322.6°F **RUN TOTAL:** 2720.9Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.4 | 186.4 | 62.5 | 61.8 | 1753.1 | 5.5 |
| Rap Scale | 9.6 | 97.4 | 30.5 | 32.9 | 878.9 | 1.9 |
| +A/C #1 | 1.317 | 12.96 | 6 | 4.4 (33.7) | 120.083 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.7 | 25 | 25.3 (62.4) | 710 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.8 (47.3) | 638.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.1 (34.9) | 423.4 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 48.4 | 15 | 15.8 (32.9) | 436.4 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.1 | 15.5 | 15.7 (33.4) | 437 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 27.8 | 0 |
| Antistrip | 0.007 | 0.073 | 0.4 | 0.4 (16.1) | 0.272 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.794 | 8.1 | | 4.3 | 59.59 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.915% | 0.652% | 0% |

AC% VIRGIN TOTAL% 4.41 %

ANTISTRIP TOTAL% 0.025 %

AC TOTAL% (actual) 5.98 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):197.3tph Rap Rate(Wet):99.27tph

BH INLET: 323°F

BH OUTLET: 275°F

BH PRESSURE: 2.729"W

BlueSmoke PRESS: 0.402"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 14:39:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 297tph **TEMP:** 327.4°F **RUN TOTAL:** 2750.7Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.2 | 191.2 | 62.5 | 62.8 | 1772.4 | 5.5 |
| Rap Scale | 9.7 | 96.3 | 30.5 | 31.9 | 888.6 | 1.9 |
| +A/C #1 | 1.307 | 13.08 | 6 | 4.4 (34.1) | 121.39 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 25.3 (62.4) | 717.8 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.1 | 22.5 | 22.8 (47.3) | 645.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 428.1 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 48.1 | 15 | 15.6 (32.9) | 441.2 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.6 (33.4) | 441.8 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 28.1 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (15.6) | 0.279 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.681 | 5.9 | | 3.1 | 60.28 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.934% | 0.666% | 0% |

AC% VIRGIN TOTAL% 4.43 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 6.03 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):202.48tph Rap Rate(Wet):98.21tph

BH INLET: 324°F

BH OUTLET: 275°F

BH PRESSURE: 2.55"W

BlueSmoke PRESS: 0.384"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 14:45:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 297tph **TEMP:** 325.7°F **RUN TOTAL:** 2780.2Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 18.9 | 193.9 | 62.5 | 62.9 | 1791.3 | 5.5 |
| Rap Scale | 9.7 | 98.3 | 30.5 | 31.9 | 898.3 | 1.9 |
| +A/C #1 | 1.292 | 12.99 | 6 | 4.3 (33.9) | 122.682 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 24.9 (62.4) | 725.6 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.8 | 22.5 | 22.4 (47.3) | 652.4 | 5.1 |
| Virgin Feeder #5 | 4.7 | 46.4 | 15 | 14.9 (34.9) | 432.7 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 53.7 | 15 | 17.2 (32.9) | 446 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.4 (33.4) | 446.6 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 28.4 | 0 |
| Antistrip | 0.007 | 0.070 | 0.4 | 0.4 (15.7) | 0.286 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.663 | 10 | | 5.2 | 60.94 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.933% | 0.665% | 0% |

AC% VIRGIN TOTAL% 4.39 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 5.99 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):205.28tph Rap Rate(Wet):100.23tph

BH INLET: 324°F
BH OUTLET: 276°F
BH PRESSURE: 2.618"W
BlueSmoke PRESS: 0.364"W
DUST DIVERTED To SILO
AC Tank In Use # 1
Silo Filling # 3
MOTORS INTERLOCKED

# RECORDATION

12-11-2018 14:51:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 302tph **TEMP:** 323.6°F **RUN TOTAL:** 2810Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.2 | 195.1 | 62.5 | 62.8 | 1810.5 | 5.5 |
| Rap Scale | 9.7 | 95.5 | 30.5 | 31.7 | 908 | 1.9 |
| +A/C #1 | 1.308 | 13.38 | 6 | 4.5 (35) | 123.99 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 78.1 | 25 | 25.5 (62.4) | 733.4 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.3 | 22.5 | 23 (47.3) | 659.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.6 | 15 | 15.2 (34.9) | 437.4 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.3 | 15 | 15.3 (32.9) | 450.8 | 2.1 |
| Recycle Feeder #2 | 4.8 | 48.2 | 15.5 | 15.7 (33.4) | 451.4 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 28.8 | 0 |
| Antistrip | 0.007 | 0.073 | 0.4 | 0.4 (15.9) | 0.293 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.742 | 6.2 | | 3.2 | 61.68 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.908% | 0.647% | 0% |

AC% VIRGIN TOTAL% 4.48 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 6.04 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):206.53tph Rap Rate(Wet):97.37tph

BH INLET: 322°F

BH OUTLET: 275°F

BH PRESSURE: 2.666"W

BlueSmoke PRESS: 0.303"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 14:57:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 298tph **TEMP:** 325.8°F **RUN TOTAL:** 2840.2Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.5 | 191.2 | 62.5 | 63.1 | 1830 | 5.6 |
| Rap Scale | 9.8 | 94.6 | 30.5 | 31.6 | 917.7 | 1.9 |
| +A/C #1 | 1.33 | 12.96 | 6 | 4.4 (33.8) | 125.319 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.9 | 25 | 25.5 (62.4) | 741.1 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.7 | 22.5 | 22.8 (47.3) | 666.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15.1 (34.9) | 442 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.5 | 15 | 15.6 (32.9) | 455.7 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 456.2 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.0 | 1 | 1 (29.1) | 29.1 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (15.7) | 0.3 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.674 | 6.1 | | 3.2 | 62.36 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.924% | 0.658% | 0% |

AC% VIRGIN TOTAL% 4.37 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 5.95 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):202.4tph Rap Rate(Wet):96.39tph

BH INLET: 324°F

BH OUTLET: 276°F

BH PRESSURE: 2.63"W

BlueSmoke PRESS: 0.239"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 15:03:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 309tph **TEMP:** 326.5°F **RUN TOTAL:** 2870.5Ton **AC CONTENT:** 5.9%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.5 | 192.6 | 62.5 | 63 | 1849.5 | 5.6 |
| Rap Scale | 9.7 | 96.6 | 30.5 | 31.6 | 927.4 | 1.9 |
| +A/C #1 | 1.338 | 13.2 | 6 | 4.3 (34.6) | 126.657 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.9 | 25 | 25.4 (62.4) | 748.9 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 70.2 | 22.5 | 22.8 (47.3) | 673.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.7 | 15 | 15.2 (34.9) | 446.7 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 49.1 | 15 | 16 (32.9) | 460.5 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.6 (33.4) | 461 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 29.4 | 0 |
| Antistrip | 0.007 | 0.073 | 0.4 | 0.4 (16.1) | 0.308 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.562 | 6.4 | | 3.4 | 62.92 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.921% | 0.657% | 0% |

AC% VIRGIN TOTAL% 4.31 % State ID: 231431

ANTISTRIP TOTAL% 0.024 % ARB Lot#:

AC TOTAL% (actual) 5.89 % EA Number:

AC TOTAL% (required) 6 % Virgin Rate(Wet):201.76tph Rap Rate(Wet):98.49tph

BH INLET: 324°F
BH OUTLET: 276°F
BH PRESSURE: 2.431"W
BlueSmoke PRESS: 0.184"W
DUST DIVERTED To SILO
AC Tank In Use # 1
Silo Filling # 3
MOTORS INTERLOCKED

# RECORDATION

12-11-2018 15:09:57

Gencor

F B **MIX:** N70 St.SC **RATE:** 294tph **TEMP:** 328°F **RUN TOTAL:** 2900.5Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Vir Scale | 19.4 | 190.5 | 62.5 | 63 | 1868.9 | 5.6 |
| Rap Scale | 9.7 | 95.9 | 30.5 | 31.7 | 937.1 | 1.9 |
| +A/C #1 | 1.318 | 12.87 | 6 | 4.3 (33.7) | 127.976 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 25.4 (62.4) | 756.7 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.9 | 22.5 | 22.9 (47.3) | 680.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.2 | 15 | 15.1 (34.9) | 451.3 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.9 | 15 | 15.7 (32.9) | 465.3 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 465.8 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 29.7 | 0 |
| Antistrip | 0.007 | 0.073 | 0.4 | 0.4 (15.8) | 0.315 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.801 | 10 | | 5.3 | 63.72 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.929% | 0.662% | 0% |

AC% VIRGIN TOTAL% 4.4 %

ANTISTRIP TOTAL% 0.025 %

AC TOTAL% (actual) 5.99 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):201.7tph Rap Rate(Wet):97.72tph

BH INLET: 326°F

BH OUTLET: 277°F

BH PRESSURE: 2.26"W

BlueSmoke PRESS: 0.101"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# RECORDATION

12-11-2018 15:15:57

B **MIX:** N70 St.SC **RATE:** 300tph **TEMP:** 331.4°F **RUN TOTAL:** 2930.2Ton **AC CONTENT:** 6%MIX

| | Material Delta | TPH Rate | %Req | %Act (%Cmd) | Material Totals | %Moisture |
|---|---|---|---|---|---|---|
| Air Scale | 19.3 | 190.3 | 62.5 | 62.3 | 1888.2 | 5.6 |
| Rap Scale | 9.6 | 97.9 | 30.5 | 32.4 | 946.7 | 1.9 |
| RA/C #1 | 1.306 | 13.11 | 6 | 4.5 (33.8) | 129.282 | |
| Virgin Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 4 |
| Virgin Feeder #2 | 7.8 | 77.6 | 25 | 25.5 (62.4) | 764.5 | 7 |
| Virgin Feeder #3 | 0 | 0.0 | 0 | 0 (0) | 0 | 7 |
| Virgin Feeder #4 | 7 | 69.7 | 22.5 | 22.8 (47.3) | 687.4 | 5.1 |
| Virgin Feeder #5 | 4.6 | 46.4 | 15 | 15.2 (34.9) | 456 | 3.8 |
| Virgin Feeder #6 | 0 | 0.0 | 0 | 0 (0) | 0 | 2 |
| Recycle Feeder #1 | 4.8 | 47.7 | 15 | 15.6 (32.9) | 470.1 | 2.1 |
| Recycle Feeder #2 | 4.8 | 47.9 | 15.5 | 15.7 (33.4) | 470.6 | 1.7 |
| RAS Feeder #1 | 0 | 0.0 | 0 | 0 (0) | 0 | 15.6 |
| Mineral Fill #1 | 0.3 | 3.1 | 1 | 1 (29.1) | 30 | 0 |
| Antistrip | 0.007 | 0.071 | 0.4 | 0.4 (15.8) | 0.322 | |
| UltraFoam GX | 0 | 0 | 0 | 0 (0) | 0 | 0 |
| DUST REMOVAL METER: | 0.71 | 2.8 | | 1.5 | 64.43 | |

AC STATISTICS: AC Temp: 141°F

RECYCLE AC CONTENTS(%) RCY1: 5.8 % RCY2: 4 % RCY3: 25.8 %

%ANTISTRIP IN AC: 0.4 %

| | RCY1: | RCY2: | RCY3: |
|---|---|---|---|
| AC%: | 0.933% | 0.665% | 0% |

AC% VIRGIN TOTAL% 4.41 %

ANTISTRIP TOTAL% 0.024 %

AC TOTAL% (actual) 6.01 %

AC TOTAL% (required) 6 %

State ID: 231431

ARB Lot#:

EA Number:

Virgin Rate(Wet):201.53tph Rap Rate(Wet):99.85tph

BH INLET: 328°F

BH OUTLET: 278°F

BH PRESSURE: 2.503"W

BlueSmoke PRESS: 0.323"W

DUST DIVERTED To SILO

AC Tank In Use # 1

Silo Filling # 3

MOTORS INTERLOCKED

# APPENDIX E
# CALIBRATION DATA

MONTROSE

## METHOD 5 PRE-TEST CONSOLE CALIBRATION
## USING CALIBRATED CRITICAL ORIFICES
## 5-POINT ENGLISH UNITS

| Meter Console Information | |
|---|---|
| Console Model Number | MC522 |
| Console Serial Number | 808023 |
| DGM Model Number | MS4 |
| DGM Serial Number | 979751 |

| Calibration Conditions | | | |
|---|---|---|---|
| Date | Time | 4-Oct-18 | 14:00 |
| Barometric Pressure | | 29.1 | in Hg |
| Theoretical Critical Vacuum[1] | | 13.7 | in Hg |
| Calibration Technician | | NS | |

| Factors/Conversions | | |
|---|---|---|
| Std Temp | 528 | °R |
| Std Press | 29.92 | in Hg |
| $K_1$ | 17.647 | oR/in Hg |

[1]For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

[2]The Critical Orifice Coefficient, K', must be entered in English units, $(ft^3*°R^{1/2})/(in.Hg*min)$.

**Calibration Data**

| Run Time | Metering Console | | | | | Critical Orifice | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Elapsed | DGM Orifice ΔH | Volume Initial | Volume Final | Outlet Temp Initial | Outlet Temp Final | Serial Number | Coefficient | Amb Temp Initial | Amb Temp Final | Actual Vacuum |
| (Θ) | ($P_m$) | ($V_{mi}$) | ($V_{mf}$) | ($t_{mi}$) | ($t_{mf}$) | | K' | ($t_{amb}$) | ($t_{amb}$) | |
| min | in $H_2O$ | cubic feet | cubic feet | °F | °F | | see above2 | °F | °F | in Hg |
| 10.0 | 3.1 | 144.830 | 154.980 | 76 | 76 | o x73 | 0.7870 | 70 | 70 | 14 |
| 10.0 | 1.8 | 117.510 | 125.160 | 76 | 77 | ox63 | 0.5902 | 69 | 69 | 16 |
| 10.0 | 1.1 | 125.160 | 131.010 | 77 | 77 | ox55 | 0.4487 | 70 | 70 | 19 |
| 18.0 | 0.7 | 131.010 | 139.120 | 77 | 76 | ox48 | 0.3451 | 71 | 69 | 21 |
| 19.0 | 0.3 | 139.120 | 144.830 | 77 | 76 | ox40 | 0.2307 | 69 | 70 | 23 |

**Results**

| Standardized Data | | | | Dry Gas Meter | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Calibration Factor | | Flowrate | ΔH @ | |
| Dry Gas Meter | | Critical Orifice | | Value | Variation | Std & Corr | 0.75 SCFM | Variation |
| ($V_{m(std)}$) | ($Q_{m(std)}$) | ($Vcr_{(std)}$) | ($Q_{cr(std)}$) | (Y) | (ΔY) | ($Q_{m(std)(corr)}$) | (ΔH@) | (ΔΔH@) |
| cubic feet | cfm | cubic feet | cfm | | | cfm | in H2O | |
| 9.794 | 0.979 | 9.941 | 0.994 | 1.015 | 0.002 | 0.994 | 1.717 | -0.098 |
| 7.351 | 0.735 | 7.462 | 0.746 | 1.015 | 0.002 | 0.746 | 1.756 | -0.059 |
| 5.606 | 0.561 | 5.668 | 0.567 | 1.011 | -0.002 | 0.567 | 1.852 | 0.037 |
| 7.770 | 0.432 | 7.846 | 0.436 | 1.010 | -0.003 | 0.436 | 1.848 | 0.032 |
| 5.466 | 0.288 | 5.539 | 0.292 | 1.013 | 0.001 | 0.292 | 1.903 | 0.088 |
| | | | | 1.013 | Y Average | | 1.816 | ΔH@ Average |

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Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature _____ Date 10/22/18

**Meter Console Thermometer Pretest Calibration Data Form**

MONTROSE AIR QUALITY SERVICES

**Meter Box:** 808023
**Calibrator:** NS
**Date:** 10/4/2018
**Barometric:** 29.08
**Ambient Temp:** 70
**Reference Thermometer: Altek Thermocouple Source**

CAL-MASTERMETER-WORKBOOK-203T-REV1

| Reference Temperature Altek | Thermometer Temperature Inlet | Difference (%) mean Inlet | Thermometer Temperature Oulet | Difference (%) mean Oulet | Thermometer Temperature Probe | Difference (%) mean Probe |
|---|---|---|---|---|---|---|
| 0 | | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 100 | | -17.86 | 100 | 0.00 | 100 | 0.00 |
| 200 | | -30.30 | 202 | 0.30 | 202 | 0.30 |
| 300 | | -39.47 | 302 | 0.26 | 302 | 0.26 |
| 400 | | -46.51 | 398 | -0.23 | 398 | -0.23 |
| 500 | | -52.08 | 500 | 0.00 | 500 | 0.00 |

| Reference Temperature Altek | Thermometer Temperature Filter | Difference (%) mean Filter | Thermometer Temperature Exit | Difference (%) mean Exit | Thermometer Temperature Aux | Difference (%) mean Aux |
|---|---|---|---|---|---|---|
| 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 100 | 100 | 0.00 | 100 | 0.00 | 100 | 0.00 |
| 200 | 202 | 0.30 | 202 | 0.30 | 202 | 0.30 |
| 300 | 302 | 0.26 | 302 | 0.26 | 302 | 0.26 |
| 400 | 398 | -0.23 | 398 | -0.23 | 398 | -0.23 |
| 500 | 500 | 0.00 | 500 | 0.00 | 500 | 0.00 |

| Reference Temperature Altek | Thermometer Temperature Stack | Difference (%) mean Stack |
|---|---|---|
| 0 | 1 | 0.22 |
| 200 | 202 | 0.30 |
| 400 | 398 | -0.23 |
| 600 | 602 | 0.19 |
| 800 | 803 | 0.24 |
| 1000 | 1003 | 0.21 |

| Reference Temperature Altek | Thermometer Temperature Stack | Difference (%) mean Stack |
|---|---|---|
| 1200 | 1201 | 0.06 |
| 1400 | 1400 | 0.00 |
| 1600 | 1605 | 0.24 |
| 1800 | 1802 | 0.09 |
| | | |

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MONTROSE

## METHOD 5 POST-TEST CONSOLE CALIBRATION
## USING CALIBRATED CRITICAL ORIFICES
## 3-POINT ENGLISH UNITS

| Meter Console Information | |
|---|---|
| Console Model Number | MC522 |
| Console Serial Number | 808023 |
| DGM Model Number | MS-4 |
| DGM Serial Number | 979751 |

| Calibration Conditions | | | |
|---|---|---|---|
| Date | Time | 28-Dec-18 | 14:00 |
| Barometric Pressure | | 28.8 | in Hg |
| Theoretical Critical Vacuum[1] | | 13.6 | in Hg |
| Calibration Technician | | N Sekulic | |

| Factors/Conversions | | |
|---|---|---|
| Std Temp | 528 | °R |
| Std Press | 29.92 | in Hg |
| $K_1$ | 17.647 | oR/in Hg |

[1]For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

[2]The Critical Orifice Coefficient, K', must be entered in English units, (ft3*oR1/2)/(in.Hg*min).

**Calibration Data**

| Run Time | Metering Console | | | | | Critical Orifice | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Elapsed | DGM Orifice ΔH | Volume Initial | Volume Final | Outlet Temp Initial | Outlet Temp Final | Serial Number | Coefficient | Amb Temp Initial | Amb Temp Final | Actual Vacuum |
| (Θ) | ($P_m$) | ($V_{mi}$) | ($V_{mf}$) | ($t_{mi}$) | ($t_{mf}$) | | K' | ($t_{amb}$) | ($t_{amb}$) | |
| min | in $H_2O$ | cubic feet | cubic feet | °F | °F | | see above2 | °F | °F | in Hg |
| 13.0 | 1.8 | 374.400 | 384.595 | 65 | 66 | OX63 | 0.5902 | 66 | 66 | 16 |
| 13.0 | 1.8 | 384.595 | 394.820 | 66 | 66 | OX63 | 0.5902 | 66 | 67 | 16 |
| 13.0 | 1.8 | 394.820 | 405.055 | 67 | 68 | OX63 | 0.5902 | 67 | 67 | 16 |

**Results**

| Standardized Data | | | | Dry Gas Meter | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Calibration Factor | | Flowrate | ΔH @ | |
| Dry Gas Meter | | Critical Orifice | | Value | Variation | Std & Corr | 0.75 SCFM | Variation |
| ($V_{m(std)}$) | ($Q_{m(std)}$) | ($Vcr_{(std)}$) | ($Q_{cr(std)}$) | (Y) | (ΔY) | ($Q_{m(std)(corr)}$) | (ΔH@) | (ΔΔH@) |
| cubic feet | cfm | cubic feet | cfm | | | cfm | in H2O | |
| 9.912 | 0.762 | 9.641 | 0.742 | 0.973 | 0.001 | 0.742 | 1.799 | 0.001 |
| 9.932 | 0.764 | 9.637 | 0.741 | 0.970 | -0.001 | 0.741 | 1.799 | 0.001 |
| 9.913 | 0.763 | 9.632 | 0.741 | 0.972 | 0.000 | 0.741 | 1.796 | -0.002 |
| Pretest Gamma | 1.013 | % Deviation | 4.1 | 0.972 | Y Average | | 1.798 | ΔH@ Average |

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Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature _____ Date 12/28/18

**Meter Console Thermometer Post-Test Calibration Data Form**

MONTROSE

**Meter Box:** 808023
**Calibrator:** NS
**Date:** 12/28/2018
**Barometric:** 28.82
**Ambient Temp:** 68

**Reference Thermometer: Altek Thermocouple Source**

CAL-MASTERMETER-WORKBOOK-203T-REV1

| Reference Temperature Altek | Thermometer Temperature Oven | Difference (%) mean Inlet | Thermometer Temperature Outlet | Difference (%) mean Outlet | Thermometer Temperature Probe | Difference (%) mean Probe |
|---|---|---|---|---|---|---|
| 0 | | 0.00 | 1 | 0.22 | 1 | 0.22 |
| 100 | | -17.86 | 100 | 0.00 | 100 | 0.00 |
| 200 | | -30.30 | 203 | 0.45 | 203 | 0.45 |
| 300 | | -39.47 | 304 | 0.53 | 304 | 0.53 |
| 400 | | -46.51 | 401 | 0.12 | 401 | 0.12 |
| 500 | | -52.08 | 502 | 0.21 | 502 | 0.21 |

| Reference Temperature Altek | Thermometer Temperature Filter | Difference (%) mean Filter | Thermometer Temperature Exit | Difference (%) mean Exit | Thermometer Temperature Aux | Difference (%) mean Aux |
|---|---|---|---|---|---|---|
| 0 | 1 | 0.22 | 1 | 0.22 | 1 | 0.22 |
| 100 | 100 | 0.00 | 101 | 0.18 | 101 | 0.18 |
| 200 | 203 | 0.45 | 204 | 0.61 | 204 | 0.61 |
| 300 | 304 | 0.53 | 304 | 0.53 | 304 | 0.53 |
| 400 | 401 | 0.12 | 401 | 0.12 | 402 | 0.23 |
| 500 | 502 | 0.21 | 503 | 0.31 | 503 | 0.31 |

| Reference Temperature Altek | Thermometer Temperature Stack | Difference (%) mean Stack |
|---|---|---|
| 0 | 1 | 0.22 |
| 200 | 203 | 0.45 |
| 400 | 401 | 0.12 |
| 600 | 606 | 0.57 |
| 800 | 809 | 0.71 |
| 1000 | 1010 | 0.68 |

| Reference Temperature Altek | Thermometer Temperature Stack | Difference (%) mean Stack |
|---|---|---|
| 1200 | 1209 | 0.54 |
| 1400 | 1409 | 0.48 |
| 1600 | 1613 | 0.63 |
| 1800 | 1813 | 0.58 |
| | | |

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MONTROSE

# METHOD 5 PRE-TEST CONSOLE CALIBRATION
## USING CALIBRATED CRITICAL ORIFICES
## 5-POINT ENGLISH UNITS

| Meter Console Information | |
|---|---|
| Console Model Number | MC522 |
| Console Serial Number | 808024 |
| DGM Model Number | MS4 |
| DGM Serial Number | 1502218 |

| Calibration Conditions | | | |
|---|---|---|---|
| Date | Time | 13-Nov-18 | 9:30 |
| Barometric Pressure | | 29.5 | in Hg |
| Theoretical Critical Vacuum[1] | | 13.9 | in Hg |
| Calibration Technician | | NS | |

| Factors/Conversions | | |
|---|---|---|
| Std Temp | 528 | °R |
| Std Press | 29.92 | in Hg |
| $K_1$ | 17.647 | oR/in Hg |

[1]For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

[2]The Critical Orifice Coefficient, K', must be entered in English units, $(ft^3*°R^{1/2})/(in.Hg*min)$.

**Calibration Data**

| Run Time | Metering Console | | | | | Critical Orifice | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Elapsed | DGM Orifice ΔH | Volume Initial | Volume Final | Outlet Temp Initial | Outlet Temp Final | Serial Number | Coefficient | Amb Temp Initial | Amb Temp Final | Actual Vacuum |
| (Θ) | ($P_m$) | ($V_{mi}$) | ($V_{mf}$) | ($t_{mi}$) | ($t_{mf}$) | | K' | ($t_{amb}$) | ($t_{amb}$) | |
| min | in $H_2O$ | cubic feet | cubic feet | °F | °F | | see above2 | °F | °F | in Hg |
| 11.0 | 3.5 | 736.400 | 747.790 | 72 | 73 | OX73 | 0.7870 | 67 | 67 | 18 |
| 10.0 | 2.0 | 747.790 | 755.580 | 73 | 74 | OX63 | 0.5902 | 67 | 70 | 20 |
| 12.0 | 1.2 | 755.580 | 762.680 | 74 | 74 | OX55 | 0.4487 | 70 | 69 | 22 |
| 13.0 | 0.7 | 762.680 | 768.580 | 74 | 74 | OX48 | 0.3451 | 69 | 68 | 23 |
| 20.0 | 0.3 | 768.580 | 774.645 | 74 | 73 | OX40 | 0.2307 | 69 | 67 | 24 |

**Results**

| Standardized Data | | | | Dry Gas Meter | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Calibration Factor | | Flowrate | ΔH @ | |
| Dry Gas Meter | | Critical Orifice | | Value | Variation | Std & Corr | 0.75 SCFM | Variation |
| ($V_{m(std)}$) | ($Q_{m(std)}$) | ($Vcr_{(std)}$) | ($Q_{cr(std)}$) | (Y) | (ΔY) | ($Q_{m(std)(corr)}$) | (ΔH@) | (ΔΔH@) |
| cubic feet | cfm | cubic feet | cfm | | | cfm | in H2O | |
| 11.221 | 1.020 | 11.113 | 1.010 | 0.990 | -0.005 | 1.010 | 1.918 | -0.025 |
| 7.632 | 0.763 | 7.566 | 0.757 | 0.991 | -0.004 | 0.757 | 1.937 | -0.007 |
| 6.935 | 0.578 | 6.896 | 0.575 | 0.994 | -0.001 | 0.575 | 2.004 | 0.061 |
| 5.756 | 0.443 | 5.751 | 0.442 | 0.999 | 0.004 | 0.442 | 1.911 | -0.032 |
| 5.917 | 0.296 | 5.918 | 0.296 | 1.000 | 0.005 | 0.296 | 1.946 | 0.003 |
| CAL-MASTERMETER-WORKBOOK-203T-REV1 | | | | 0.995 | Y Average | | 1.943 | ΔH@ Average |

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature _____ Date 11/13/18

**Meter Console Thermometer Pretest Calibration Data Form**

MONTROSE

**Meter Box:** 808024
**Calibrator:** NS
**Date:** 11/13/2018
**Barometric:** 29.47
**Ambient Temp:** 67
**Reference Thermometer: Altek Thermocouple Source**

CAL-MASTERMETER-WORKBOOK-203T-REV1

| Reference Temperature Altek | Thermometer Temperature Inlet | Difference (%) mean Inlet | Thermometer Temperature Outlet | Difference (%) mean Outlet | Thermometer Temperature Probe | Difference (%) mean Probe |
|---|---|---|---|---|---|---|
| 0 | | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 100 | | -17.86 | 99 | -0.18 | 99 | -0.18 |
| 200 | | -30.30 | 200 | 0.00 | 200 | 0.00 |
| 300 | | -39.47 | 299 | -0.13 | 299 | -0.13 |
| 400 | | -46.51 | 397 | -0.35 | 397 | -0.35 |
| 500 | | -52.08 | 498 | -0.21 | 498 | -0.21 |

| Reference Temperature Altek | Thermometer Temperature Filter | Difference (%) mean Filter | Thermometer Temperature Exit | Difference (%) mean Exit | Thermometer Temperature Aux | Difference (%) mean Aux |
|---|---|---|---|---|---|---|
| 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 100 | 99 | -0.18 | 99 | -0.18 | 99 | -0.18 |
| 200 | 200 | 0.00 | 200 | 0.00 | 200 | 0.00 |
| 300 | 299 | -0.13 | 300 | 0.00 | 300 | 0.00 |
| 400 | 397 | -0.35 | 397 | -0.35 | 397 | -0.35 |
| 500 | 498 | -0.21 | 498 | -0.21 | 498 | -0.21 |

| Reference Temperature Altek | Thermometer Temperature Stack | Difference (%) mean Stack |
|---|---|---|
| 0 | 0 | 0.00 |
| 200 | 200 | 0.00 |
| 400 | 397 | -0.35 |
| 600 | 599 | -0.09 |
| 800 | 800 | 0.00 |
| 1000 | 1000 | 0.00 |

| Reference Temperature Altek | Thermometer Temperature Stack | Difference (%) mean Stack |
|---|---|---|
| 1200 | 1198 | -0.12 |
| 1400 | 1397 | -0.16 |
| 1600 | 1600 | 0.00 |
| 1800 | 1798 | -0.09 |
| | | |

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MONTROSE

# METHOD 5 POST-TEST CONSOLE CALIBRATION
## USING CALIBRATED CRITICAL ORIFICES
## 3-POINT ENGLISH UNITS

| Meter Console Information | |
|---|---|
| Console Model Number | MC522 |
| Console Serial Number | 808024 |
| DGM Model Number | MS-4 |
| DGM Serial Number | 1502218 |

| Calibration Conditions | | | |
|---|---|---|---|
| Date | Time | 27-Dec-18 | 16:30 |
| Barometric Pressure | | 28.9 | in Hg |
| Theoretical Critical Vacuum[1] | | 13.6 | in Hg |
| Calibration Technician | | N Sekulic | |

| Factors/Conversions | | |
|---|---|---|
| Std Temp | 528 | °R |
| Std Press | 29.92 | in Hg |
| $K_1$ | 17.647 | oR/in Hg |

[1]For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

[2]The Critical Orifice Coefficient, K', must be entered in English units, (ft3*oR1/2)/(in.Hg*min).

**Calibration Data**

| Run Time | Metering Console | | | | | Critical Orifice | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Elapsed | DGM Orifice ΔH | Volume Initial | Volume Final | Outlet Temp Initial | Outlet Temp Final | Serial Number | Coefficient | Amb Temp Initial | Amb Temp Final | Actual Vacuum |
| (Θ) | ($P_m$) | ($V_{mi}$) | ($V_{mf}$) | ($t_{mi}$) | ($t_{mf}$) | | K' | ($t_{amb}$) | ($t_{amb}$) | |
| min | in $H_2O$ | cubic feet | cubic feet | °F | °F | | see above2 | °F | °F | in Hg |
| 10.0 | 1.9 | 997.160 | 1004.830 | 62 | 64 | OX63 | 0.5902 | 66 | 65 | 20 |
| 10.0 | 1.9 | 1004.830 | 1012.510 | 64 | 65 | OX63 | 0.5902 | 65 | 65 | 20 |
| 10.0 | 1.9 | 1012.510 | 1020.230 | 65 | 66 | OX63 | 0.5902 | 65 | 65 | 20 |

**Results**

| Standardized Data | | | | Dry Gas Meter | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Calibration Factor | | Flowrate | ΔH @ | |
| Dry Gas Meter | | Critical Orifice | | Value | Variation | Std & Corr | 0.75 SCFM | Variation |
| ($V_{m(std)}$) | ($Q_{m(std)}$) | ($Vcr_{(std)}$) | ($Q_{cr(std)}$) | (Y) | (ΔY) | ($Q_{m(std)(corr)}$) | (ΔH@) | (ΔΔH@) |
| cubic feet | cfm | cubic feet | cfm | | | cfm | in H2O | |
| 7.510 | 0.751 | 7.435 | 0.744 | 0.990 | 0.000 | 0.744 | 1.904 | 0.006 |
| 7.499 | 0.750 | 7.439 | 0.744 | 0.992 | 0.002 | 0.744 | 1.896 | -0.001 |
| 7.523 | 0.752 | 7.439 | 0.744 | 0.989 | -0.001 | 0.744 | 1.893 | -0.005 |
| Pretest Gamma | 0.995 | % Deviation | 0.5 | 0.990 | Y Average | | 1.897 | ΔH@ Average |

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Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature _____ Date 12/27/18

**Meter Console Thermometer Post-Test Calibration Data Form**

MONTROSE

**Meter Box:** 808024
**Calibrator:** NS
**Date:** 12/27/2018
**Barometric:** 28.88
**Ambient Temp:** 65

**Reference Thermometer: Altek Thermocouple Source** CAL-MASTERMETER-WORKBOOK-203T-REV1

| Reference Temperature Altek | Thermometer Temperature Oven | Difference (%) mean Inlet | Thermometer Temperature Outlet | Difference (%) mean Outlet | Thermometer Temperature Probe | Difference (%) mean Probe |
|---|---|---|---|---|---|---|
| 0 | | | 0 | 0.00 | 0 | 0.00 |
| 100 | | | 99 | -0.18 | 99 | -0.18 |
| 200 | | | 201 | 0.15 | 201 | 0.15 |
| 300 | | | 301 | 0.13 | 301 | 0.13 |
| 400 | | | 397 | -0.35 | 397 | -0.35 |
| 500 | | | 498 | -0.21 | 498 | -0.21 |

| Reference Temperature Altek | Thermometer Temperature Filter | Difference (%) mean Filter | Thermometer Temperature Exit | Difference (%) mean Exit | Thermometer Temperature Aux | Difference (%) mean Aux |
|---|---|---|---|---|---|---|
| 0 | 1 | 0.22 | 1 | 0.22 | 1 | 0.22 |
| 100 | 99 | -0.18 | 99 | -0.18 | 99 | -0.18 |
| 200 | 202 | 0.30 | 202 | 0.30 | 202 | 0.30 |
| 300 | 301 | 0.13 | 301 | 0.13 | 301 | 0.13 |
| 400 | 397 | -0.35 | 397 | -0.35 | 397 | -0.35 |
| 500 | 498 | -0.21 | 498 | -0.21 | 498 | -0.21 |

| Reference Temperature Altek | Thermometer Temperature Stack | Difference (%) mean Stack |
|---|---|---|
| 0 | 1 | 0.22 |
| 200 | 201 | 0.15 |
| 400 | 398 | -0.23 |
| 600 | 600 | 0.00 |
| 800 | 802 | 0.16 |
| 1000 | 1001 | 0.07 |

| Reference Temperature Altek | Thermometer Temperature Stack | Difference (%) mean Stack |
|---|---|---|
| 1200 | 1199 | -0.06 |
| 1400 | 1397 | -0.16 |
| 1600 | 1601 | 0.05 |
| 1800 | 1799 | -0.04 |

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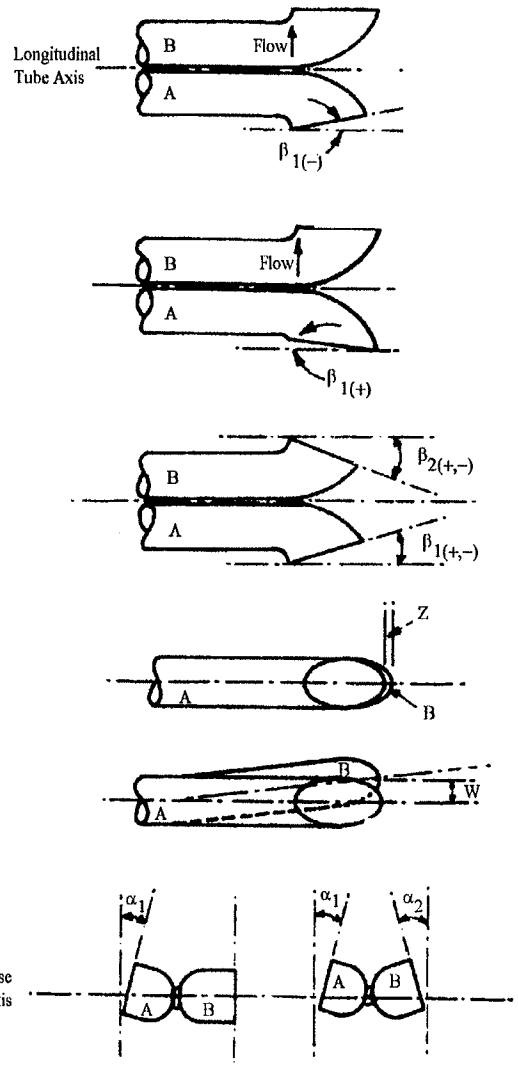
MONTROSE

# Pitot Tube Inspection Data

**Client Name:** _____

| | Pre-Test | | Post-Test |
|---|---|---|---|
| **Date:** | 9/18/2018 | **Date:** | 12/28/2018 |




| | | |
|---|---|---|
| Y | **level?** | Y |
| N | **obstructions?** | N |
| N | **damaged?** | N |
| 0 | **$-10° < a_1 < +10°$** | 1 |
| 0 | **$-10° < a_2 < +10°$** | 0 |
| 0 | **$-5° < b_1 < +5°$** | 1 |
| 0 | **$-5° < b_2 < +5°$** | 1 |
| 1 | **γ** | 2 |
| 0 | **θ** | 1 |
| 0.980 | **A** | 0.980 |
| 0.490 | **0.39375 $< P_A <$ 0.5625** | 0.490 |
| 0.490 | **0.39375 $< P_B <$ 0.5625** | 0.490 |
| 0.375 | **0.1875 $\leq D_t \leq$ 0.375** | 0.375 |
| 0.017 | **A tan g < 0.125"** | 0.034 |
| 0.00000 | **A tan q < 0.03125"** | 0.01710 |
| TRUE | **$P_A = P_B$ +/- 0.063** | TRUE |
| PASS | **PASS/FAIL** | PASS |

**Comments:** 6' effective length M5 probe, with 3/8" pitot tips, K-type thermocouple attached to a heated M5 sheath

Pitot tube/probe number 5062 meets or exceeds all specifications and criteria and/or applicable design features (per 40CFR60 Appendix A; Method 2) and is heareby assigned a pitot tube calibration factor of 0.84.

CAL-SPITOT-WORKBOOK-200T-REV1

Signature: _____

Date: 12/28/18

MONTROSE

# Thermocouple Calibration Data Form

**Thermocouple ID:** 5062
**Calibrator:** M. Krueger
**Reference Thermometer: Fluke S1 SN40430089WS**

| | Pretest | Post-test |
|---|---|---|
| **Date:** | 9/18/2018 | 12/28/2018 |
| **Barometric:** | 29.1 | 29.77 |

| | Reference Point | Reference Source | NIST Traceable Thermometer Temp. (F) | Working Thermocouple Temp. (F) | Difference (%) |
|---|---|---|---|---|---|
| **Pre-Test** | T.C | Ice Water | 33 | 32.3 | 0.14 |
| | | Ambient | 75.8 | 75.4 | 0.07 |
| | | Heat Source | 298.4 | 299 | -0.08 |

| | Reference Point | Reference Source | Reference Thermometer Temp. (F) | Working Thermocouple Temp. (F) | Difference (%) |
|---|---|---|---|---|---|
| **Post-Test** | T.C | Ice Water | 33.1 | 33.1 | 0.00 |
| | | Ambient | 61.7 | 62.6 | -0.17 |
| | | Heat Source | 296.7 | 297.1 | -0.05 |

a (temp. diff.) = (ref.temp + 460) - (Thermo. temp. + 460) / (ref. temp. +460) x 100
Where $-1.5 < a < 1.5$

**Signature** _____
**Date** 12/28/18

CAL-T/C-TEMPLATE-201T-REV2

# APPENDIX F
# TEST PROGRAM QUALIFICATIONS

# Test Program Qualifications

Montrose operates as a diversified environmental company that provides premier nationwide environmental testing services including analytical laboratory services, emission source testing, regulatory affairs support, and sustainability services. We provide reliable and timely environmental data, collected using the highest technical and ethical standards, and with the least interruption to our client's business goals. With more than 40 regional offices located across the country and nearly 1,000 employees, Montrose can easily staff the largest programs without delays or logistical problems.

Montrose has established a quality management system that led to accreditation with ASTM Standard D-7036 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose completed multiple functional assessments for ASTM D7036-04 which were conducted by the American Association for Laboratory Accreditation (A2LA). A2LA granted accreditation for the Montrose quality management system in February 2016. Montrose quality management system performance data is available upon request.

We are also certified to conduct regional emissions testing by the Virginia Environmental Laboratory Accreditation Program (VELAP), the California Air Resources Board under their Independent Contractor program, the South Coast Air Quality Management District (Laboratory Approval Program), and the Louisiana Environmental Laboratory Accreditation Program (LELAP).

Our project managers have been certified under the qualified source testing individual (QSTI) program instituted by the Source Evaluation Society (SES). All testing is overseen and supervised on site by at least one Qualified Individual (QI), as defined in 40 CFR 72.2 and pursuant to the requirements of ASTM D7036.

Our analytical laboratories within our Environmental Testing division include six laboratories across the country servicing air, water, soil, and tobacco testing under the brands Enthalpy Analytical, Curtis & Tompkins, and Nautilus Environmental. Among others, our laboratories hold accreditations from National Environmental Laboratory Accreditation (NELAC); Environmental Laboratory Accreditation Program for California (CAELAP), Louisiana (LELAP), Nevada (NVELAP), Oregon (ORELAP), and Virginia (VELAP); New Jersey Department of Environmental Protection (NJDEP); Texas Commission on Environmental Quality (TCEQ); and Pennsylvania Department of Environmental Protection (PADEP).

Finally, our Sustainability Services division operates under the brand of ES Engineering and through this division, we work with governments and industry to create biogas (renewable energy), treat and reuse water, remediate soil, and manage waste for clients across the country.

The key personnel involved in the test program were as follows:

**Steven Flaherty**

**Title:** District Manager, Chicago North Office
**Education:** University of Illinois – B.S. in Environmental Science and Natural Resources
**Background:** Mr. Flaherty's background is in environmental air emissions testing, project management, and administration. During the past 17 years, he has managed emission compliance and CEM certification testing projects for a wide variety of industries with particular emphasis on pollution control systems, process optimization, CEMS performance, and emission compliance testing associated with the petrochemical industry.
**Experience:** 17 years of experience in environmental consulting, field testing, project management, and administration.
**Qualifications:** Certified as a QSTI by the SES pursuant to the requirements of ASTM D7036-04.

**Robert Burton**

**Title:** Client Project Manager, Chicago North Office
**Education:** Northern Illinois University – Liberal Arts major
**Background:** Mr. Burton's background is in environmental air testing and project management. During the past 12 years, he has managed emission compliance and CEM certification testing projects for a wide variety of industries with particular emphasis on pollution control systems, process optimization, CEMS performance, and emission compliance testing associated with the ethanol and biodiesel industries.
**Experience:** 12 years of experience in environmental field testing and project management.
**Qualifications:** Certified as a QI by the SES pursuant to the requirements of ASTM D7036-04.

**Alan Morales**

**Title:** Field Technician, Chicago North Office
**Education:** Illinois State University – B.S. in Physics and Geology
**Experience:** Experience specializing in stack sampling equipment preparation, set-up, calibration, and maintenance as well as field sampling for a wide variety of manufacturing facilities located throughout the U.S.

**Henry Taylor**

**Title:** Quality Assurance Manager, Source Testing - Chicago North Office
**Education:** University of Oklahoma – Double major in Chemistry and Mathematics
**Background:** Mr. Taylor's background is in research, fine particle technology, emissions testing, analytical services, and quality system management. During his 33-year career in environmental testing, he has served as an administrator, project manager, analytical services, and quality assurance manager. Currently, he provides independent review of source testing and laboratory test data and reporting as well as managing the quality system and accreditation status of the source testing and analytical groups.
**Experience:** 25 years of experience in environmental consulting, field testing, and project management, and 8 years in quality system management and laboratory accreditation.
**Qualifications:** Certified as a qualified source testing observer (QSTO) by the SES pursuant to the requirements of ASTM D7036-04.

STAC STACK TESTING ACCREDITATION COUNCIL

A2LA American Association for Laboratory Accreditation

# *Accredited Air Emission Testing Body*

A2LA has accredited

## MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 5th day of March 2018.

President and CEO
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2020

*This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.*

# SOURCE EVALUATION SOCIETY

## Qualified Source Testing Individual

LET IT BE KNOWN THAT

## STEVEN M. FLAHERTY

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

***MANUAL GAS VOLUME MEASUREMENTS AND ISOKINETIC PARTICULATE SAMPLING METHODS***

ISSUED THIS 15TH DAY OF JULY 2017 AND EFFECTIVE UNTIL JULY 14TH, 2022

*Peter R. Westlin, QSTI/QSTO Review Board*

*J. Wade Bice, QSTI/QSTO Review Board*

*Peter S. Pakalnis, QSTI/QSTO Review Board*

*Karen D. Kajiya-Mills , QSTI/QSTO Review Board*

*Theresa Lowe, QSTI/QSTO Review Board*

*Bruce Randall QSTI/QSTO Review Board*

**CERTIFICATE NO. 2008-237**

# SOURCE EVALUATION SOCIETY

## Qualified Source Testing Individual

LET IT BE KNOWN THAT

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HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

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***HAZARDOUS METALS MEASUREMENT SAMPLING METHODS***

ISSUED THIS 13TH DAY OF DECEMBER 2014 AND EFFECTIVE UNTIL DECEMBER 12TH, 2019

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*Peter S. Pakalnis, QSTI/QSTO Review Board*

*Theresa Lowe, QSTI/QSTO Review Board*

*C. David Bagwell, QSTI/QSTO Review Board*

*Karen D. Kajiya-Mills , QSTI/QSTO Review Board*

*Glenn C. England, QSTI/QSTO Review Board*

**CERTIFICATE ID NO. 2008-237**

# CERTIFICATE OF COMPLETION

## Robert Burton

**This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):**

**Source Evaluation Society Group 1:** *EPA Manual Gas Volume and Flow Measurements and Isokinetic Particulate Sampling Methods*

**Certificate Number:** 024-2017-25

Tate Strickler, Accreditation Director

DATE OF ISSUE: 3/11/17

DATE OF EXPIRATION: 3/11/22

MONTROSE ENVIRONMENTAL

# CERTIFICATE OF COMPLETION

## Robert Burton

**This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):**

**Source Evaluation Society Group 3:** *EPA Gaseous Pollutants Instrumental Methods*

**Certificate Number:** 024-2017-27

Tate Strickler, Accreditation Director

DATE OF ISSUE: 3/11/17

DATE OF EXPIRATION: 3/11/22

MONTROSE ENVIRONMENTAL

# CERTIFICATE OF COMPLETION

## Robert Burton

**This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):**

**Source Evaluation Society Group 4:** *EPA Hazardous Metals Measurement Methods*

**Certificate Number:** 024-2017-28

Tate Strickler, Accreditation Director

DATE OF ISSUE: 12/13/14

DATE OF EXPIRATION: 12/13/19

MONTROSE ENVIRONMENTAL

**Whitlow Green EPA Smoke School, LLC**

www.smokeschool.net

**Certifies that**

***Alan Morales – Montrose Environmental***

Has attended the visible emissions evaluator course classroom lecture

Certification Date: ***September 5, 2018*** Location: ***Ottawa, IL***

*Jerry Green, George Whitlow, Gary Green*

Owners

IL90518-AM-MONTROSEENVIRONMENTAL-07

# SOURCE EVALUATION SOCIETY

## Qualified Source Testing Observer

LET IT BE KNOWN THAT

## HENRY M. TAYLOR

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST OBSERVER REVIEW BOARD FOR

***MANUAL GAS VOLUME MEASUREMENTS AND ISOKINETIC PARTICULATE SAMPLING METHODS***

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*Theresa Lowe, QSTI/QSTO Review Board*

*C. David Bagwell, QSTI/QSTO Review Board*

*Karen D. Kajiya-Mills , QSTI/QSTO Review Board*

*Glenn C. England, QSTI/QSTO Review Board*

**CERTIFICATE NO. 2015-872**

# SOURCE EVALUATION SOCIETY

## Qualified Source Testing Observer

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***MANUAL GASEOUS POLLUTANTS SOURCE SAMPLING METHODS***

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*C. David Bagwell, QSTI/QSTO Review Board*

*Karen D. Kajiya-Mills , QSTI/QSTO Review Board*

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***GASEOUS POLLUTANTS INSTRUMENTAL SAMPLING METHODS***

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*Theresa Lowe, QSTI/QSTO Review Board*

*J. Wade Bice, QSTI/QSTO Review Board*

*Karen D. Kajiya-Mills , QSTI/QSTO Review Board*

*Bruce Randall QSTI/QSTO Review Board*

**CERTIFICATE NO. 2015-872**

# SOURCE EVALUATION SOCIETY

## Qualified Source Testing Observer

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*Theresa Lowe, QSTI/QSTO Review Board*

*C. David Bagwell, QSTI/QSTO Review Board*

*Karen D. Kajiya-Mills , QSTI/QSTO Review Board*

*Glenn C. England, QSTI/QSTO Review Board*

**CERTIFICATE NO. 2015-872**

# THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

| | |
|---|---|
| Name: | Mr. Steve Flaherty |
| Title: | District Manager |
| Region: | Midwest |
| Email: | sflaherty@montrose-env.com |
| Phone: | 847-487-1580 Ext. 12417 |

| | |
|---|---|
| Name: | Mr. William Craig James |
| Title: | Regional Vice President |
| Region: | Midwest |
| Email: | wjames@montrose-env.com |
| Phone: | 847-487-1580 Ext. 12419 |