

1. Executive Summary

1.1 Introduction

Michigan Technical University contracted Monitoring Solutions, Incorporated (“Monitoring Solutions”) to conduct air emissions testing at the Michigan Technical University (“MI Tech”) facility in Houghton, Michigan. The objective of the test program was to accurately measure oxygen (O₂), and carbon dioxide (CO₂) concentrations.

Coordinating the field portion of the test program were Joseph Ward of Monitoring Solutions and Nolan Miles of MI Tech. Jeremy Howe and Joe Scanlon of the Michigan Department of Environment, Great Lakes, and Energy were present during testing.

1.2 Summary of Test Program

The test program conducted followed the procedures prescribed in Title 40 of the Code of Federal Regulations Part 60 (40CFR60). Monitoring Solutions conducted the following testing:

| Parameters | Test Method |
|-----------------|------------------------------|
| Oxygen | 40CFR60 Appendix A Method 3A |
| Carbon Monoxide | 40CFR60 Appendix A Method 10 |

Concentrations/emissions of these parameters were measured from the stack access on the engine building rooftop on June 9th and 10th, 2020. The complete description of the Test Program is provided in Section 2.

Sampling was conducted while the unit was operating near full capacity. No deviations from standard EPA air sampling methodologies were required during the test program.

1.3 Summary of Results

The following summarizes the pertinent results of the testing.

| Constituent | Units | Average |
|-----------------------|------------------------------------|---------|
| EU Generator 1 | | |
| Oxygen | % _d | 10.34 |
| Carbon Monoxide | ppm _d | 7.94 |
| Carbon Monoxide | ppm _d @7%O ₂ | 4.44 |
| EU Generator 2 | | |
| Oxygen | % _d | 9.59 |
| Carbon Monoxide | ppm _d | 10.28 |
| Carbon Monoxide | ppm _d @7%O ₂ | 5.36 |
| EU Generator 3 | | |
| Oxygen | % _d | 10.05 |
| Carbon Monoxide | ppm _d | 10.08 |
| Carbon Monoxide | ppm _d @7%O ₂ | 5.48 |

| Constituent | Units | Average |
|-----------------------|------------------------------------|---------|
| EU Generator 4 | | |
| Oxygen | % _d | 10.11 |
| Carbon Monoxide | ppm _d | 14.04 |
| Carbon Monoxide | ppm _d @7%O ₂ | 7.68 |

Detailed results are provided in Section 3. Data and calculations to support these results are shown in the Appendices.

2. Test Program Description

2.1 Test Method Description

2.1.1 Determination of Diluent (O₂)

40CFR60 Appendix A, Method 3A procedures were followed to determine concentration of oxygen during each run.

Instrumental Reference Method procedures for determination of oxygen (O₂) concentrations were conducted utilizing a common sampling apparatus. The gas sample was extracted from the source at a constant rate through a heated glass fiber filter. Upon leaving the filter, the gas sample passed through a heated Teflon sample line until moisture was removed with a gas conditioner. The particulate free, dry gas sample was then suitable for instrument introduction.

The following gas analyzer was used for sample analysis:

| Constituent | Manufacturer | Model | Measurement Principle |
|-------------|--------------|-------|-----------------------|
| Oxygen | Brand Gaus | 4705 | Zirconium Oxide |

2.1.2 Determination of Carbon Monoxide Concentration

40CFR60 Appendix A Instrumental Reference Method 10 procedures were followed for the determination of CO concentrations. The gas sample was extracted using a common sampling apparatus as described above for the diluent gases.

| Constituent | Manufacturer | Model | Measurement Principle |
|-----------------|--------------|-------|-----------------------|
| Carbon Monoxide | Thermo | 42i | Filter Correlation |

Calibration error checks, to show analyzer linearity, and the bias and drift checks were performed. EPA Protocol 1 calibration gases with known concentrations were used for all calibrations.

A data acquisition system (DAS) was used to continuously record all gas concentrations and integrate these values into minute intervals/averages. These results were transferred to a spreadsheet where average values corrected for calibration responses are reported.

2.1.3 Verification of Gas Dilution System

40CFR60 Method 205 procedures were followed to verify the gas dilution system during the testing project. Protocol gases were blended with a certified and calibrated mass flow gas divider to arrive at the desired calibration concentrations for analyzer calibrations and quality assurance checks.

An Environics Model 4040 gas divider with three mass flow controllers was used to blend nitrogen (N₂) and protocol gas mixtures for the desired calibration gas concentrations. The mass flow controllers in the gas divider were calibrated prior to testing, and the gas divider operation on-site was verified with the oxygen (O₂) analyzer and an independent protocol O₂ calibration gas.

The on-site verification was performed by entering two target concentrations into the gas divider software. A high range protocol O₂ gas and the zero N₂ gas were blended with the mass flow controllers to meet the target concentrations. Analyzer response was verified by introducing a mid-level calibration gas directly into the analyzer. This process was repeated in triplicate. Analyzer responses for the target concentrations and the verification gas did not deviate more than two percent from the predicted concentrations.

2.2 Deviation from Published Test Methods

No deviations from standard EPA air sampling methodologies were required during the test program. During the first test run on EU2, the data acquisition system skipped recording and had to be restarted. The duration of the test run was extended until 60 minutes of data were recorded.

3. Test Results

3.1 EU Generator 1

| Test Parameters | Units | Run 1 | Run 2 | Run 3 | Avg. |
|--|---------------------------|----------|----------|----------|-------|
| Date | MM/DD/YY | 06/09/20 | 06/10/20 | 06/10/20 | |
| Start Time | HH:MM | 10:10 | 17:10 | 18:25 | |
| Stop Time | HH:MM | 11:10 | 18:10 | 19:25 | |
| | Minutes | 60 | 60 | 60 | |
| P _{bar} (Barometric Pressure, absolute) | Inches Hg | 29.10 | 28.90 | 28.90 | |
| Location/Process Parameters | | | | | |
| O ₂ (Oxygen) | % | 10.14 | 10.41 | 10.48 | 10.34 |
| Assumed N ₂ (Balance Nitrogen) | % | 89.86 | 89.59 | 89.52 | 89.66 |
| CO Results | | | | | |
| Concentration, Drift Corrected - dry | ppm _d | 8.03 | 8.07 | 7.72 | 7.94 |
| Concentration, corrected to 15% O ₂ | ppmd @ 15% O ₂ | 4.40 | 4.54 | 4.37 | 4.44 |

3.2 EU Generator 2

| Test Parameters | Units | Run 1 | Run 2 | Run 3 | Avg. |
|--|---------------------------|----------|----------|----------|-------|
| Date | MM/DD/YY | 06/09/20 | 06/09/20 | 06/09/20 | |
| Start Time | HH:MM | 13:45 | 15:31 | 16:45 | |
| Stop Time | HH:MM | 15:16 | 16:31 | 17:45 | |
| Θ (Total Sampling Time of Test) | Minutes | 60 | 60 | 60 | |
| P _{bar} (Barometric Pressure, absolute) | Inches Hg | 29.10 | 29.10 | 29.10 | |
| Location/Process Parameters | | | | | |
| O ₂ (Oxygen) | % | 9.62 | 9.60 | 9.55 | 9.59 |
| Assumed N ₂ (Balance Nitrogen) | % | 90.38 | 90.40 | 90.45 | 90.41 |
| CO Results | | | | | |
| Concentration, Drift Corrected - dry | ppm _d | 10.24 | 10.19 | 10.41 | 10.28 |
| Concentration, corrected to 15% O ₂ | ppmd @ 15% O ₂ | 5.36 | 5.32 | 5.41 | 5.36 |

3.3 EU Generator 3

| Test Parameters | Units | Run 1 | Run 2 | Run 3 | Avg. |
|--|---------------------------|----------|----------|----------|-------|
| Date | MM/DD/YY | 06/10/20 | 06/10/20 | 06/10/20 | |
| Start Time | HH:MM | 07:45 | 09:05 | 10:20 | |
| Stop Time | HH:MM | 08:45 | 10:05 | 11:20 | |
| Θ (Total Sampling Time of Test) | Minutes | 60 | 60 | 60 | |
| P _{bar} (Barometric Pressure, absolute) | Inches Hg | 28.90 | 28.90 | 28.90 | |
| Location/Process Parameters | | | | | |
| O ₂ (Oxygen) | % | 10.08 | 10.07 | 10.01 | 10.05 |
| Assumed N ₂ (Balance Nitrogen) | % | 89.92 | 89.93 | 89.99 | 89.95 |
| CO Results | | | | | |
| Concentration, Drift Corrected - dry | ppm _d | 10.06 | 9.88 | 10.29 | 10.08 |
| Concentration, corrected to 15% O ₂ | ppmd @ 15% O ₂ | 5.48 | 5.38 | 5.57 | 5.48 |

3.4 EU Generator 4

| Test Parameters | Units | Run 1 | Run 2 | Run 3 | Avg. |
|--|---------------------------|----------|----------|----------|-------|
| Date | MM/DD/YY | 06/10/20 | 06/10/20 | 06/10/20 | |
| Start Time | HH:MM | 12:40 | 13:55 | 15:10 | |
| Stop Time | HH:MM | 13:40 | 14:55 | 16:10 | |
| Θ (Total Sampling Time of Test) | Minutes | 60 | 60 | 60 | |
| P _{bar} (Barometric Pressure, absolute) | Inches Hg | 28.90 | 28.90 | 28.90 | |
| Location/Process Parameters | | | | | |
| O ₂ (Oxygen) | % | 10.10 | 10.09 | 10.13 | 10.11 |
| Assumed N ₂ (Balance Nitrogen) | % | 89.90 | 89.91 | 89.87 | 89.89 |
| CO Results | | | | | |
| Concentration, Drift Corrected - dry | ppm _d | 14.53 | 12.51 | 15.08 | 14.04 |
| Concentration, corrected to 15% O ₂ | ppmd @ 15% O ₂ | 7.94 | 6.83 | 8.26 | 7.68 |

4. Appendices

4.1 Test Methods

Full descriptions of the test methods can be reviewed by selecting the following links.

[Method 3A \(40 CFR 60 Appendix A\)](#)

<https://www.epa.gov/emc/method-3a-oxygen-and-carbon-dioxide-concentrations-instrumental>

[Method 10 \(40 CFR 60 Appendix A\)](#)

<https://www.epa.gov/emc/method-10-carbon-monoxide-instrumental-analyzer>

[Method 205 \(40 CFR 51\)](#)

<https://www.epa.gov/emc/method-205-gas-dilution-calibration>

4.2 Sample Calculations

4.2.1 Abbreviations and Nomenclature for Emissions Calculations

| | | | |
|------------------|--|-------------------|---|
| An | Cross-sectional area of nozzle, square feet (ft ²) | %N ₂ | Percent of nitrogen in flue gas by volume, dry basis |
| As | Cross-sectional stack Area, (ft ²) | Pbar | Absolute barometric pressure at sampling location, (in. Hg) |
| Bw | Proportion of water vapor, by volume, in the gas stream | Pstd | Standard absolute barometric pressure, (29.92 in. Hg) |
| Bws | Maximum proportion of water vapor, by volume, at flue gas temp. (saturated) | Pstatic | Difference between stack gas pressure and Pbar (in. H ₂ O) |
| Cgas | Drift Corrected pollutant or diluent concentration on a dry basis | Ps | Absolute stack gas pressure, (in. Hg) |
| Cr _{un} | Average pollutant/diluent concentration reported by analyzer for run, dry basis | Pg | Static pressure, stack gas (in. Hg) |
| C _m | Average of initial and final system calibration bias check responses for the upscale calibration gas, ppm | Δp | Velocity head reading at traverse point, (in. H ₂ O) |
| C _p | Average of initial and final system calibration bias check responses for the zero gas, ppm | ppm | Parts per million |
| C _{ma} | Actual concentration of the upscale calibration gas, ppm | Q _a | Actual volumetric flow rate, at stack gas conditions (acfm) |
| CE | Calibration Error, Difference between analyzer reading and calibration gas injected directly into analyzer | Q _{std} | Volumetric flow rate at dry standard conditions (dscfm) |
| CF | Cubic Feet, ft ³ | T _m | Absolute temp. of stack gas at meter (°R, avg. of meter inlet & outlet temps) |
| CFM | Cubic Feet per Minute, ft ³ /min. | TS | Absolute temperature of stack gas (°R) |
| C _p | Pitot Tube Coefficient, dimensionless | θ | Total Sampling Time, minutes |
| CPM | Particulate matter concentration, corrected to standard condition, lb/dscf | vs | Velocity of stack gas (ft/sec) |
| De | Equivalent Diameter of rectangular stack, ft | V _{lc} | Volume of liquid condensed in impingers and silica gel (grams or ml) |
| D _n | Diameter of nozzle, inches (in) | V _m | Dry gas volume measured by dry gas meter (cubic feet) |
| D _s | Diameter of stack, ft | V _{mstd} | Dry gas volume measured by dry gas meter, corrected to standard conditions (dscf) |
| EPM | Particulate matter emission rate, lb/hr | V _{wstd} | Volume of water vapor sampled, at standard conditions (cubic feet) |
| E _{gas} | Gaseous Pollutant emission rate, lb/hr | W | Width of duct |
| ΔH | Pressure Differential across meter orifice | 32 | Molecular weight of O ₂ , (lb/lb-mole) |
| in. Hg | Pressure, measured as inches of Mercury | 44 | Molecular weight of CO ₂ , (lb/lb-mole) |
| %I | Percent Isokinetic | 28 | Molecular weight of N ₂ (lb/lb-mole) |
| K _p | Velocity pressure coefficient, 85.49 (ft/sec) [(lb/lb-mole) (in. Hg/°R) (1/in. H ₂ O)] ^{1/2} | 64.06 | Molecular weight of SO ₂ , (lb/lb-mole) |
| L | Length of Duct | 46.01 | Molecular weight of NO _x , (lb/lb-mole) |
| MW _s | Molecular Weight of gas sample, (lb/lb-mole) | 28.01 | Molecular weight of CO (lb/lb-mole) |
| MW _d | Molecular Weight of dry flue gas, (lb/lb-mole) | 17.64 | Conversion factor, (°R/in. Hg) |
| MW _w | Molecular weight of water, (18 lb/lb-mole) | 13.6 | Conversion factor, (in.H ₂ O/in. Hg) |
| mPM | Particulate matter mass, (grams) | 460 | Conversion factor, (°F to °R) |
| %O ₂ | Percent of oxygen in flue gas by volume, dry basis | 0.0945 | Conversion factor for isokinetic calc. |
| %CO ₂ | Percent of carbon monoxide in flue gas by volume, dry basis | 106 | Conversion Factor, parts per million |
| | | 385.3 | Conversion factor, (dscf/lb-mole) |
| | | 15.43 | Conversion factor, (grains/gram) |

4.2.2 Sample Calculations

Raw data is entered into spreadsheets to calculate results electronically. Calculations shown below use are examples of the equations used in the spreadsheets. Calculations with a calculator may not exactly match the results shown because of significant figures.

1. CO continuous emissions monitor bias and drift corrected results, ppm_d

$$C_{CO} = \frac{(C_{run} - C_o)C_{ma}}{(C_m - C_o)} = \frac{(7.81 - (\frac{0.01 - 0.09}{2}))50.00}{(\frac{24.52 + 24.31}{2}) - (\frac{0.01 - 0.09}{2})} = 8.03 \text{ ppm}_d$$

2. CO concentration, corrected to 15% Oxygen

$$C_{CO@15\%O_2} = \frac{C_{CO}(20.9 - 15)}{(20.9 - C_{O_2})}$$

4.3 Reference Method Test Data

4.3.1 EU Generator 1

| | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|----------|----------|--------|----------|
| Run 1 | Date | Time | O2 [%] | CO [ppm] |
| 1 | 6/9/2020 | 10:10:09 | 10.13 | 8.43 |
| 2 | 6/9/2020 | 10:11:09 | 10.13 | 8.44 |
| 3 | 6/9/2020 | 10:12:09 | 10.14 | 8.45 |
| 4 | 6/9/2020 | 10:13:09 | 10.15 | 8.35 |
| 5 | 6/9/2020 | 10:14:09 | 10.15 | 8.33 |
| 6 | 6/9/2020 | 10:15:09 | 10.16 | 8.33 |
| 7 | 6/9/2020 | 10:16:09 | 10.14 | 8.41 |
| 8 | 6/9/2020 | 10:17:09 | 10.15 | 8.44 |
| 9 | 6/9/2020 | 10:18:09 | 10.17 | 8.36 |
| 10 | 6/9/2020 | 10:19:09 | 10.17 | 8.27 |
| 11 | 6/9/2020 | 10:20:09 | 10.16 | 8.23 |
| 12 | 6/9/2020 | 10:21:09 | 10.18 | 8.07 |
| 13 | 6/9/2020 | 10:22:09 | 10.17 | 8.00 |
| 14 | 6/9/2020 | 10:23:09 | 10.15 | 8.05 |
| 15 | 6/9/2020 | 10:24:09 | 10.14 | 8.02 |
| 16 | 6/9/2020 | 10:25:09 | 10.15 | 7.97 |
| 17 | 6/9/2020 | 10:26:09 | 10.17 | 7.99 |
| 18 | 6/9/2020 | 10:27:09 | 10.15 | 7.88 |
| 19 | 6/9/2020 | 10:28:09 | 10.18 | 7.82 |
| 20 | 6/9/2020 | 10:29:09 | 10.18 | 7.83 |
| 21 | 6/9/2020 | 10:30:09 | 10.18 | 7.83 |
| 22 | 6/9/2020 | 10:31:09 | 10.17 | 7.76 |
| 23 | 6/9/2020 | 10:32:09 | 10.16 | 7.80 |
| 24 | 6/9/2020 | 10:33:09 | 10.17 | 7.81 |
| 25 | 6/9/2020 | 10:34:09 | 10.19 | 7.77 |
| 26 | 6/9/2020 | 10:35:09 | 10.20 | 7.68 |
| 27 | 6/9/2020 | 10:36:09 | 10.19 | 7.61 |
| 28 | 6/9/2020 | 10:37:09 | 10.18 | 7.65 |
| 29 | 6/9/2020 | 10:38:09 | 10.16 | 7.64 |
| 30 | 6/9/2020 | 10:39:09 | 10.16 | 7.60 |
| 31 | 6/9/2020 | 10:40:09 | 10.16 | 7.66 |
| 32 | 6/9/2020 | 10:41:09 | 10.16 | 7.65 |
| 33 | 6/9/2020 | 10:42:09 | 10.17 | 7.62 |
| 34 | 6/9/2020 | 10:43:09 | 10.16 | 7.59 |
| 35 | 6/9/2020 | 10:44:09 | 10.18 | 7.58 |
| 36 | 6/9/2020 | 10:45:09 | 10.18 | 7.61 |
| 37 | 6/9/2020 | 10:46:09 | 10.18 | 7.61 |
| 38 | 6/9/2020 | 10:47:09 | 10.17 | 7.66 |
| 39 | 6/9/2020 | 10:48:09 | 10.18 | 7.56 |
| 40 | 6/9/2020 | 10:49:09 | 10.18 | 7.51 |
| 41 | 6/9/2020 | 10:50:09 | 10.17 | 7.54 |
| 42 | 6/9/2020 | 10:51:09 | 10.17 | 7.51 |
| 43 | 6/9/2020 | 10:52:09 | 10.18 | 7.48 |
| 44 | 6/9/2020 | 10:53:09 | 10.17 | 7.50 |
| 45 | 6/9/2020 | 10:54:09 | 10.14 | 7.57 |
| 46 | 6/9/2020 | 10:55:09 | 10.12 | 7.65 |
| 47 | 6/9/2020 | 10:56:09 | 10.11 | 7.71 |
| 48 | 6/9/2020 | 10:57:09 | 10.13 | 7.65 |
| 49 | 6/9/2020 | 10:58:09 | 10.13 | 7.65 |
| 50 | 6/9/2020 | 10:59:09 | 10.14 | 7.61 |
| 51 | 6/9/2020 | 11:00:09 | 10.15 | 7.51 |
| 52 | 6/9/2020 | 11:01:09 | 10.13 | 7.50 |
| 53 | 6/9/2020 | 11:02:09 | 10.12 | 7.54 |
| 54 | 6/9/2020 | 11:03:09 | 10.13 | 7.56 |
| 55 | 6/9/2020 | 11:04:09 | 10.12 | 7.60 |
| 56 | 6/9/2020 | 11:05:09 | 10.12 | 7.61 |
| 57 | 6/9/2020 | 11:06:09 | 10.11 | 7.66 |
| 58 | 6/9/2020 | 11:07:09 | 10.11 | 7.66 |
| 59 | 6/9/2020 | 11:08:09 | 10.11 | 7.61 |
| 60 | 6/9/2020 | 11:09:09 | 10.11 | 7.62 |
| Run 1 Raw Average | | | 10.15 | 7.81 |

| Run 2 | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|-----------|----------|--------|----------|
| 1 | 6/10/2020 | 17:10:15 | 10.35 | 7.55 |
| 2 | 6/10/2020 | 17:11:15 | 10.35 | 7.70 |
| 3 | 6/10/2020 | 17:12:15 | 10.37 | 7.76 |
| 4 | 6/10/2020 | 17:13:15 | 10.38 | 7.78 |
| 5 | 6/10/2020 | 17:14:15 | 10.38 | 7.87 |
| 6 | 6/10/2020 | 17:15:15 | 10.37 | 7.93 |
| 7 | 6/10/2020 | 17:16:15 | 10.35 | 8.11 |
| 8 | 6/10/2020 | 17:17:15 | 10.35 | 8.18 |
| 9 | 6/10/2020 | 17:18:15 | 10.37 | 8.13 |
| 10 | 6/10/2020 | 17:19:15 | 10.38 | 8.10 |
| 11 | 6/10/2020 | 17:20:15 | 10.38 | 8.08 |
| 12 | 6/10/2020 | 17:21:15 | 10.39 | 8.09 |
| 13 | 6/10/2020 | 17:22:15 | 10.40 | 8.14 |
| 14 | 6/10/2020 | 17:23:15 | 10.41 | 8.08 |
| 15 | 6/10/2020 | 17:24:15 | 10.42 | 8.09 |
| 16 | 6/10/2020 | 17:25:15 | 10.42 | 8.01 |
| 17 | 6/10/2020 | 17:26:15 | 10.40 | 8.09 |
| 18 | 6/10/2020 | 17:27:15 | 10.39 | 8.17 |
| 19 | 6/10/2020 | 17:28:15 | 10.38 | 8.18 |
| 20 | 6/10/2020 | 17:29:15 | 10.39 | 8.15 |
| 21 | 6/10/2020 | 17:30:15 | 10.40 | 8.18 |
| 22 | 6/10/2020 | 17:31:15 | 10.40 | 8.17 |
| 23 | 6/10/2020 | 17:32:15 | 10.40 | 8.16 |
| 24 | 6/10/2020 | 17:33:15 | 10.40 | 8.19 |
| 25 | 6/10/2020 | 17:34:15 | 10.42 | 8.15 |
| 26 | 6/10/2020 | 17:35:15 | 10.40 | 8.06 |
| 27 | 6/10/2020 | 17:36:15 | 10.38 | 8.12 |
| 28 | 6/10/2020 | 17:37:15 | 10.39 | 8.19 |
| 29 | 6/10/2020 | 17:38:15 | 10.39 | 8.30 |
| 30 | 6/10/2020 | 17:39:15 | 10.39 | 8.26 |
| 31 | 6/10/2020 | 17:40:15 | 10.40 | 8.09 |
| 32 | 6/10/2020 | 17:41:15 | 10.42 | 8.08 |
| 33 | 6/10/2020 | 17:42:15 | 10.43 | 8.05 |
| 34 | 6/10/2020 | 17:43:15 | 10.43 | 7.96 |
| 35 | 6/10/2020 | 17:44:15 | 10.43 | 7.93 |
| 36 | 6/10/2020 | 17:45:15 | 10.42 | 7.95 |
| 37 | 6/10/2020 | 17:46:15 | 10.43 | 7.88 |
| 38 | 6/10/2020 | 17:47:15 | 10.43 | 7.89 |
| 39 | 6/10/2020 | 17:48:15 | 10.42 | 8.02 |
| 40 | 6/10/2020 | 17:49:15 | 10.42 | 7.97 |
| 41 | 6/10/2020 | 17:50:15 | 10.40 | 7.88 |
| 42 | 6/10/2020 | 17:51:15 | 10.41 | 7.93 |
| 43 | 6/10/2020 | 17:52:15 | 10.41 | 7.94 |
| 44 | 6/10/2020 | 17:53:15 | 10.42 | 7.88 |
| 45 | 6/10/2020 | 17:54:15 | 10.41 | 7.90 |
| 46 | 6/10/2020 | 17:55:15 | 10.41 | 8.01 |
| 47 | 6/10/2020 | 17:56:15 | 10.42 | 7.98 |
| 48 | 6/10/2020 | 17:57:15 | 10.43 | 7.88 |
| 49 | 6/10/2020 | 17:58:15 | 10.43 | 7.88 |
| 50 | 6/10/2020 | 17:59:15 | 10.43 | 7.92 |
| 51 | 6/10/2020 | 18:00:15 | 10.44 | 7.85 |
| 52 | 6/10/2020 | 18:01:15 | 10.43 | 7.85 |
| 53 | 6/10/2020 | 18:02:15 | 10.43 | 7.89 |
| 54 | 6/10/2020 | 18:03:15 | 10.41 | 7.96 |
| 55 | 6/10/2020 | 18:04:15 | 10.40 | 7.92 |
| 56 | 6/10/2020 | 18:05:15 | 10.39 | 7.99 |
| 57 | 6/10/2020 | 18:06:15 | 10.39 | 7.91 |
| 58 | 6/10/2020 | 18:07:15 | 10.39 | 7.86 |
| 59 | 6/10/2020 | 18:08:15 | 10.40 | 7.85 |
| 60 | 6/10/2020 | 18:09:15 | 10.41 | 7.88 |
| Run 2 Raw Average | | | 10.40 | 8.00 |

| Run 3 | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|-----------|----------|--------|----------|
| 1 | 6/10/2020 | 18:25:15 | 10.40 | 7.53 |
| 2 | 6/10/2020 | 18:26:15 | 10.41 | 7.57 |
| 3 | 6/10/2020 | 18:27:15 | 10.43 | 7.60 |
| 4 | 6/10/2020 | 18:28:15 | 10.43 | 7.65 |
| 5 | 6/10/2020 | 18:29:15 | 10.42 | 7.67 |
| 6 | 6/10/2020 | 18:30:15 | 10.42 | 7.73 |
| 7 | 6/10/2020 | 18:31:15 | 10.42 | 7.79 |
| 8 | 6/10/2020 | 18:32:15 | 10.44 | 7.75 |
| 9 | 6/10/2020 | 18:33:15 | 10.44 | 7.71 |
| 10 | 6/10/2020 | 18:34:15 | 10.44 | 7.67 |
| 11 | 6/10/2020 | 18:35:15 | 10.45 | 7.67 |
| 12 | 6/10/2020 | 18:36:15 | 10.45 | 7.68 |
| 13 | 6/10/2020 | 18:37:15 | 10.46 | 7.70 |
| 14 | 6/10/2020 | 18:38:15 | 10.46 | 7.68 |
| 15 | 6/10/2020 | 18:39:15 | 10.45 | 7.67 |
| 16 | 6/10/2020 | 18:40:15 | 10.43 | 7.67 |
| 17 | 6/10/2020 | 18:41:15 | 10.44 | 7.73 |
| 18 | 6/10/2020 | 18:42:15 | 10.47 | 7.63 |
| 19 | 6/10/2020 | 18:43:15 | 10.48 | 7.56 |
| 20 | 6/10/2020 | 18:44:15 | 10.48 | 7.61 |
| 21 | 6/10/2020 | 18:45:15 | 10.49 | 7.67 |
| 22 | 6/10/2020 | 18:46:15 | 10.48 | 7.64 |
| 23 | 6/10/2020 | 18:47:15 | 10.49 | 7.64 |
| 24 | 6/10/2020 | 18:48:15 | 10.49 | 7.60 |
| 25 | 6/10/2020 | 18:49:15 | 10.48 | 7.59 |
| 26 | 6/10/2020 | 18:50:15 | 10.48 | 7.56 |
| 27 | 6/10/2020 | 18:51:15 | 10.48 | 7.67 |
| 28 | 6/10/2020 | 18:52:15 | 10.47 | 7.68 |
| 29 | 6/10/2020 | 18:53:15 | 10.48 | 7.59 |
| 30 | 6/10/2020 | 18:54:15 | 10.50 | 7.56 |
| 31 | 6/10/2020 | 18:55:15 | 10.50 | 7.51 |
| 32 | 6/10/2020 | 18:56:15 | 10.50 | 7.49 |
| 33 | 6/10/2020 | 18:57:15 | 10.48 | 7.63 |
| 34 | 6/10/2020 | 18:58:15 | 10.48 | 7.69 |
| 35 | 6/10/2020 | 18:59:15 | 10.49 | 7.63 |
| 36 | 6/10/2020 | 19:00:15 | 10.49 | 7.60 |
| 37 | 6/10/2020 | 19:01:15 | 10.48 | 7.59 |
| 38 | 6/10/2020 | 19:02:15 | 10.47 | 7.55 |
| 39 | 6/10/2020 | 19:03:15 | 10.46 | 7.64 |
| 40 | 6/10/2020 | 19:04:15 | 10.47 | 7.63 |
| 41 | 6/10/2020 | 19:05:15 | 10.46 | 7.64 |
| 42 | 6/10/2020 | 19:06:15 | 10.48 | 7.62 |
| 43 | 6/10/2020 | 19:07:15 | 10.49 | 7.53 |
| 44 | 6/10/2020 | 19:08:15 | 10.49 | 7.60 |
| 45 | 6/10/2020 | 19:09:15 | 10.49 | 7.54 |
| 46 | 6/10/2020 | 19:10:15 | 10.48 | 7.58 |
| 47 | 6/10/2020 | 19:11:15 | 10.47 | 7.60 |
| 48 | 6/10/2020 | 19:12:15 | 10.48 | 7.58 |
| 49 | 6/10/2020 | 19:13:15 | 10.47 | 7.54 |
| 50 | 6/10/2020 | 19:14:15 | 10.46 | 7.61 |
| 51 | 6/10/2020 | 19:15:15 | 10.47 | 7.52 |
| 52 | 6/10/2020 | 19:16:15 | 10.47 | 7.57 |
| 53 | 6/10/2020 | 19:17:15 | 10.47 | 7.65 |
| 54 | 6/10/2020 | 19:18:15 | 10.46 | 7.63 |
| 55 | 6/10/2020 | 19:19:15 | 10.45 | 7.64 |
| 56 | 6/10/2020 | 19:20:15 | 10.46 | 7.61 |
| 57 | 6/10/2020 | 19:21:15 | 10.48 | 7.61 |
| 58 | 6/10/2020 | 19:22:15 | 10.46 | 7.66 |
| 59 | 6/10/2020 | 19:23:15 | 10.46 | 7.63 |
| 60 | 6/10/2020 | 19:24:15 | 10.47 | 7.56 |
| Run 3 Raw Average | | | 10.47 | 7.62 |

4.3.2 EU Generator 2

| | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|----------|----------|--------|----------|
| Run 1 | Date | Time | O2 [%] | CO [ppm] |
| 1 | 6/9/2020 | 13:45:09 | 9.62 | 10.06 |
| 2 | 6/9/2020 | 13:46:09 | 9.64 | 10.11 |
| 3 | 6/9/2020 | 13:47:09 | 9.64 | 10.15 |
| 4 | 6/9/2020 | 13:48:09 | 9.64 | 10.21 |
| 5 | 6/9/2020 | 13:49:09 | 9.67 | 10.16 |
| 6 | 6/9/2020 | 13:50:09 | 9.65 | 10.28 |
| 7 | 6/9/2020 | 13:51:09 | 9.66 | 10.38 |
| 8 | 6/9/2020 | 13:52:09 | 9.67 | 10.24 |
| 9 | 6/9/2020 | 13:53:09 | 9.65 | 10.23 |
| 10 | 6/9/2020 | 13:54:09 | 9.66 | 10.31 |
| 11 | 6/9/2020 | 13:55:09 | 9.66 | 10.19 |
| 12 | 6/9/2020 | 13:56:09 | 9.65 | 10.16 |
| 13 | 6/9/2020 | 13:57:09 | 9.65 | 10.23 |
| 14 | 6/9/2020 | 13:58:09 | 9.62 | 10.24 |
| 15 | 6/9/2020 | 13:59:09 | 9.62 | 10.23 |
| 16 | 6/9/2020 | 14:00:09 | 9.62 | 10.14 |
| 17 | 6/9/2020 | 14:01:09 | 9.63 | 10.15 |
| 18 | 6/9/2020 | 14:02:09 | 9.63 | 10.09 |
| 19 | 6/9/2020 | 14:03:09 | 9.60 | 10.25 |
| 20 | 6/9/2020 | 14:04:09 | 9.59 | 10.25 |
| 21 | 6/9/2020 | 14:05:09 | 9.60 | 10.26 |
| 22 | 6/9/2020 | 14:08:21 | 9.63 | 10.06 |
| 23 | 6/9/2020 | 14:25:21 | 9.61 | 10.03 |
| 24 | 6/9/2020 | 14:40:23 | 9.55 | 10.11 |
| 25 | 6/9/2020 | 14:41:23 | 9.55 | 10.07 |
| 26 | 6/9/2020 | 14:42:23 | 9.55 | 10.08 |
| 27 | 6/9/2020 | 14:43:23 | 9.54 | 10.05 |
| 28 | 6/9/2020 | 14:44:23 | 9.55 | 9.96 |
| 29 | 6/9/2020 | 14:45:23 | 9.56 | 10.03 |
| 30 | 6/9/2020 | 14:46:23 | 9.57 | 10.00 |
| 31 | 6/9/2020 | 14:47:23 | 9.58 | 9.92 |
| 32 | 6/9/2020 | 14:48:23 | 9.57 | 9.95 |
| 33 | 6/9/2020 | 14:49:23 | 9.56 | 9.96 |
| 34 | 6/9/2020 | 14:50:23 | 9.55 | 10.03 |
| 35 | 6/9/2020 | 14:51:23 | 9.56 | 10.02 |
| 36 | 6/9/2020 | 14:52:23 | 9.55 | 10.01 |
| 37 | 6/9/2020 | 14:53:23 | 9.55 | 10.04 |
| 38 | 6/9/2020 | 14:54:23 | 9.54 | 9.98 |
| 39 | 6/9/2020 | 14:55:23 | 9.55 | 9.96 |
| 40 | 6/9/2020 | 14:56:23 | 9.54 | 10.00 |
| 41 | 6/9/2020 | 14:57:23 | 9.56 | 9.97 |
| 42 | 6/9/2020 | 14:58:23 | 9.55 | 9.98 |
| 43 | 6/9/2020 | 14:59:23 | 9.54 | 9.99 |
| 44 | 6/9/2020 | 15:00:23 | 9.53 | 10.09 |
| 45 | 6/9/2020 | 15:01:23 | 9.55 | 10.01 |
| 46 | 6/9/2020 | 15:02:23 | 9.54 | 9.99 |
| 47 | 6/9/2020 | 15:03:23 | 9.52 | 10.18 |
| 48 | 6/9/2020 | 15:04:23 | 9.53 | 10.08 |
| 49 | 6/9/2020 | 15:05:23 | 9.52 | 10.08 |
| 50 | 6/9/2020 | 15:06:23 | 9.53 | 10.07 |
| 51 | 6/9/2020 | 15:07:23 | 9.56 | 9.89 |
| 52 | 6/9/2020 | 15:08:23 | 9.56 | 9.94 |
| 53 | 6/9/2020 | 15:09:23 | 9.52 | 9.98 |
| 54 | 6/9/2020 | 15:10:23 | 9.48 | 10.22 |
| 55 | 6/9/2020 | 15:11:23 | 9.48 | 10.30 |
| 56 | 6/9/2020 | 15:12:23 | 9.49 | 10.32 |
| 57 | 6/9/2020 | 15:13:23 | 9.56 | 10.00 |
| 58 | 6/9/2020 | 15:14:23 | 9.56 | 9.92 |
| 59 | 6/9/2020 | 15:15:23 | 9.56 | 9.98 |
| 60 | 6/9/2020 | 15:16:23 | 9.57 | 9.85 |
| Run 1 Raw Average | | | 9.58 | 10.09 |

| Run 2 | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|----------|----------|--------|----------|
| 1 | 6/9/2020 | 15:31:24 | 9.59 | 9.50 |
| 2 | 6/9/2020 | 15:32:24 | 9.60 | 9.49 |
| 3 | 6/9/2020 | 15:33:24 | 9.60 | 9.54 |
| 4 | 6/9/2020 | 15:34:24 | 9.60 | 9.66 |
| 5 | 6/9/2020 | 15:35:24 | 9.61 | 9.66 |
| 6 | 6/9/2020 | 15:36:24 | 9.58 | 9.91 |
| 7 | 6/9/2020 | 15:37:24 | 9.57 | 9.93 |
| 8 | 6/9/2020 | 15:38:24 | 9.57 | 9.89 |
| 9 | 6/9/2020 | 15:39:24 | 9.54 | 9.99 |
| 10 | 6/9/2020 | 15:40:24 | 9.54 | 10.14 |
| 11 | 6/9/2020 | 15:41:24 | 9.54 | 10.12 |
| 12 | 6/9/2020 | 15:42:24 | 9.55 | 10.12 |
| 13 | 6/9/2020 | 15:43:24 | 9.56 | 10.08 |
| 14 | 6/9/2020 | 15:44:24 | 9.58 | 9.93 |
| 15 | 6/9/2020 | 15:45:24 | 9.56 | 10.04 |
| 16 | 6/9/2020 | 15:46:24 | 9.52 | 10.19 |
| 17 | 6/9/2020 | 15:47:24 | 9.53 | 10.19 |
| 18 | 6/9/2020 | 15:48:24 | 9.55 | 10.12 |
| 19 | 6/9/2020 | 15:49:24 | 9.56 | 10.05 |
| 20 | 6/9/2020 | 15:50:24 | 9.54 | 10.14 |
| 21 | 6/9/2020 | 15:51:24 | 9.56 | 10.02 |
| 22 | 6/9/2020 | 15:52:24 | 9.55 | 10.11 |
| 23 | 6/9/2020 | 15:53:24 | 9.57 | 10.01 |
| 24 | 6/9/2020 | 15:54:24 | 9.56 | 10.02 |
| 25 | 6/9/2020 | 15:55:24 | 9.56 | 10.06 |
| 26 | 6/9/2020 | 15:56:24 | 9.55 | 10.02 |
| 27 | 6/9/2020 | 15:57:24 | 9.56 | 10.05 |
| 28 | 6/9/2020 | 15:58:24 | 9.56 | 10.05 |
| 29 | 6/9/2020 | 15:59:24 | 9.57 | 9.91 |
| 30 | 6/9/2020 | 16:00:24 | 9.56 | 9.99 |
| 31 | 6/9/2020 | 16:01:24 | 9.57 | 9.91 |
| 32 | 6/9/2020 | 16:02:24 | 9.55 | 10.01 |
| 33 | 6/9/2020 | 16:03:24 | 9.55 | 10.01 |
| 34 | 6/9/2020 | 16:04:24 | 9.52 | 10.10 |
| 35 | 6/9/2020 | 16:05:24 | 9.52 | 10.16 |
| 36 | 6/9/2020 | 16:06:24 | 9.53 | 10.07 |
| 37 | 6/9/2020 | 16:07:24 | 9.54 | 9.97 |
| 38 | 6/9/2020 | 16:08:24 | 9.53 | 10.01 |
| 39 | 6/9/2020 | 16:09:24 | 9.52 | 10.15 |
| 40 | 6/9/2020 | 16:10:24 | 9.52 | 10.10 |
| 41 | 6/9/2020 | 16:11:24 | 9.52 | 10.13 |
| 42 | 6/9/2020 | 16:12:24 | 9.53 | 10.22 |
| 43 | 6/9/2020 | 16:13:24 | 9.53 | 10.11 |
| 44 | 6/9/2020 | 16:14:24 | 9.52 | 10.18 |
| 45 | 6/9/2020 | 16:15:24 | 9.53 | 10.21 |
| 46 | 6/9/2020 | 16:16:24 | 9.53 | 10.29 |
| 47 | 6/9/2020 | 16:17:24 | 9.53 | 10.12 |
| 48 | 6/9/2020 | 16:18:24 | 9.51 | 10.20 |
| 49 | 6/9/2020 | 16:19:24 | 9.50 | 10.22 |
| 50 | 6/9/2020 | 16:20:24 | 9.51 | 10.36 |
| 51 | 6/9/2020 | 16:21:24 | 9.49 | 10.31 |
| 52 | 6/9/2020 | 16:22:24 | 9.48 | 10.37 |
| 53 | 6/9/2020 | 16:23:24 | 9.49 | 10.21 |
| 54 | 6/9/2020 | 16:24:24 | 9.52 | 10.19 |
| 55 | 6/9/2020 | 16:25:24 | 9.52 | 10.23 |
| 56 | 6/9/2020 | 16:26:24 | 9.51 | 10.17 |
| 57 | 6/9/2020 | 16:27:24 | 9.52 | 10.15 |
| 58 | 6/9/2020 | 16:28:24 | 9.51 | 10.24 |
| 59 | 6/9/2020 | 16:29:24 | 9.49 | 10.22 |
| 60 | 6/9/2020 | 16:30:24 | 9.49 | 10.31 |
| Run 2 Raw Average | | | 9.54 | 10.07 |

| Run 3 | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|----------|----------|--------|----------|
| 1 | 6/9/2020 | 16:45:24 | 9.48 | 9.91 |
| 2 | 6/9/2020 | 16:46:24 | 9.48 | 10.02 |
| 3 | 6/9/2020 | 16:47:24 | 9.47 | 10.13 |
| 4 | 6/9/2020 | 16:48:24 | 9.47 | 10.21 |
| 5 | 6/9/2020 | 16:49:24 | 9.48 | 10.29 |
| 6 | 6/9/2020 | 16:50:24 | 9.49 | 10.21 |
| 7 | 6/9/2020 | 16:51:24 | 9.47 | 10.28 |
| 8 | 6/9/2020 | 16:52:24 | 9.46 | 10.39 |
| 9 | 6/9/2020 | 16:53:24 | 9.46 | 10.36 |
| 10 | 6/9/2020 | 16:54:24 | 9.46 | 10.44 |
| 11 | 6/9/2020 | 16:55:24 | 9.47 | 10.35 |
| 12 | 6/9/2020 | 16:56:24 | 9.49 | 10.24 |
| 13 | 6/9/2020 | 16:57:24 | 9.50 | 10.25 |
| 14 | 6/9/2020 | 16:58:24 | 9.48 | 10.38 |
| 15 | 6/9/2020 | 16:59:24 | 9.47 | 10.34 |
| 16 | 6/9/2020 | 17:00:24 | 9.47 | 10.35 |
| 17 | 6/9/2020 | 17:01:24 | 9.48 | 10.43 |
| 18 | 6/9/2020 | 17:02:24 | 9.51 | 10.17 |
| 19 | 6/9/2020 | 17:03:24 | 9.53 | 9.94 |
| 20 | 6/9/2020 | 17:04:24 | 9.53 | 10.00 |
| 21 | 6/9/2020 | 17:05:24 | 9.52 | 10.09 |
| 22 | 6/9/2020 | 17:06:24 | 9.52 | 10.15 |
| 23 | 6/9/2020 | 17:07:24 | 9.52 | 10.12 |
| 24 | 6/9/2020 | 17:08:24 | 9.49 | 10.22 |
| 25 | 6/9/2020 | 17:09:24 | 9.48 | 10.31 |
| 26 | 6/9/2020 | 17:10:24 | 9.47 | 10.37 |
| 27 | 6/9/2020 | 17:11:24 | 9.46 | 10.49 |
| 28 | 6/9/2020 | 17:12:24 | 9.47 | 10.41 |
| 29 | 6/9/2020 | 17:13:24 | 9.45 | 10.45 |
| 30 | 6/9/2020 | 17:14:24 | 9.44 | 10.49 |
| 31 | 6/9/2020 | 17:15:24 | 9.45 | 10.46 |
| 32 | 6/9/2020 | 17:16:24 | 9.47 | 10.33 |
| 33 | 6/9/2020 | 17:17:24 | 9.48 | 10.40 |
| 34 | 6/9/2020 | 17:18:24 | 9.47 | 10.29 |
| 35 | 6/9/2020 | 17:19:24 | 9.47 | 10.39 |
| 36 | 6/9/2020 | 17:20:24 | 9.48 | 10.36 |
| 37 | 6/9/2020 | 17:21:24 | 9.48 | 10.34 |
| 38 | 6/9/2020 | 17:22:24 | 9.49 | 10.30 |
| 39 | 6/9/2020 | 17:23:24 | 9.48 | 10.33 |
| 40 | 6/9/2020 | 17:24:24 | 9.47 | 10.50 |
| 41 | 6/9/2020 | 17:25:24 | 9.47 | 10.43 |
| 42 | 6/9/2020 | 17:26:24 | 9.46 | 10.37 |
| 43 | 6/9/2020 | 17:27:24 | 9.46 | 10.47 |
| 44 | 6/9/2020 | 17:28:24 | 9.47 | 10.47 |
| 45 | 6/9/2020 | 17:29:24 | 9.47 | 10.48 |
| 46 | 6/9/2020 | 17:30:24 | 9.47 | 10.59 |
| 47 | 6/9/2020 | 17:31:24 | 9.48 | 10.47 |
| 48 | 6/9/2020 | 17:32:24 | 9.54 | 10.20 |
| 49 | 6/9/2020 | 17:33:24 | 9.54 | 10.18 |
| 50 | 6/9/2020 | 17:34:24 | 9.55 | 10.12 |
| 51 | 6/9/2020 | 17:35:24 | 9.56 | 10.14 |
| 52 | 6/9/2020 | 17:36:24 | 9.57 | 10.08 |
| 53 | 6/9/2020 | 17:37:24 | 9.56 | 10.07 |
| 54 | 6/9/2020 | 17:38:24 | 9.53 | 10.27 |
| 55 | 6/9/2020 | 17:39:24 | 9.52 | 10.23 |
| 56 | 6/9/2020 | 17:40:24 | 9.51 | 10.35 |
| 57 | 6/9/2020 | 17:41:24 | 9.53 | 10.28 |
| 58 | 6/9/2020 | 17:42:24 | 9.51 | 10.26 |
| 59 | 6/9/2020 | 17:43:24 | 9.50 | 10.39 |
| 60 | 6/9/2020 | 17:44:24 | 9.50 | 10.28 |
| Run 3 Raw Average | | | 9.49 | 10.29 |

4.3.3 EU Generator 3

| | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|-----------|----------|--------|----------|
| Run 1 | Date | Time | O2 [%] | CO [ppm] |
| 1 | 6/10/2020 | 07:45:17 | 10.07 | 9.71 |
| 2 | 6/10/2020 | 07:46:17 | 10.07 | 9.93 |
| 3 | 6/10/2020 | 07:47:17 | 10.07 | 9.95 |
| 4 | 6/10/2020 | 07:48:17 | 10.09 | 10.04 |
| 5 | 6/10/2020 | 07:49:17 | 10.09 | 10.07 |
| 6 | 6/10/2020 | 07:50:17 | 10.10 | 9.95 |
| 7 | 6/10/2020 | 07:51:17 | 10.10 | 10.07 |
| 8 | 6/10/2020 | 07:52:17 | 10.07 | 10.15 |
| 9 | 6/10/2020 | 07:53:17 | 10.09 | 10.23 |
| 10 | 6/10/2020 | 07:54:15 | 10.10 | 10.18 |
| 11 | 6/10/2020 | 07:55:15 | 10.10 | 10.16 |
| 12 | 6/10/2020 | 07:56:15 | 10.10 | 10.19 |
| 13 | 6/10/2020 | 07:57:15 | 10.10 | 10.12 |
| 14 | 6/10/2020 | 07:58:15 | 10.13 | 9.93 |
| 15 | 6/10/2020 | 07:59:15 | 10.12 | 9.89 |
| 16 | 6/10/2020 | 08:00:15 | 10.12 | 9.93 |
| 17 | 6/10/2020 | 08:01:15 | 10.10 | 10.02 |
| 18 | 6/10/2020 | 08:02:15 | 10.07 | 9.99 |
| 19 | 6/10/2020 | 08:03:15 | 10.08 | 9.96 |
| 20 | 6/10/2020 | 08:04:15 | 10.07 | 9.98 |
| 21 | 6/10/2020 | 08:05:15 | 10.07 | 9.96 |
| 22 | 6/10/2020 | 08:06:15 | 10.07 | 9.88 |
| 23 | 6/10/2020 | 08:07:15 | 10.10 | 9.83 |
| 24 | 6/10/2020 | 08:08:15 | 10.11 | 9.83 |
| 25 | 6/10/2020 | 08:09:15 | 10.10 | 9.75 |
| 26 | 6/10/2020 | 08:10:15 | 10.08 | 9.89 |
| 27 | 6/10/2020 | 08:11:15 | 10.06 | 9.98 |
| 28 | 6/10/2020 | 08:12:15 | 10.07 | 9.96 |
| 29 | 6/10/2020 | 08:13:15 | 10.09 | 9.81 |
| 30 | 6/10/2020 | 08:14:15 | 10.08 | 9.79 |
| 31 | 6/10/2020 | 08:15:15 | 10.08 | 9.80 |
| 32 | 6/10/2020 | 08:16:15 | 10.05 | 9.91 |
| 33 | 6/10/2020 | 08:17:15 | 10.05 | 9.91 |
| 34 | 6/10/2020 | 08:18:15 | 10.03 | 9.99 |
| 35 | 6/10/2020 | 08:19:15 | 10.02 | 9.94 |
| 36 | 6/10/2020 | 08:20:15 | 10.01 | 9.88 |
| 37 | 6/10/2020 | 08:21:15 | 10.03 | 9.91 |
| 38 | 6/10/2020 | 08:22:15 | 10.06 | 9.79 |
| 39 | 6/10/2020 | 08:23:15 | 10.05 | 9.74 |
| 40 | 6/10/2020 | 08:24:15 | 10.02 | 9.83 |
| 41 | 6/10/2020 | 08:25:15 | 10.00 | 9.94 |
| 42 | 6/10/2020 | 08:26:15 | 10.01 | 9.92 |
| 43 | 6/10/2020 | 08:27:15 | 10.03 | 9.88 |
| 44 | 6/10/2020 | 08:28:15 | 10.02 | 9.87 |
| 45 | 6/10/2020 | 08:29:15 | 10.01 | 9.89 |
| 46 | 6/10/2020 | 08:30:15 | 10.01 | 9.96 |
| 47 | 6/10/2020 | 08:31:15 | 10.00 | 10.02 |
| 48 | 6/10/2020 | 08:32:15 | 10.00 | 10.03 |
| 49 | 6/10/2020 | 08:33:15 | 10.00 | 9.88 |
| 50 | 6/10/2020 | 08:34:15 | 10.00 | 9.92 |
| 51 | 6/10/2020 | 08:35:15 | 9.99 | 10.01 |
| 52 | 6/10/2020 | 08:36:15 | 9.98 | 10.01 |
| 53 | 6/10/2020 | 08:37:15 | 9.99 | 9.96 |
| 54 | 6/10/2020 | 08:38:15 | 10.01 | 9.86 |
| 55 | 6/10/2020 | 08:39:15 | 9.97 | 9.96 |
| 56 | 6/10/2020 | 08:40:15 | 9.96 | 10.09 |
| 57 | 6/10/2020 | 08:41:15 | 9.96 | 10.00 |
| 58 | 6/10/2020 | 08:42:15 | 9.94 | 10.09 |
| 59 | 6/10/2020 | 08:43:15 | 9.95 | 10.06 |
| 60 | 6/10/2020 | 08:44:15 | 9.96 | 10.00 |
| Run 1 Raw Average | | | 10.05 | 9.95 |

| Run 2 | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|-----------|----------|--------|----------|
| 1 | 6/10/2020 | 09:05:15 | 10.04 | 9.37 |
| 2 | 6/10/2020 | 09:06:15 | 10.06 | 9.20 |
| 3 | 6/10/2020 | 09:07:15 | 10.06 | 9.27 |
| 4 | 6/10/2020 | 09:08:15 | 10.05 | 9.34 |
| 5 | 6/10/2020 | 09:09:15 | 10.04 | 9.40 |
| 6 | 6/10/2020 | 09:10:15 | 10.04 | 9.51 |
| 7 | 6/10/2020 | 09:11:15 | 10.04 | 9.45 |
| 8 | 6/10/2020 | 09:12:15 | 10.02 | 9.46 |
| 9 | 6/10/2020 | 09:13:15 | 10.02 | 9.49 |
| 10 | 6/10/2020 | 09:14:15 | 10.02 | 9.49 |
| 11 | 6/10/2020 | 09:15:15 | 10.03 | 9.48 |
| 12 | 6/10/2020 | 09:16:15 | 10.01 | 9.54 |
| 13 | 6/10/2020 | 09:17:15 | 10.00 | 9.60 |
| 14 | 6/10/2020 | 09:18:15 | 10.02 | 9.53 |
| 15 | 6/10/2020 | 09:19:15 | 10.04 | 9.44 |
| 16 | 6/10/2020 | 09:20:15 | 10.04 | 9.51 |
| 17 | 6/10/2020 | 09:21:15 | 10.04 | 9.49 |
| 18 | 6/10/2020 | 09:22:15 | 10.02 | 9.61 |
| 19 | 6/10/2020 | 09:23:15 | 10.01 | 9.62 |
| 20 | 6/10/2020 | 09:24:15 | 10.00 | 9.67 |
| 21 | 6/10/2020 | 09:25:15 | 10.00 | 9.65 |
| 22 | 6/10/2020 | 09:26:15 | 10.00 | 9.64 |
| 23 | 6/10/2020 | 09:27:15 | 9.99 | 9.67 |
| 24 | 6/10/2020 | 09:28:15 | 10.02 | 9.62 |
| 25 | 6/10/2020 | 09:29:15 | 10.00 | 9.55 |
| 26 | 6/10/2020 | 09:30:15 | 10.01 | 9.52 |
| 27 | 6/10/2020 | 09:31:15 | 10.02 | 9.44 |
| 28 | 6/10/2020 | 09:32:15 | 10.00 | 9.61 |
| 29 | 6/10/2020 | 09:33:15 | 10.01 | 9.62 |
| 30 | 6/10/2020 | 09:34:15 | 9.99 | 9.64 |
| 31 | 6/10/2020 | 09:35:15 | 9.99 | 9.60 |
| 32 | 6/10/2020 | 09:36:15 | 10.00 | 9.63 |
| 33 | 6/10/2020 | 09:37:15 | 10.00 | 9.60 |
| 34 | 6/10/2020 | 09:38:15 | 9.99 | 9.62 |
| 35 | 6/10/2020 | 09:39:15 | 9.98 | 9.57 |
| 36 | 6/10/2020 | 09:40:15 | 9.98 | 9.50 |
| 37 | 6/10/2020 | 09:41:15 | 9.97 | 9.60 |
| 38 | 6/10/2020 | 09:42:15 | 9.99 | 9.60 |
| 39 | 6/10/2020 | 09:43:15 | 9.99 | 9.55 |
| 40 | 6/10/2020 | 09:44:15 | 9.99 | 9.67 |
| 41 | 6/10/2020 | 09:45:15 | 9.99 | 9.60 |
| 42 | 6/10/2020 | 09:46:15 | 9.99 | 9.57 |
| 43 | 6/10/2020 | 09:47:15 | 9.99 | 9.56 |
| 44 | 6/10/2020 | 09:48:15 | 10.00 | 9.53 |
| 45 | 6/10/2020 | 09:49:15 | 10.00 | 9.60 |
| 46 | 6/10/2020 | 09:50:15 | 10.00 | 9.61 |
| 47 | 6/10/2020 | 09:51:15 | 10.01 | 9.68 |
| 48 | 6/10/2020 | 09:52:15 | 10.01 | 9.64 |
| 49 | 6/10/2020 | 09:53:15 | 10.00 | 9.63 |
| 50 | 6/10/2020 | 09:54:15 | 9.98 | 9.61 |
| 51 | 6/10/2020 | 09:55:15 | 9.97 | 9.62 |
| 52 | 6/10/2020 | 09:56:15 | 9.98 | 9.66 |
| 53 | 6/10/2020 | 09:57:15 | 9.99 | 9.50 |
| 54 | 6/10/2020 | 09:58:15 | 10.01 | 9.50 |
| 55 | 6/10/2020 | 09:59:15 | 10.01 | 9.46 |
| 56 | 6/10/2020 | 10:00:15 | 10.00 | 9.50 |
| 57 | 6/10/2020 | 10:01:15 | 9.99 | 9.55 |
| 58 | 6/10/2020 | 10:02:15 | 9.99 | 9.63 |
| 59 | 6/10/2020 | 10:03:15 | 9.99 | 9.61 |
| 60 | 6/10/2020 | 10:04:15 | 9.97 | 9.70 |
| Run 2 Raw Average | | | 10.01 | 9.55 |

| Run 3 | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|-----------|----------|--------|----------|
| 1 | 6/10/2020 | 10:20:15 | 9.97 | 9.48 |
| 2 | 6/10/2020 | 10:21:15 | 9.96 | 9.73 |
| 3 | 6/10/2020 | 10:22:15 | 9.97 | 9.81 |
| 4 | 6/10/2020 | 10:23:15 | 9.97 | 9.83 |
| 5 | 6/10/2020 | 10:24:15 | 9.97 | 9.86 |
| 6 | 6/10/2020 | 10:25:15 | 9.96 | 9.84 |
| 7 | 6/10/2020 | 10:26:15 | 9.91 | 9.98 |
| 8 | 6/10/2020 | 10:27:15 | 9.86 | 10.19 |
| 9 | 6/10/2020 | 10:28:15 | 9.83 | 10.30 |
| 10 | 6/10/2020 | 10:29:15 | 9.85 | 10.24 |
| 11 | 6/10/2020 | 10:30:15 | 9.87 | 10.15 |
| 12 | 6/10/2020 | 10:31:15 | 9.87 | 10.10 |
| 13 | 6/10/2020 | 10:32:15 | 9.86 | 10.17 |
| 14 | 6/10/2020 | 10:33:15 | 9.87 | 10.26 |
| 15 | 6/10/2020 | 10:34:15 | 9.91 | 10.11 |
| 16 | 6/10/2020 | 10:35:15 | 9.92 | 9.96 |
| 17 | 6/10/2020 | 10:36:15 | 9.91 | 10.08 |
| 18 | 6/10/2020 | 10:37:15 | 9.92 | 10.03 |
| 19 | 6/10/2020 | 10:38:15 | 9.93 | 9.90 |
| 20 | 6/10/2020 | 10:39:15 | 9.94 | 9.88 |
| 21 | 6/10/2020 | 10:40:15 | 9.94 | 9.80 |
| 22 | 6/10/2020 | 10:41:15 | 9.93 | 9.87 |
| 23 | 6/10/2020 | 10:42:15 | 9.94 | 9.78 |
| 24 | 6/10/2020 | 10:43:15 | 9.94 | 9.68 |
| 25 | 6/10/2020 | 10:44:15 | 9.95 | 9.74 |
| 26 | 6/10/2020 | 10:45:15 | 9.96 | 9.69 |
| 27 | 6/10/2020 | 10:46:15 | 9.96 | 9.80 |
| 28 | 6/10/2020 | 10:47:15 | 9.94 | 9.65 |
| 29 | 6/10/2020 | 10:48:15 | 9.94 | 9.76 |
| 30 | 6/10/2020 | 10:49:15 | 9.92 | 9.80 |
| 31 | 6/10/2020 | 10:50:15 | 9.91 | 9.95 |
| 32 | 6/10/2020 | 10:51:15 | 9.91 | 9.98 |
| 33 | 6/10/2020 | 10:52:15 | 9.91 | 9.91 |
| 34 | 6/10/2020 | 10:53:15 | 9.90 | 9.89 |
| 35 | 6/10/2020 | 10:54:15 | 9.92 | 9.88 |
| 36 | 6/10/2020 | 10:55:15 | 9.93 | 9.74 |
| 37 | 6/10/2020 | 10:56:15 | 9.92 | 9.76 |
| 38 | 6/10/2020 | 10:57:15 | 9.92 | 9.83 |
| 39 | 6/10/2020 | 10:58:15 | 9.91 | 9.83 |
| 40 | 6/10/2020 | 10:59:15 | 9.91 | 9.93 |
| 41 | 6/10/2020 | 11:00:15 | 9.91 | 9.86 |
| 42 | 6/10/2020 | 11:01:15 | 9.91 | 9.84 |
| 43 | 6/10/2020 | 11:02:15 | 9.91 | 9.73 |
| 44 | 6/10/2020 | 11:03:15 | 9.92 | 9.67 |
| 45 | 6/10/2020 | 11:04:15 | 9.94 | 9.64 |
| 46 | 6/10/2020 | 11:05:15 | 9.94 | 9.63 |
| 47 | 6/10/2020 | 11:06:15 | 9.95 | 9.64 |
| 48 | 6/10/2020 | 11:07:15 | 9.95 | 9.55 |
| 49 | 6/10/2020 | 11:08:15 | 9.94 | 9.71 |
| 50 | 6/10/2020 | 11:09:15 | 9.94 | 9.61 |
| 51 | 6/10/2020 | 11:10:15 | 9.94 | 9.67 |
| 52 | 6/10/2020 | 11:11:15 | 9.93 | 9.66 |
| 53 | 6/10/2020 | 11:12:15 | 9.92 | 9.67 |
| 54 | 6/10/2020 | 11:13:15 | 9.91 | 9.83 |
| 55 | 6/10/2020 | 11:14:15 | 9.90 | 9.86 |
| 56 | 6/10/2020 | 11:15:15 | 9.89 | 9.92 |
| 57 | 6/10/2020 | 11:16:15 | 9.90 | 9.89 |
| 58 | 6/10/2020 | 11:17:15 | 9.92 | 9.81 |
| 59 | 6/10/2020 | 11:18:15 | 9.93 | 9.79 |
| 60 | 6/10/2020 | 11:19:15 | 9.94 | 9.70 |
| Run 3 Raw Average | | | 9.92 | 9.85 |

4.3.4 EU Generator 4

| | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|-----------|----------|--------|----------|
| Run 1 | Date | Time | O2 [%] | CO [ppm] |
| 1 | 6/10/2020 | 12:40:15 | 10.09 | 13.85 |
| 2 | 6/10/2020 | 12:41:15 | 10.10 | 13.61 |
| 3 | 6/10/2020 | 12:42:15 | 10.11 | 13.45 |
| 4 | 6/10/2020 | 12:43:15 | 10.13 | 55.42 |
| 5 | 6/10/2020 | 12:44:15 | 10.11 | 30.37 |
| 6 | 6/10/2020 | 12:45:15 | 10.09 | 13.70 |
| 7 | 6/10/2020 | 12:46:15 | 10.08 | 13.88 |
| 8 | 6/10/2020 | 12:47:15 | 10.10 | 13.83 |
| 9 | 6/10/2020 | 12:48:15 | 10.12 | 13.68 |
| 10 | 6/10/2020 | 12:49:15 | 10.13 | 13.59 |
| 11 | 6/10/2020 | 12:50:15 | 10.12 | 13.55 |
| 12 | 6/10/2020 | 12:51:15 | 10.11 | 13.67 |
| 13 | 6/10/2020 | 12:52:15 | 10.09 | 13.58 |
| 14 | 6/10/2020 | 12:53:15 | 10.07 | 13.86 |
| 15 | 6/10/2020 | 12:54:15 | 10.07 | 13.97 |
| 16 | 6/10/2020 | 12:55:15 | 10.09 | 13.82 |
| 17 | 6/10/2020 | 12:56:15 | 10.10 | 13.61 |
| 18 | 6/10/2020 | 12:57:15 | 10.12 | 13.63 |
| 19 | 6/10/2020 | 12:58:15 | 10.13 | 13.56 |
| 20 | 6/10/2020 | 12:59:15 | 10.13 | 13.50 |
| 21 | 6/10/2020 | 13:00:15 | 10.13 | 13.39 |
| 22 | 6/10/2020 | 13:01:15 | 10.13 | 13.42 |
| 23 | 6/10/2020 | 13:02:15 | 10.12 | 13.43 |
| 24 | 6/10/2020 | 13:03:15 | 10.12 | 13.36 |
| 25 | 6/10/2020 | 13:04:15 | 10.12 | 13.24 |
| 26 | 6/10/2020 | 13:05:15 | 10.10 | 13.43 |
| 27 | 6/10/2020 | 13:06:15 | 10.10 | 13.56 |
| 28 | 6/10/2020 | 13:07:15 | 10.10 | 13.39 |
| 29 | 6/10/2020 | 13:08:15 | 10.09 | 13.40 |
| 30 | 6/10/2020 | 13:09:15 | 10.07 | 13.51 |
| 31 | 6/10/2020 | 13:10:15 | 10.07 | 13.64 |
| 32 | 6/10/2020 | 13:11:15 | 10.07 | 13.54 |
| 33 | 6/10/2020 | 13:12:15 | 10.06 | 13.63 |
| 34 | 6/10/2020 | 13:13:15 | 10.04 | 13.63 |
| 35 | 6/10/2020 | 13:14:15 | 10.07 | 13.40 |
| 36 | 6/10/2020 | 13:15:15 | 10.06 | 13.32 |
| 37 | 6/10/2020 | 13:16:15 | 10.04 | 13.36 |
| 38 | 6/10/2020 | 13:17:15 | 10.04 | 13.39 |
| 39 | 6/10/2020 | 13:18:15 | 10.05 | 13.26 |
| 40 | 6/10/2020 | 13:19:15 | 10.05 | 13.16 |
| 41 | 6/10/2020 | 13:20:15 | 10.04 | 13.27 |
| 42 | 6/10/2020 | 13:21:15 | 10.04 | 13.29 |
| 43 | 6/10/2020 | 13:22:15 | 10.05 | 13.34 |
| 44 | 6/10/2020 | 13:23:15 | 10.05 | 13.26 |
| 45 | 6/10/2020 | 13:24:15 | 10.05 | 13.27 |
| 46 | 6/10/2020 | 13:25:15 | 10.04 | 13.15 |
| 47 | 6/10/2020 | 13:26:15 | 10.06 | 12.98 |
| 48 | 6/10/2020 | 13:27:15 | 10.04 | 13.10 |
| 49 | 6/10/2020 | 13:28:15 | 10.05 | 12.99 |
| 50 | 6/10/2020 | 13:29:15 | 10.04 | 13.08 |
| 51 | 6/10/2020 | 13:30:15 | 10.06 | 12.92 |
| 52 | 6/10/2020 | 13:31:15 | 10.04 | 12.95 |
| 53 | 6/10/2020 | 13:32:15 | 10.06 | 12.83 |
| 54 | 6/10/2020 | 13:33:15 | 10.04 | 12.99 |
| 55 | 6/10/2020 | 13:34:15 | 10.07 | 13.03 |
| 56 | 6/10/2020 | 13:35:15 | 10.09 | 12.78 |
| 57 | 6/10/2020 | 13:36:15 | 10.06 | 12.68 |
| 58 | 6/10/2020 | 13:37:15 | 10.08 | 12.69 |
| 59 | 6/10/2020 | 13:38:15 | 10.07 | 12.69 |
| 60 | 6/10/2020 | 13:39:15 | 10.08 | 12.67 |
| Run 1 Raw Average | | | 10.08 | 14.34 |

| Run 2 | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|-----------|----------|--------|----------|
| 1 | 6/10/2020 | 13:55:15 | 10.06 | 12.50 |
| 2 | 6/10/2020 | 13:56:15 | 10.05 | 12.68 |
| 3 | 6/10/2020 | 13:57:15 | 10.05 | 12.64 |
| 4 | 6/10/2020 | 13:58:15 | 10.05 | 12.71 |
| 5 | 6/10/2020 | 13:59:15 | 10.05 | 12.71 |
| 6 | 6/10/2020 | 14:00:15 | 10.05 | 12.61 |
| 7 | 6/10/2020 | 14:01:15 | 10.06 | 12.57 |
| 8 | 6/10/2020 | 14:02:15 | 10.09 | 12.32 |
| 9 | 6/10/2020 | 14:03:15 | 10.10 | 12.40 |
| 10 | 6/10/2020 | 14:04:15 | 10.09 | 12.31 |
| 11 | 6/10/2020 | 14:05:15 | 10.09 | 12.22 |
| 12 | 6/10/2020 | 14:06:15 | 10.07 | 12.45 |
| 13 | 6/10/2020 | 14:07:15 | 10.05 | 12.50 |
| 14 | 6/10/2020 | 14:08:15 | 10.05 | 12.53 |
| 15 | 6/10/2020 | 14:09:15 | 10.07 | 12.64 |
| 16 | 6/10/2020 | 14:10:15 | 10.07 | 12.46 |
| 17 | 6/10/2020 | 14:11:15 | 10.05 | 12.57 |
| 18 | 6/10/2020 | 14:12:15 | 10.07 | 12.51 |
| 19 | 6/10/2020 | 14:13:15 | 10.07 | 12.57 |
| 20 | 6/10/2020 | 14:14:15 | 10.07 | 12.54 |
| 21 | 6/10/2020 | 14:15:15 | 10.06 | 12.64 |
| 22 | 6/10/2020 | 14:16:15 | 10.07 | 12.50 |
| 23 | 6/10/2020 | 14:17:15 | 10.06 | 12.48 |
| 24 | 6/10/2020 | 14:18:15 | 10.05 | 12.54 |
| 25 | 6/10/2020 | 14:19:15 | 10.05 | 12.60 |
| 26 | 6/10/2020 | 14:20:15 | 10.04 | 12.71 |
| 27 | 6/10/2020 | 14:21:15 | 10.05 | 12.69 |
| 28 | 6/10/2020 | 14:22:15 | 10.05 | 12.58 |
| 29 | 6/10/2020 | 14:23:15 | 10.06 | 12.54 |
| 30 | 6/10/2020 | 14:24:15 | 10.08 | 12.39 |
| 31 | 6/10/2020 | 14:25:15 | 10.07 | 12.37 |
| 32 | 6/10/2020 | 14:26:15 | 10.06 | 12.58 |
| 33 | 6/10/2020 | 14:27:15 | 10.08 | 12.46 |
| 34 | 6/10/2020 | 14:28:15 | 10.07 | 12.53 |
| 35 | 6/10/2020 | 14:29:15 | 10.05 | 12.42 |
| 36 | 6/10/2020 | 14:30:15 | 10.05 | 12.43 |
| 37 | 6/10/2020 | 14:31:15 | 10.05 | 12.46 |
| 38 | 6/10/2020 | 14:32:15 | 10.03 | 12.58 |
| 39 | 6/10/2020 | 14:33:15 | 10.05 | 12.53 |
| 40 | 6/10/2020 | 14:34:15 | 10.04 | 12.53 |
| 41 | 6/10/2020 | 14:35:15 | 10.03 | 12.66 |
| 42 | 6/10/2020 | 14:36:15 | 10.04 | 12.64 |
| 43 | 6/10/2020 | 14:37:15 | 10.04 | 12.62 |
| 44 | 6/10/2020 | 14:38:15 | 10.05 | 12.56 |
| 45 | 6/10/2020 | 14:39:15 | 10.06 | 12.37 |
| 46 | 6/10/2020 | 14:40:15 | 10.06 | 12.30 |
| 47 | 6/10/2020 | 14:41:15 | 10.07 | 12.29 |
| 48 | 6/10/2020 | 14:42:15 | 10.07 | 12.32 |
| 49 | 6/10/2020 | 14:43:15 | 10.06 | 12.39 |
| 50 | 6/10/2020 | 14:44:15 | 10.07 | 12.35 |
| 51 | 6/10/2020 | 14:45:15 | 10.07 | 12.23 |
| 52 | 6/10/2020 | 14:46:15 | 10.07 | 12.23 |
| 53 | 6/10/2020 | 14:47:15 | 10.08 | 12.10 |
| 54 | 6/10/2020 | 14:48:15 | 10.06 | 12.31 |
| 55 | 6/10/2020 | 14:49:15 | 10.05 | 12.27 |
| 56 | 6/10/2020 | 14:50:15 | 10.03 | 12.36 |
| 57 | 6/10/2020 | 14:51:15 | 10.02 | 12.46 |
| 58 | 6/10/2020 | 14:52:15 | 10.02 | 12.60 |
| 59 | 6/10/2020 | 14:53:15 | 10.03 | 12.34 |
| 60 | 6/10/2020 | 14:54:15 | 10.01 | 12.34 |
| Run 2 Raw Average | | | 10.06 | 12.48 |

| Run 3 | Date | Time | O2 [%] | CO [ppm] |
|--------------------------|-----------|----------|--------|----------|
| 1 | 6/10/2020 | 15:10:15 | 10.03 | 12.19 |
| 2 | 6/10/2020 | 15:11:15 | 10.06 | 12.01 |
| 3 | 6/10/2020 | 15:12:15 | 10.07 | 12.11 |
| 4 | 6/10/2020 | 15:13:15 | 10.07 | 12.13 |
| 5 | 6/10/2020 | 15:14:15 | 10.08 | 12.04 |
| 6 | 6/10/2020 | 15:15:15 | 10.08 | 12.14 |
| 7 | 6/10/2020 | 15:16:15 | 10.09 | 12.01 |
| 8 | 6/10/2020 | 15:17:15 | 10.06 | 12.01 |
| 9 | 6/10/2020 | 15:18:15 | 10.05 | 12.13 |
| 10 | 6/10/2020 | 15:19:15 | 10.04 | 12.23 |
| 11 | 6/10/2020 | 15:20:15 | 10.06 | 12.34 |
| 12 | 6/10/2020 | 15:21:15 | 10.06 | 12.27 |
| 13 | 6/10/2020 | 15:22:15 | 10.05 | 12.20 |
| 14 | 6/10/2020 | 15:23:15 | 10.06 | 12.15 |
| 15 | 6/10/2020 | 15:24:15 | 10.07 | 12.09 |
| 16 | 6/10/2020 | 15:25:15 | 10.05 | 12.06 |
| 17 | 6/10/2020 | 15:26:15 | 10.06 | 12.23 |
| 18 | 6/10/2020 | 15:27:15 | 10.07 | 12.07 |
| 19 | 6/10/2020 | 15:28:15 | 10.06 | 12.16 |
| 20 | 6/10/2020 | 15:29:15 | 10.06 | 12.29 |
| 21 | 6/10/2020 | 15:30:15 | 10.04 | 12.28 |
| 22 | 6/10/2020 | 15:31:15 | 10.05 | 12.29 |
| 23 | 6/10/2020 | 15:32:15 | 10.06 | 12.31 |
| 24 | 6/10/2020 | 15:33:15 | 10.06 | 12.13 |
| 25 | 6/10/2020 | 15:34:15 | 10.06 | 12.28 |
| 26 | 6/10/2020 | 15:35:15 | 10.06 | 12.18 |
| 27 | 6/10/2020 | 15:36:15 | 10.05 | 12.22 |
| 28 | 6/10/2020 | 15:37:15 | 10.05 | 12.21 |
| 29 | 6/10/2020 | 15:38:15 | 10.05 | 12.25 |
| 30 | 6/10/2020 | 15:39:15 | 10.05 | 12.23 |
| 31 | 6/10/2020 | 15:40:15 | 10.06 | 12.25 |
| 32 | 6/10/2020 | 15:41:15 | 10.04 | 12.32 |
| 33 | 6/10/2020 | 15:42:15 | 10.04 | 12.47 |
| 34 | 6/10/2020 | 15:43:15 | 10.05 | 12.31 |
| 35 | 6/10/2020 | 15:44:15 | 10.05 | 12.37 |
| 36 | 6/10/2020 | 15:45:15 | 10.05 | 12.27 |
| 37 | 6/10/2020 | 15:46:15 | 10.04 | 12.43 |
| 38 | 6/10/2020 | 15:47:15 | 10.04 | 12.48 |
| 39 | 6/10/2020 | 15:48:15 | 10.05 | 12.55 |
| 40 | 6/10/2020 | 15:49:15 | 10.11 | 22.76 |
| 41 | 6/10/2020 | 15:50:15 | 10.07 | 66.76 |
| 42 | 6/10/2020 | 15:51:15 | 10.09 | 14.89 |
| 43 | 6/10/2020 | 15:52:15 | 10.13 | 63.76 |
| 44 | 6/10/2020 | 15:53:15 | 10.08 | 62.09 |
| 45 | 6/10/2020 | 15:54:15 | 10.07 | 12.85 |
| 46 | 6/10/2020 | 15:55:15 | 10.06 | 12.65 |
| 47 | 6/10/2020 | 15:56:15 | 10.07 | 12.58 |
| 48 | 6/10/2020 | 15:57:15 | 10.06 | 12.61 |
| 49 | 6/10/2020 | 15:58:15 | 10.05 | 12.52 |
| 50 | 6/10/2020 | 15:59:15 | 10.03 | 12.66 |
| 51 | 6/10/2020 | 16:00:15 | 9.51 | 14.56 |
| 52 | 6/10/2020 | 16:01:15 | 10.01 | 19.22 |
| 53 | 6/10/2020 | 16:02:15 | 11.85 | 7.59 |
| 54 | 6/10/2020 | 16:03:15 | 10.86 | 4.18 |
| 55 | 6/10/2020 | 16:04:15 | 10.07 | 12.10 |
| 56 | 6/10/2020 | 16:05:15 | 10.07 | 12.10 |
| 57 | 6/10/2020 | 16:06:15 | 10.08 | 12.30 |
| 58 | 6/10/2020 | 16:07:15 | 10.10 | 12.27 |
| 59 | 6/10/2020 | 16:08:15 | 10.09 | 12.30 |
| 60 | 6/10/2020 | 16:09:15 | 10.07 | 12.38 |
| Run 3 Raw Average | | | 10.10 | 15.03 |

4.4 Reference Method Calibrations

4.4.1 EU Generator 1

| | O2 [%] | CO [ppm] |
|------------------|-----------------|------------------------|
| Calibration Span | 24.56 | 50.00 |
| Upscale | 12.28 | 25.00 |
| Cylinder ID# | CC424165 | CC247047 |
| Cylinder Value | 24.56 | 475.00 |
| Cylinder Div | 100.00% | 10.53% |
| Cylinder ID# | CC424165 | CC247047 |
| Cylinder Value | 24.56 | 475.00 |
| Cylinder Div | 50.00% | 5.26% |
| Manufacturer | Brand Gaus | Thermo |
| Analyzer | 4705 | 48i |
| Principle | Zirconium Oxide | Gas Filter Correlation |

| Run 1 | O2 [%] | CO [ppm] |
|--------------------|--------|----------|
| Calibration Zero | 0.00 | -0.02 |
| Allowable Error 2% | 0.00% | 0.04% |
| Calibration High | 24.24 | 50.78 |
| Allowable Error 2% | 1.30% | 1.56% |
| Calibration Mid | 12.34 | 24.71 |
| Allowable Error 2% | 0.24% | 0.58% |

| Run 1 | O2 [%] | CO [ppm] |
|----------------------------|--------|----------|
| Initial Zero | 0.03 | 0.01 |
| Upscale Allowable Error 5% | 0.12% | 0.06% |
| Initial Upscale | 12.36 | 24.52 |
| Upscale Allowable Error 5% | 0.08% | 0.38% |
| Final Zero | 0.03 | -0.09 |
| Drift Allowable Error 3% | 0.00% | 0.20% |
| Upscale Allowable Error 5% | 0.12% | 0.14% |
| Final Upscale | 12.22 | 24.31 |
| Drift Allowable Error 3% | 0.57% | 0.42% |
| Upscale Allowable Error 5% | 0.49% | 0.80% |
| Run 1 Raw Average | 10.15 | 7.81 |
| Run 1 Corrected Average | 10.14 | 8.03 |

| Run 2 | O2 [%] | CO [ppm] |
|--------------------|--------|----------|
| Calibration Zero | -0.01 | -0.01 |
| Allowable Error 2% | 0.04% | 0.02% |
| Calibration High | 24.24 | 50.40 |
| Allowable Error 2% | 1.30% | 0.80% |
| Calibration Mid | 12.37 | 24.59 |
| Allowable Error 2% | 0.37% | 0.82% |

| Run 2 | O2 [%] | CO [ppm] |
|----------------------------|--------|----------|
| Initial Zero | -0.02 | 0.08 |
| Upscale Allowable Error 5% | 0.04% | 0.18% |
| Initial Upscale | 12.27 | 24.67 |
| Upscale Allowable Error 5% | 0.41% | 0.16% |
| Final Zero | -0.02 | 0.10 |
| Drift Allowable Error 3% | 0.00% | 0.04% |
| Upscale Allowable Error 5% | 0.04% | 0.02% |
| Final Upscale | 12.27 | 24.54 |
| Drift Allowable Error 3% | 0.00% | 0.26% |
| Upscale Allowable Error 5% | 0.41% | 0.10% |
| Run 2 Raw Average | 10.40 | 8.00 |
| Run 2 Corrected Average | 10.41 | 8.07 |

| Run 3 | O2 [%] | CO [ppm] |
|----------------------------|--------|----------|
| Initial Zero | -0.02 | 0.10 |
| Upscale Allowable Error 5% | 0.04% | 0.22% |
| Initial Upscale | 12.27 | 24.54 |
| Upscale Allowable Error 5% | 0.41% | 0.10% |
| Final Zero | -0.02 | 0.03 |
| Drift Allowable Error 3% | 0.00% | 0.14% |
| Upscale Allowable Error 5% | 0.04% | 0.08% |
| Final Upscale | 12.26 | 24.52 |
| Drift Allowable Error 3% | 0.04% | 0.04% |
| Upscale Allowable Error 5% | 0.45% | 0.14% |
| Run 3 Raw Average | 10.47 | 7.62 |
| Run 3 Corrected Average | 10.48 | 7.72 |

| | | Date | Time | O2 [%] | CO [ppm] | | |
|----------------------|------------------|-------------------|----------|----------|----------|-------|-------|
| DIRECT Linearity | Zero | 6/9/2020 | 08:02:09 | 0.00 | 0.20 | | |
| | | 6/9/2020 | 08:03:09 | 0.00 | 0.01 | | |
| | | 6/9/2020 | 08:04:09 | 0.00 | -0.02 | | |
| | | 6/9/2020 | 08:05:09 | 0.00 | -0.02 | | |
| | | 6/9/2020 | 08:06:09 | 0.00 | -0.01 | | |
| | | 6/9/2020 | 08:07:09 | 0.63 | 0.00 | | |
| | O ₂ | High Cal 24.56 | 6/9/2020 | 08:10:09 | 18.35 | -0.20 | |
| | | | 6/9/2020 | 08:11:09 | 24.23 | 0.16 | |
| | | | 6/9/2020 | 08:12:09 | 24.24 | 0.16 | |
| | | | 6/9/2020 | 08:13:09 | 24.24 | 0.24 | |
| | | | 6/9/2020 | 08:14:09 | 24.24 | 0.23 | |
| | | | 6/9/2020 | 08:15:09 | 13.56 | 0.19 | |
| | O ₂ | Mid Cal 12.28 | 6/9/2020 | 08:36:09 | 13.57 | -0.02 | |
| | | | 6/9/2020 | 08:37:09 | 16.91 | -0.03 | |
| | | | 6/9/2020 | 08:38:09 | 12.34 | 0.08 | |
| | | | 6/9/2020 | 08:39:09 | 12.35 | 0.11 | |
| | | | 6/9/2020 | 08:40:09 | 12.64 | 0.09 | |
| | | | 6/9/2020 | 08:41:09 | 4.39 | 0.04 | |
| | CO | High Cal 50.00 | 6/9/2020 | 08:48:09 | 0.01 | 41.87 | |
| | | | 6/9/2020 | 08:49:09 | 0.00 | 52.84 | |
| 6/9/2020 | | | 08:50:09 | 0.00 | 50.78 | | |
| 6/9/2020 | | | 08:51:09 | 0.00 | 50.77 | | |
| 6/9/2020 | | | 08:52:09 | 4.41 | 43.06 | | |
| 6/9/2020 | | | 08:53:09 | 0.02 | 23.41 | | |
| CO | Mid Cal 25.00 | 6/9/2020 | 08:54:09 | 0.00 | 24.71 | | |
| | | 6/9/2020 | 08:55:09 | 0.00 | 24.71 | | |
| | | 6/9/2020 | 08:56:09 | 0.00 | 24.72 | | |
| | | 6/9/2020 | 08:57:09 | 7.82 | 20.00 | | |
| | | | | 6/9/2020 | 08:57:09 | 7.82 | 20.00 |
| | | | | 6/9/2020 | 08:58:09 | 12.56 | 9.98 |
| SYSTEM Bias | O ₂ | 6/9/2020 | 08:59:09 | 12.36 | 0.37 | | |
| | | 6/9/2020 | 09:00:09 | 12.37 | -0.05 | | |
| CO | Zero | 6/9/2020 | 09:01:09 | 15.30 | 0.01 | | |
| | | 6/9/2020 | 09:02:09 | 0.67 | 6.99 | | |
| | | 6/9/2020 | 09:03:09 | 0.02 | 24.21 | | |
| | | 6/9/2020 | 09:19:09 | 8.42 | 11.90 | | |
| | | 6/9/2020 | 09:20:09 | 0.34 | 21.90 | | |
| | | 6/9/2020 | 09:21:09 | 0.04 | 24.52 | | |
| O ₂ CO | Zero 25.00 | 6/9/2020 | 09:22:09 | 0.03 | 24.54 | | |
| | | 6/9/2020 | 09:23:09 | 0.02 | 24.55 | | |
| | | 6/9/2020 | 09:24:09 | 2.45 | 24.14 | | |
| | | 6/9/2020 | 09:24:09 | 2.45 | 24.14 | | |

| | | | | | |
|----------------------|--------------|----------|----------|-------|-------|
| Run 1 | | 6/9/2020 | 11:12:09 | 11.74 | 7.88 |
| Drift | | 6/9/2020 | 11:13:09 | 12.21 | 0.03 |
| | | 6/9/2020 | 11:14:09 | 12.22 | -0.09 |
| O₂ | 12.28 | 6/9/2020 | 11:15:09 | 12.22 | -0.10 |
| CO | Zero | 6/9/2020 | 11:16:09 | 11.56 | -0.10 |
| | | 6/9/2020 | 11:17:09 | 1.21 | 10.11 |
| | | 6/9/2020 | 11:18:09 | 0.05 | 23.91 |
| | | 6/9/2020 | 11:19:09 | 0.03 | 24.26 |
| O₂ | Zero | 6/9/2020 | 11:20:09 | 0.02 | 24.31 |
| CO | 25.00 | 6/9/2020 | 11:21:09 | 0.50 | 24.28 |
| | | 6/9/2020 | 11:22:09 | 9.24 | 13.38 |
| | | 6/9/2020 | 11:25:09 | 10.05 | 7.57 |

| | | | | | |
|----------------------|-----------------|-----------|----------|-------|-------|
| DIRECT | | 6/10/2020 | 16:34:15 | 20.86 | 0.15 |
| Linearity | | 6/10/2020 | 16:35:15 | 11.31 | 1.03 |
| | Zero | 6/10/2020 | 16:36:15 | -0.01 | 0.16 |
| | | 6/10/2020 | 16:37:15 | -0.02 | -0.01 |
| | | 6/10/2020 | 16:38:15 | -0.03 | -0.02 |
| | | 6/10/2020 | 16:39:15 | 2.44 | -0.01 |
| | | 6/10/2020 | 16:40:15 | 0.14 | -0.01 |
| | | 6/10/2020 | 16:41:15 | 8.79 | 0.14 |
| | High Cal | 6/10/2020 | 16:42:15 | 24.14 | 6.63 |
| O₂ | 24.56 | 6/10/2020 | 16:43:15 | 24.24 | -0.02 |
| | | 6/10/2020 | 16:44:15 | 24.24 | -0.06 |
| | Mid Cal | 6/10/2020 | 16:45:15 | 16.47 | -0.03 |
| O₂ | 12.28 | 6/10/2020 | 16:46:15 | 12.39 | -0.03 |
| | | 6/10/2020 | 16:47:15 | 12.37 | -0.02 |
| | | 6/10/2020 | 16:48:15 | 6.59 | 4.92 |
| | High Cal | 6/10/2020 | 16:49:15 | -0.01 | 46.82 |
| CO | 50.00 | 6/10/2020 | 16:50:15 | -0.03 | 50.40 |
| | | 6/10/2020 | 16:51:15 | -0.03 | 50.46 |
| | | 6/10/2020 | 16:52:15 | 4.61 | 38.38 |
| | Mid Cal | 6/10/2020 | 16:53:15 | -0.02 | 23.49 |
| CO | 25.00 | 6/10/2020 | 16:54:15 | -0.03 | 24.57 |
| | | 6/10/2020 | 16:55:15 | -0.04 | 24.59 |
| | | 6/10/2020 | 16:56:15 | 6.76 | 20.55 |
| | | 6/10/2020 | 16:57:15 | 10.87 | 19.92 |

| | | | | | |
|----------------------|--------------|-----------|----------|-------|-------|
| SYSTEM | | 6/10/2020 | 16:57:15 | 10.87 | 19.92 |
| Bias | | 6/10/2020 | 16:58:15 | 12.25 | 0.27 |
| | | 6/10/2020 | 16:59:15 | 12.27 | 0.08 |
| O₂ | 12.28 | 6/10/2020 | 17:00:15 | 12.28 | 0.08 |
| CO | Zero | 6/10/2020 | 17:01:15 | 12.25 | 0.08 |
| | | 6/10/2020 | 17:02:15 | 2.50 | 6.34 |
| | | 6/10/2020 | 17:03:15 | 0.01 | 23.96 |
| O₂ | Zero | 6/10/2020 | 17:04:15 | -0.02 | 24.71 |
| CO | 25.00 | 6/10/2020 | 17:05:15 | -0.02 | 24.67 |
| | | 6/10/2020 | 17:06:15 | -0.01 | 24.69 |
| | | 6/10/2020 | 17:07:15 | 8.54 | 16.22 |

| | | | | | |
|----------------------|--------------|-----------|----------|-------|-------|
| Run 2 | | 6/10/2020 | 18:13:15 | 12.21 | 3.23 |
| Drift | | 6/10/2020 | 18:14:15 | 12.26 | 0.27 |
| | | 6/10/2020 | 18:15:15 | 12.26 | 0.14 |
| O₂ | 12.28 | 6/10/2020 | 18:16:15 | 12.27 | 0.10 |
| CO | Zero | 6/10/2020 | 18:17:15 | 8.05 | 0.49 |
| | | 6/10/2020 | 18:18:15 | 0.12 | 18.11 |
| | | 6/10/2020 | 18:19:15 | -0.01 | 24.44 |
| O₂ | Zero | 6/10/2020 | 18:20:15 | -0.02 | 24.52 |
| CO | 25.00 | 6/10/2020 | 18:21:15 | -0.02 | 24.54 |
| | | 6/10/2020 | 18:22:15 | 4.03 | 22.59 |
| | | 6/10/2020 | 18:23:15 | 10.35 | 8.71 |

| | | | | | |
|----------------------|--------------|-----------|----------|-------|-------|
| Run 3 | | 6/10/2020 | 19:30:15 | 10.42 | 8.63 |
| Drift | | 6/10/2020 | 19:31:15 | 12.16 | 4.90 |
| | | 6/10/2020 | 19:32:15 | 12.26 | 0.34 |
| O₂ | 12.28 | 6/10/2020 | 19:33:15 | 12.30 | 0.18 |
| CO | Zero | 6/10/2020 | 19:34:15 | 8.21 | 0.03 |
| | | 6/10/2020 | 19:35:15 | 1.10 | 0.03 |
| | | 6/10/2020 | 19:36:15 | 0.09 | 18.09 |
| O₂ | Zero | 6/10/2020 | 19:37:15 | -0.02 | 24.41 |
| CO | 25.00 | 6/10/2020 | 19:38:15 | -0.03 | 24.52 |
| | | 6/10/2020 | 19:39:15 | 4.23 | 24.53 |
| | | 6/10/2020 | 19:40:15 | 8.20 | 19.54 |

4.4.2 EU Generator 2

| | O2 [%] | CO [ppm] |
|------------------|-----------------|------------------------|
| Calibration Span | 24.56 | 50.00 |
| Upscale | 12.28 | 25.00 |
| Cylinder ID# | CC424165 | CC247047 |
| Cylinder Value | 24.56 | 475.00 |
| Cylinder Div | 100.00% | 10.53% |
| Cylinder ID# | CC424165 | CC247047 |
| Cylinder Value | 24.56 | 475.00 |
| Cylinder Div | 50.00% | 5.26% |
| Manufacturer | Brand Gaus | Thermo |
| Analyzer | 4705 | 48i |
| Principle | Zirconium Oxide | Gas Filter Correlation |

| Run 1 | O2 [%] | CO [ppm] |
|--------------------|--------|----------|
| Calibration Zero | 0.01 | 0.01 |
| Allowable Error 2% | 0.04% | 0.02% |
| Calibration High | 24.24 | 50.35 |
| Allowable Error 2% | 1.30% | 0.70% |
| Calibration Mid | 12.34 | 24.37 |
| Allowable Error 2% | 0.24% | 1.26% |

| Run 1 | O2 [%] | CO [ppm] |
|----------------------------|--------|----------|
| Initial Zero | 0.02 | 0.01 |
| Upscale Allowable Error 5% | 0.04% | 0.00% |
| Initial Upscale | 12.24 | 24.60 |
| Upscale Allowable Error 5% | 0.41% | 0.46% |
| Final Zero | 0.03 | 0.12 |
| Drift Allowable Error 3% | 0.04% | 0.22% |
| Upscale Allowable Error 5% | 0.08% | 0.22% |
| Final Upscale | 12.20 | 24.47 |
| Drift Allowable Error 3% | 0.16% | 0.26% |
| Upscale Allowable Error 5% | 0.57% | 0.20% |
| Run 1 Raw Average | 9.58 | 10.09 |
| Run 1 Corrected Average | 9.62 | 10.24 |

| Run 2 | O2 [%] | CO [ppm] |
|----------------------------|--------|----------|
| Initial Zero | 0.03 | 0.12 |
| Upscale Allowable Error 5% | 0.08% | 0.22% |
| Initial Upscale | 12.20 | 24.47 |
| Upscale Allowable Error 5% | 0.57% | 0.20% |
| Final Zero | 0.03 | 0.15 |
| Drift Allowable Error 3% | 0.00% | 0.06% |
| Upscale Allowable Error 5% | 0.04% | 0.02% |
| Final Upscale | 12.19 | 24.52 |
| Drift Allowable Error 3% | 0.04% | 0.10% |
| Upscale Allowable Error 5% | 0.61% | 0.30% |
| Run 2 Raw Average | 9.54 | 10.07 |
| Run 2 Corrected Average | 9.60 | 10.19 |

| Run 3 | O2 [%] | CO [ppm] |
|----------------------------|--------|----------|
| Initial Zero | 0.03 | 0.15 |
| Upscale Allowable Error 5% | 0.08% | 0.28% |
| Initial Upscale | 12.19 | 24.52 |
| Upscale Allowable Error 5% | 0.61% | 0.30% |
| Final Zero | 0.03 | 0.13 |
| Drift Allowable Error 3% | 0.00% | 0.04% |
| Upscale Allowable Error 5% | 0.08% | 0.24% |
| Final Upscale | 12.19 | 24.52 |
| Drift Allowable Error 3% | 0.00% | 0.00% |
| Upscale Allowable Error 5% | 0.61% | 0.30% |
| Run 3 Raw Average | 9.49 | 10.29 |
| Run 3 Corrected Average | 9.55 | 10.41 |

| | | Date | Time | O2 [%] | CO [ppm] | | |
|----------|-----------|----------------|-------------------|----------|----------|-------|-------|
| DIRECT | Linearity | | 6/9/2020 | 12:32:09 | 8.93 | -0.04 | |
| | | | 6/9/2020 | 12:33:09 | 0.02 | -0.10 | |
| | | Zero | 6/9/2020 | 12:34:09 | 0.01 | 0.02 | |
| | | | 6/9/2020 | 12:35:09 | 0.01 | 0.01 | |
| | | O ₂ | High Cal 24.56 | 6/9/2020 | 12:36:09 | 18.28 | 5.64 |
| | | | | 6/9/2020 | 12:37:09 | 24.24 | 1.40 |
| | | | 6/9/2020 | 12:38:09 | 24.24 | -0.04 | |
| | | | 6/9/2020 | 12:39:09 | 24.21 | -0.05 | |
| | | O ₂ | Mid Cal 12.28 | 6/9/2020 | 12:40:09 | 15.02 | -0.01 |
| | | | | 6/9/2020 | 12:41:09 | 12.35 | -0.03 |
| | | CO | High Cal 50.00 | 6/9/2020 | 12:42:09 | 12.34 | -0.02 |
| | | | | 6/9/2020 | 12:43:09 | 11.45 | 0.69 |
| | | | | 6/9/2020 | 12:44:09 | 0.10 | 37.92 |
| | | | 6/9/2020 | 12:45:09 | 0.01 | 50.35 | |
| | | | 6/9/2020 | 12:46:09 | 0.01 | 50.39 | |
| | | | 6/9/2020 | 12:47:09 | 0.02 | 50.21 | |
| | | CO | Mid Cal 25.00 | 6/9/2020 | 12:48:09 | 3.49 | 32.32 |
| | | | | 6/9/2020 | 12:49:09 | 0.01 | 23.98 |
| 6/9/2020 | 12:50:09 | | 0.01 | 24.37 | | | |
| 6/9/2020 | 12:51:09 | | 0.01 | 24.36 | | | |
| | | 6/9/2020 | 12:52:09 | 12.38 | 19.99 | | |
| | | 6/9/2020 | 12:53:09 | 20.83 | 0.76 | | |
| SYSTEM | Bias | | 6/9/2020 | 13:00:09 | 12.54 | 3.05 | |
| | | O ₂ | 6/9/2020 | 13:01:09 | 12.27 | 0.16 | |
| | | O ₂ | 12.28 | 6/9/2020 | 13:02:09 | 12.24 | 0.01 |
| | | | | 6/9/2020 | 13:03:09 | 12.24 | 0.00 |
| | | CO | Zero | 6/9/2020 | 13:04:09 | 12.49 | -0.01 |
| | | | | 6/9/2020 | 13:05:09 | 5.67 | 4.01 |
| | | O ₂ | Zero | 6/9/2020 | 13:08:09 | 0.03 | 1.11 |
| | | | | 6/9/2020 | 13:09:09 | 0.02 | 19.91 |
| | | | | 6/9/2020 | 13:10:09 | 0.02 | 24.61 |
| | | | | 6/9/2020 | 13:11:09 | 0.02 | 24.60 |
| | | | | 6/9/2020 | 13:12:09 | 0.02 | 24.61 |
| | | | | 6/9/2020 | 13:13:09 | 8.06 | 21.55 |

| | | | | | |
|----------------------|--------------|----------|----------|-------|-------|
| Run 1 | | 6/9/2020 | 15:20:23 | 11.63 | 8.72 |
| Drift | | 6/9/2020 | 15:21:23 | 12.19 | 0.38 |
| O₂ | 12.28 | 6/9/2020 | 15:22:23 | 12.20 | 0.17 |
| CO | Zero | 6/9/2020 | 15:23:23 | 12.20 | 0.12 |
| | | 6/9/2020 | 15:24:23 | 11.81 | 0.09 |
| | | 6/9/2020 | 15:25:23 | 1.42 | 8.90 |
| | | 6/9/2020 | 15:26:24 | 0.05 | 24.08 |
| | | 6/9/2020 | 15:27:23 | 0.03 | 24.48 |
| O₂ | Zero | 6/9/2020 | 15:28:23 | 0.02 | 24.47 |
| CO | 25.00 | 6/9/2020 | 15:29:24 | 0.35 | 24.48 |
| | | 6/9/2020 | 15:30:24 | 8.81 | 15.17 |
| | | 6/9/2020 | 15:31:24 | 9.59 | 9.50 |

| | | | | | |
|----------------------|--------------|----------|----------|-------|-------|
| Run 2 | | 6/9/2020 | 16:32:24 | 9.42 | 10.67 |
| Drift | | 6/9/2020 | 16:33:24 | 11.88 | 7.27 |
| O₂ | 12.28 | 6/9/2020 | 16:34:24 | 12.18 | 0.32 |
| CO | Zero | 6/9/2020 | 16:35:24 | 12.19 | 0.20 |
| | | 6/9/2020 | 16:36:24 | 12.19 | 0.16 |
| | | 6/9/2020 | 16:37:24 | 11.02 | 0.15 |
| | | 6/9/2020 | 16:38:24 | 0.76 | 11.85 |
| | | 6/9/2020 | 16:39:24 | 0.04 | 24.31 |
| O₂ | Zero | 6/9/2020 | 16:40:24 | 0.03 | 24.52 |
| CO | 25.00 | 6/9/2020 | 16:41:24 | 0.02 | 24.51 |
| | | 6/9/2020 | 16:42:24 | 0.88 | 24.40 |
| | | 6/9/2020 | 16:43:24 | 9.05 | 14.17 |

| | | | | | |
|----------------------|--------------|----------|----------|-------|-------|
| Run 3 | | 6/9/2020 | 17:49:24 | 12.15 | 1.81 |
| Drift | | 6/9/2020 | 17:50:24 | 12.18 | 0.22 |
| O₂ | 12.28 | 6/9/2020 | 17:51:24 | 12.19 | 0.15 |
| CO | Zero | 6/9/2020 | 17:52:24 | 12.19 | 0.13 |
| | | 6/9/2020 | 17:53:24 | 6.12 | 1.80 |
| | | 6/9/2020 | 17:54:24 | 0.09 | 21.06 |
| O₂ | Zero | 6/9/2020 | 17:55:24 | 0.03 | 24.52 |
| CO | 25.00 | 6/9/2020 | 17:56:24 | 0.02 | 24.56 |
| | | 6/9/2020 | 17:57:24 | 0.02 | 24.57 |

4.4.3 EU Generator 3

| | O2 [%] | CO [ppm] |
|------------------|-----------------|------------------------|
| Calibration Span | 24.56 | 50.00 |
| Upscale | 12.28 | 25.00 |
| Cylinder ID# | CC424165 | CC247047 |
| Cylinder Value | 24.56 | 475.00 |
| Cylinder Div | 100.00% | 10.53% |
| Cylinder ID# | CC424165 | CC247047 |
| Cylinder Value | 24.56 | 475.00 |
| Cylinder Div | 50.00% | 5.26% |
| Manufacturer | Brand Gaus | Thermo |
| Analyzer | 4705 | 48i |
| Principle | Zirconium Oxide | Gas Filter Correlation |

| Run 1 | O2 [%] | CO [ppm] |
|--------------------|--------|----------|
| Calibration Zero | 0.02 | 0.04 |
| Allowable Error 2% | 0.08% | 0.08% |
| Calibration High | 24.24 | 50.75 |
| Allowable Error 2% | 1.30% | 1.50% |
| Calibration Mid | 12.38 | 24.85 |
| Allowable Error 2% | 0.41% | 0.30% |

| Run 1 | O2 [%] | CO [ppm] |
|----------------------------|--------|----------|
| Initial Zero | 0.00 | 0.08 |
| Upscale Allowable Error 5% | 0.08% | 0.08% |
| Initial Upscale | 12.27 | 24.96 |
| Upscale Allowable Error 5% | 0.45% | 0.22% |
| Final Zero | 0.00 | 0.01 |
| Drift Allowable Error 3% | 0.00% | 0.14% |
| Upscale Allowable Error 5% | 0.08% | 0.06% |
| Final Upscale | 12.22 | 24.38 |
| Drift Allowable Error 3% | 0.20% | 1.16% |
| Upscale Allowable Error 5% | 0.65% | 0.94% |
| Run 1 Raw Average | 10.05 | 9.95 |
| Run 1 Corrected Average | 10.08 | 10.06 |

| Run 2 | O2 [%] | CO [ppm] |
|----------------------------|--------|----------|
| Initial Zero | 0.00 | 0.01 |
| Upscale Allowable Error 5% | 0.08% | 0.06% |
| Initial Upscale | 12.22 | 24.38 |
| Upscale Allowable Error 5% | 0.65% | 0.94% |
| Final Zero | 0.00 | -0.03 |
| Drift Allowable Error 3% | 0.00% | 0.08% |
| Upscale Allowable Error 5% | 0.08% | 0.08% |
| Final Upscale | 12.18 | 23.98 |
| Drift Allowable Error 3% | 0.16% | 0.80% |
| Upscale Allowable Error 5% | 0.81% | 1.74% |
| Run 2 Raw Average | 10.01 | 9.55 |
| Run 2 Corrected Average | 10.07 | 9.88 |