# Appendix A-2

# Summary of Results
# Engine #2

## Waste Management Disposal Services of Maine, Inc.
## Engine # 2
## Emissions Results

| | | 1 | 2 | 3 | |
|---|---|---|---|---|---|
| **Run No.** | | | | | |
| **Date:** | | 9/3/09 | 9/3/09 | 9/3/09 | |
| **Start Time** | | 11:33 | 12:45 | 13:58 | |
| **Stop Time** | | 12:40 | 13:52 | 15:06 | Average |
| Net Sampling Time, (minutes) | | 64 | 64 | 64 | 64 |
| Volume of Gas Collected, (dscf) | | 48.761 | 48.909 | 48.894 | 48.854 |
| Dry Mole Fraction | | 0.8793 | 0.8909 | 0.8841 | 0.8847 |
| $CO_2$ Concentration, (% dry) | | 9.2 | 9.8 | 9.6 | 9.5 |
| $O_2$ Concentration, (% dry) | | 9.6 | 9.0 | 9.0 | 9.2 |
| CO and $N_2$, (% dry) | | 81.2 | 81.2 | 81.4 | 81.3 |
| Stack Pressure, (inches of mercury) | | 30.1 | 30.1 | 30.1 | 30.1 |
| Average Stack Temperature, (°F) | | 809 | 792 | 792 | 798 |
| Stack Gas Velocity, (afpm) | | 8,086 | 8,118 | 8,134 | 8,113 |
| Stack Flowrate, (acfm) | | 11,290 | 11,335 | 11,357 | 11,328 |
| Stack Flowrate, (scfm) | | 4,726 | 4,810 | 4,820 | 4,785 |
| Stack Flowrate, (dscf/min) | | 4,155 | 4,285 | 4,261 | 4,234 |
| Stack Flowrate, (dscm/hr) | | 7,060 | 7,281 | 7,240 | 7,194 |
| **Engine Process Data** | | | | | |
| Engine Efficiency, % | | 80.4 | 80.4 | 80.4 | 80.4 |
| Engine Power, KW | | 1,550 | 1,550 | 1,550 | 1,550 |
| Heat Input, MMBtu/hr | | 7.481 | 7.477 | 7.489 | 7.482 |
| Brake horse power, bhp | | 1,671.2 | 1,671.2 | 1,671.2 | 1,671.2 |
| **Emissions** | **Limit** | | | | |
| Particulate Matter Catch, mg | | 1.0 | 1.3 | 1.4 | 1.2 |
| Particulate Matter Grain Loading, gr/dscf | | 0.0003 | 0.0004 | 0.0004 | 0.0004 |
| Particulate Matter Grain Loading, gr/acf | | 0.0001 | 0.0002 | 0.0002 | 0.0001 |
| Particulate Matter Emission Rate, lbs/MMBtu | **0.05** | 0.002 | 0.002 | 0.002 | 0.002 |
| Particulate Matter Emission Rate, lbs/hr | **0.85** | 0.01 | 0.02 | 0.02 | 0.01 |
| CO, ppmvd | | **523.7** | **550.2** | **545.0** | **539.6** |
| CO, lb/hr | | **9.5** | **10.3** | **10.1** | **10.0** |
| CO, g/bhp-hr | **4.2** | **2.6** | **2.8** | **2.8** | **2.7** |
| $NO_x$, ppmvd | | **49.9** | **52.3** | **51.2** | **51.1** |
| $NO_x$, lb/hr | | **1.5** | **1.6** | **1.6** | **1.6** |
| $NO_x$, g/bhp-hr | **0.6** | **0.4** | **0.4** | **0.4** | **0.4** |

## Waste Management Disposal Services of Maine, Inc.
## Engine # 2
## Isokinetic Summary Sheet

| Run No. | 1 | 2 | 3 | |
|---|---|---|---|---|
| Date: | 9/3/09 | 9/3/09 | 9/3/09 | |
| Start Time | 11:33 | 12:45 | 13:58 | |
| Stop Time | 12:40 | 13:52 | 15:06 | Average |
| Barometric Pressure, (inches of mercury) | 30.12 | 30.12 | 30.12 | 30.12 |
| Net Sampling Time, (minutes) | 64 | 64 | 64 | 64 |
| Nozzle Diameter (inches) | 0.218 | 0.218 | 0.218 | 0.218 |
| Volume Metered, (cubic feet) | 50.907 | 50.997 | 50.990 | 50.965 |
| Average Dry Gas Meter Temperature, (°F) | 94 | 93 | 94 | 94 |
| Average ΔH, (inches of water) | 2.02 | 2.08 | 2.08 | 2.06 |
| Average ΔH, (inches of mercury) | 0.1484 | 0.1527 | 0.1527 | 0.1513 |
| Dry Gas Meter Calibration Factor (Y) Meterbox # 80823 | 0.9910 | 0.9910 | 0.9910 | 0.9910 |
| Dry Gas Meter ΔH @ | 1.892 | 1.892 | 1.892 | 1.892 |
| Volume of Gas Collected, (dscf) | 48.633 | 48.781 | 48.766 | 48.727 |
| Total Water Collected, (mL) | 142.0 | 127.0 | 136.0 | 135.0 |
| Volume of Water Vapor, (scf) | 6.695 | 5.988 | 6.412 | 6.365 |
| Moisture, (percent) | 12.1 | 10.9 | 11.6 | 11.6 |
| Dry Mole Fraction | 0.8790 | 0.8907 | 0.8838 | 0.8845 |
| $CO_2$ Concentration, (percent dry) | 9.2 | 9.8 | 9.6 | 9.5 |
| $O_2$ Concentration, (percent dry) | 9.6 | 9.0 | 9.0 | 9.2 |
| CO and $N_2$, (percent dry) | 81.2 | 81.2 | 81.4 | 81.3 |
| Dry Molecular Weight, (lb/lb mole) | 29.86 | 29.93 | 29.90 | 29.89 |
| Wet Molecular Weight, (lb/lb mole) | 28.42 | 28.62 | 28.51 | 28.52 |
| Excess Air at Stack, (percent) | 81.1 | 72.4 | 72.1 | 75.2 |
| Stack Area, (square inches) | 201.1 | 201.1 | 201.1 | 201.1 |
| Static Pressure, (inches of water) | -0.2 | -0.3 | -0.3 | -0.2 |
| Stack Pressure, (inches of mercury) | 30.11 | 30.10 | 30.10 | 30.10 |
| Average Stack Temperature, (°F) | 809 | 792 | 792 | 798 |
| Average Sqroot of ΔP | 1.5408 | 1.5631 | 1.5631 | 1.5557 |
| SDE Average | 54.893 | 55.303 | 55.302 | 55.166 |
| Pitot Coefficient | 0.84 | 0.84 | 0.84 | 0.84 |
| Stack Gas Velocity, (actual feet per minute - afpm) | 8,087 | 8,119 | 8,134 | 8,113 |
| Stack Flowrate, (actual cubic feet per minute - acfm) | 11,291 | 11,336 | 11,358 | 11,328 |
| Stack Flowrate, (standard cubic feet per minute - scfm) | 4,726 | 4,810 | 4,820 | 4,785 |
| Stack Flowrate, (dry standard cubic feet per minute - dscfm) | 4,154 | 4,284 | 4,260 | 4,233 |
| **Isokinetics, Percent** | **98.5** | **95.8** | **96.4** | **96.9** |