



# WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY DRAFT - COMPLIANCE SUMMARY REPORT



Date 5/3/24

Plant Wheelabrator North Andover

NOTE: Emission & Process results may change after Startup, Shutdown, Malfunction data validation

Unit Unit 1  
Source Outlet

| Date     | Hour | On-Line Minutes | O2            |        | NOx             |        | SO2             |        |                |        | CO      |        |                 |        | Carbon Feed |        | FF Temp (deg F) |            | Steam KLbs/Hr |            |           |
|----------|------|-----------------|---------------|--------|-----------------|--------|-----------------|--------|----------------|--------|---------|--------|-----------------|--------|-------------|--------|-----------------|------------|---------------|------------|-----------|
|          |      |                 | Out Vol % Dry | Status | Outlet ppm 7%O2 | Status | Outlet ppm 7%O2 | Status | Inlet ppm 7%O2 | Status | Removal | Status | Outlet ppm 7%O2 | Status | 4 Hr Block  | Status | Lbs/Hr Avg.     | 8 Hr Block | 1 Hr Avg.     | 4 Hr Block | 1 Hr Avg. |
| 5/3/2024 | 0    | 60              | 10.8          |        | 141             |        | 19              |        | 74             |        | 74      |        | 0               |        |             | 13     |                 | 309        |               | 167.7      |           |
| 5/3/2024 | 1    | 60              | 10.8          |        | 142             |        | 33              |        | 127            |        | 74      |        | 0               |        |             | 13     |                 | 310        |               | 165.7      |           |
| 5/3/2024 | 2    | 60              | 10.7          |        | 142             |        | 22              |        | 89             |        | 75      |        | 0               |        |             | 13     |                 | 309        |               | 167.1      |           |
| 5/3/2024 | 3    | 60              | 10.6          |        | 142             |        | 24              |        | 92             |        | 74      |        | 0               | 0      |             | 13     |                 | 309        | 309           | 167.7      | 167.0     |
| 5/3/2024 | 4    | 60              | 10.7          |        | 142             |        | 21              |        | 78             |        | 74      |        | 0               |        |             | 13     |                 | 309        |               | 166.6      |           |
| 5/3/2024 | 5    | 60              | 10.7          |        | 141             |        | 20              |        | 72             |        | 72      |        | 0               |        |             | 13     |                 | 309        |               | 167.1      |           |
| 5/3/2024 | 6    | 60              | 10.7          |        | 139             |        | 14              |        | 57             |        | 75      |        | 0               |        |             | 13     |                 | 309        |               | 165.8      |           |
| 5/3/2024 | 7    | 60              | 10.6          |        | 141             |        | 16              |        | 65             |        | 75      |        | 0               | 0      |             | 13     | 13              | 309        | 309           | 167.3      | 166.7     |
| 5/3/2024 | 8    | 60              | 11.0          |        | 142             |        | 15              |        | 66             |        | 77      |        | 0               |        |             | 13     |                 | 309        |               | 166.4      |           |
| 5/3/2024 | 9    | 60              | 10.8          |        | 140             |        | 18              |        | 72             |        | 75      |        | 0               |        |             | 13     |                 | 309        |               | 166.4      |           |
| 5/3/2024 | 10   | 60              | 10.8          |        | 142             |        | 15              |        | 55             |        | 72      |        | 0               |        |             | 13     |                 | 310        |               | 168.6      |           |
| 5/3/2024 | 11   | 60              | 10.9          |        | 140             |        | 20              |        | 57             |        | 66      |        | 0               | 0      |             | 13     |                 | 309        | 309           | 167.7      | 167.3     |
| 5/3/2024 | 12   | 60              | 10.7          |        | 141             |        | 16              |        | 54             |        | 70      |        | 0               |        |             | 13     |                 | 310        |               | 166.8      |           |
| 5/3/2024 | 13   | 60              | 10.8          |        | 141             |        | 17              |        | 59             |        | 72      |        | 0               |        |             | 13     |                 | 309        |               | 166.1      |           |
| 5/3/2024 | 14   | 60              | 10.9          |        | 142             |        | 22              |        | 105            |        | 79      |        | 0               |        |             | 13     |                 | 310        |               | 168.1      |           |
| 5/3/2024 | 15   | 60              | 11.0          |        | 141             |        | 10              |        | 67             |        | 85      |        | 0               | 0      |             | 13     | 13              | 309        | 309           | 167.9      | 167.2     |
| 5/3/2024 | 16   | 60              | 10.9          |        | 140             |        | 10              |        | 63             |        | 84      |        | 0               |        |             | 13     |                 | 309        |               | 168.5      |           |
| 5/3/2024 | 17   | 60              | 10.8          |        | 142             |        | 13              |        | 66             |        | 81      |        | 0               |        |             | 13     |                 | 309        |               | 168.4      |           |
| 5/3/2024 | 18   | 60              | 10.8          |        | 141             |        | 10              |        | 63             |        | 84      |        | 0               |        |             | 13     |                 | 309        |               | 168.0      |           |
| 5/3/2024 | 19   | 60              | 10.8          |        | 140             |        | 8               |        | 54             |        | 86      |        | 0               | 0      |             | 13     |                 | 309        | 309           | 168.5      | 168.4     |
| 5/3/2024 | 20   | 60              | 10.8          |        | 143             |        | 9               |        | 53             |        | 84      |        | 0               |        |             | 13     |                 | 309        |               | 165.5      |           |
| 5/3/2024 | 21   | 60              | 10.7          |        | 141             |        | 17              |        | 62             |        | 73      |        | 0               |        |             | 14     |                 | 310        |               | 167.7      |           |
| 5/3/2024 | 22   | 60              | 10.7          |        | 142             |        | 16              |        | 65             |        | 76      |        | 0               |        |             | 15     |                 | 310        |               | 166.8      |           |
| 5/3/2024 | 23   | 60              | 10.7          |        | 139             |        | 16              |        | 59             |        | 72      |        | 0               | 0      |             | 13     | 13              | 309        | 309           | 165.8      | 166.5     |

|                                     |                           |                              |           |                             |                                 |                                   |                                |                                    |
|-------------------------------------|---------------------------|------------------------------|-----------|-----------------------------|---------------------------------|-----------------------------------|--------------------------------|------------------------------------|
| Average:<br>Geometric Mean Average: | 141                       | 16                           | <b>OR</b> | 77                          | see above                       | see above                         | see above                      | see above                          |
| Limit:                              | ≤ 150<br>24-HR Block Avg. | ≤ 29<br>24-HR Geometric Mean |           | ≥ 80%<br>Removal Efficiency | ≤ 69 ppmc<br>4-HR Block Average | ≥ 12 lb/hr<br>8-HR. Block Average | ≤ 345 °F<br>4-HR Block Average | ≤ 173 klb/hr<br>4-HR Block Average |

**Status Flags**

- I - Invalid
- B - Bad
- C - Calibration
- M - Maintenance
- F - Offline
- P - Purge
- T - Out of Control
- E - Excluded
- ^ - Startup
- \* - Shutdown



# WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY DRAFT - COMPLIANCE SUMMARY REPORT



Date 5/3/24

Plant Wheelabrator North Andover

NOTE: Emission & Process results may change after Startup, Shutdown, Malfunction data validation

Unit Unit 2  
Source Outlet

| Date     | Hour | On-Line Minutes | O2            |        | NOx             |        | SO2             |        |                |        | CO      |        |                 | Carbon Feed |            | FF Temp (deg F) |             | Steam KLbs/Hr |           |            |           |
|----------|------|-----------------|---------------|--------|-----------------|--------|-----------------|--------|----------------|--------|---------|--------|-----------------|-------------|------------|-----------------|-------------|---------------|-----------|------------|-----------|
|          |      |                 | Out Vol % Dry | Status | Outlet ppm 7%O2 | Status | Outlet ppm 7%O2 | Status | Inlet ppm 7%O2 | Status | Removal | Status | Outlet ppm 7%O2 | Status      | 4 Hr Block | Status          | Lbs/Hr Avg. | 8 Hr Block    | 1 Hr Avg. | 4 Hr Block | 1 Hr Avg. |
| 5/3/2024 | 0    | 60              | 10.4          |        | 140             |        | 26              |        | 47             |        | 46      |        | 6               |             |            | 14              |             | 310           |           | 166.4      |           |
| 5/3/2024 | 1    | 60              | 10.1          |        | 141             |        | 28              |        | 83             |        | 67      |        | 7               |             |            | 14              |             | 310           |           | 167.8      |           |
| 5/3/2024 | 2    | 60              | 10.2          |        | 139             |        | 24              |        | 68             |        | 64      |        | 6               |             |            | 14              |             | 310           |           | 167.7      |           |
| 5/3/2024 | 3    | 60              | 10.2          |        | 140             |        | 15              |        | 48             |        | 70      |        | 6               | 6           |            | 14              |             | 310           | 310       | 168.6      | 167.7     |
| 5/3/2024 | 4    | 60              | 10.4          |        | 141             |        | 15              |        | 52             |        | 71      |        | 6               |             |            | 13              |             | 310           |           | 167.2      |           |
| 5/3/2024 | 5    | 60              | 10.2          |        | 140             |        | 6               |        | 36             |        | 83      |        | 6               |             |            | 14              |             | 310           |           | 167.2      |           |
| 5/3/2024 | 6    | 60              | 10.0          |        | 140             |        | 3               |        | 29             |        | 90      |        | 6               |             |            | 14              |             | 310           |           | 167.1      |           |
| 5/3/2024 | 7    | 60              | 10.1          |        | 138             |        | 3               |        | 30             |        | 90      |        | 6               | 6           |            | 14              | 14          | 310           | 310       | 167.4      | 167.2     |
| 5/3/2024 | 8    | 60              | 10.4          |        | 141             |        | 8               |        | 36             |        | 77      |        | 6               |             |            | 14              |             | 310           |           | 167.5      |           |
| 5/3/2024 | 9    | 60              | 10.4          |        | 136             |        | 5               |        | 30             |        | 83      |        | 6               |             |            | 14              |             | 310           |           | 166.9      |           |
| 5/3/2024 | 10   | 60              | 11.0          |        | 142             |        | 0               |        | 19             |        | 99      |        | 8               |             |            | 14              |             | 310           |           | 163.0      |           |
| 5/3/2024 | 11   | 60              | 10.1          |        | 141             |        | 5               |        | 31             |        | 84      |        | 5               | 6           |            | 14              |             | 310           | 310       | 164.7      | 165.5     |
| 5/3/2024 | 12   | 60              | 10.2          |        | 140             |        | 3               |        | 27             |        | 87      |        | 7               |             |            | 14              |             | 311           |           | 166.4      |           |
| 5/3/2024 | 13   | 60              | 10.1          |        | 139             |        | 15              |        | 82             |        | 81      |        | 7               |             |            | 14              |             | 309           |           | 167.1      |           |
| 5/3/2024 | 14   | 60              | 10.0          |        | 141             |        | 10              |        | 56             |        | 82      |        | 8               |             |            | 14              |             | 310           |           | 166.5      |           |
| 5/3/2024 | 15   | 60              | 10.1          |        | 139             |        | 0               |        | 36             |        | 100     |        | 6               | 7           |            | 14              | 14          | 310           | 310       | 167.8      | 167.0     |
| 5/3/2024 | 16   | 60              | 10.1          |        | 141             |        | 15              |        | 71             |        | 79      |        | 6               |             |            | 13              |             | 310           |           | 167.8      |           |
| 5/3/2024 | 17   | 60              | 10.0          |        | 139             |        | 6               |        | 44             |        | 86      |        | 6               |             |            | 14              |             | 310           |           | 167.4      |           |
| 5/3/2024 | 18   | 60              | 10.2          |        | 138             |        | 0               |        | 32             |        | 100     |        | 6               |             |            | 14              |             | 310           |           | 167.5      |           |
| 5/3/2024 | 19   | 60              | 10.1          |        | 141             |        | 0               |        | 30             |        | 100     |        | 6               | 6           |            | 14              |             | 310           | 310       | 167.3      | 167.5     |
| 5/3/2024 | 20   | 60              | 10.3          |        | 141             |        | 4               |        | 46             |        | 92      |        | 6               |             |            | 14              |             | 310           |           | 167.7      |           |
| 5/3/2024 | 21   | 60              | 10.2          |        | 139             |        | 15              |        | 59             |        | 75      |        | 5               |             |            | 14              |             | 310           |           | 167.5      |           |
| 5/3/2024 | 22   | 60              | 10.1          |        | 140             |        | 7               |        | 46             |        | 84      |        | 6               |             |            | 14              |             | 310           |           | 167.9      |           |
| 5/3/2024 | 23   | 60              | 10.2          |        | 139             |        | 5               |        | 43             |        | 89      |        | 6               | 6           |            | 14              | 14          | 310           | 310       | 166.3      | 167.4     |

|                                     |                           |                              |           |                             |                                 |                                   |                                |                                    |
|-------------------------------------|---------------------------|------------------------------|-----------|-----------------------------|---------------------------------|-----------------------------------|--------------------------------|------------------------------------|
| Average:<br>Geometric Mean Average: | 140                       | 4                            | <b>OR</b> | 93                          | see above                       | see above                         | see above                      | see above                          |
| Limit:                              | ≤ 150<br>24-HR Block Avg. | ≤ 29<br>24-HR Geometric Mean |           | ≥ 80%<br>Removal Efficiency | ≤ 69 ppmc<br>4-HR Block Average | ≥ 12 lb/hr<br>8-HR. Block Average | ≤ 345 °F<br>4-HR Block Average | ≤ 173 klb/hr<br>4-HR Block Average |

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# WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 03-May-2024

Plant Wheelabrator North Andover  
Unit Unit 1  
Source Outlet

Opacity is a measure of how much soot or smoke may be contained in stack emissions. The more smoke that is contained in the emissions the higher the level of opacity. Continuous opacity monitors located after all of the air pollution control equipment measure the opacity of the emissions from each boiler. Typically the human eye can not detect or see smoke that is less than 5% opacity. You won't see smoke from a modern trash-to-energy plant although in colder weather you will see water vapor condensation, similar to seeing your breath on a cold day. This is not considered opacity. We have a permit limit established by the Massachusetts Department of Environmental Protection of 10% opacity averaged every six (6) minutes.

Limit 10 %

| Time (hr) | 1-6 min | 7-12 min | 13-18 min | 19-24 min | 25-30 min | 31-36 min | 37-42 min | 43-48 min | 49-54 min | 55-60 min | Average |
|-----------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| 0         | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 1         | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 2         | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 3         | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 4         | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 5         | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 6         | 0       | IC       | 4         | IC        | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 7         | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 8         | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 9         | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 10        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 11        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 12        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 13        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 14        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 15        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 16        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 17        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 18        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 19        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 20        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 21        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 22        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |
| 23        | 0       | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       |

**Status Flags**

I - Invalid                      C - Calibration                      F - Offline                      T - Out of Control                      ^ - Startup  
 B - Bad                            M - Maintenance                      P - Purge                      E - Excluded                      \* - Shutdown



# WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 03-May-2024

Plant Wheelabrator North Andover  
Unit Unit 2  
Source Outlet

Opacity is a measure of how much soot or smoke may be contained in stack emissions. The more smoke that is contained in the emissions the higher the level of opacity. Continuous opacity monitors located after all of the air pollution control equipment measure the opacity of the emissions from each boiler. Typically the human eye can not detect or see smoke that is less than 5% opacity. You won't see smoke from a modern trash-to-energy plant although in colder weather you will see water vapor condensation, similar to seeing your breath on a cold day. This is not considered opacity. We have a permit limit established by the Massachusetts Department of Environmental Protection of 10% opacity averaged every six (6) minutes.

Limit 10 %

| Time (hr) | 1-6 min | 7-12 min | 13-18 min | 19-24 min | 25-30 min | 31-36 min | 37-42 min | 43-48 min | 49-54 min | 55-60 min | Average |
|-----------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| 0         | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 1         | 2         | 1       |
| 1         | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 1         | 2         | 1       |
| 2         | 1       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 1       |
| 3         | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 4         | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 5         | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 6         | 1       | IC       | 6         | IC        | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 7         | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 8         | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 9         | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 10        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 11        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 12        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 13        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 14        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 15        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 16        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 17        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 18        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 19        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 20        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 21        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 22        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |
| 23        | 2       | 2        | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2         | 2       |

**Status Flags**

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 B - Bad                            M - Maintenance                      P - Purge                            E - Excluded                            \* - Shutdown