## Annual performance report for: Riverside Resource Recovery Limited

**Permit Number: EPR/BK0825UI**

**Year: 2018**

This report is required under the Industrial Emissions Directive's Article 55(2) requirements on reporting and public information on waste incineration plants and co-incineration plants, which require the operator to produce an annual report on the functioning and monitoring of the plant and make it available to the public.

# 1. Introduction

| | |
|---|---|
| Name and address of plant | Riverside Resource Recovery Facility<br>Norman Road<br>Belvedere<br>Bexley<br>DA17 6JY |
| Description of waste input | Municipal waste, commercial waste and non-hazardous industrial waste. |
| Operator contact details if members of the public have any questions | info@coryenergy.com |

# 2. Plant description

The Riverside Resource Recovery Energy from Waste facility at Belvedere in the London Borough of Bexley, uses the waste that would otherwise have gone to landfill as feedstock to generate electricity. As one of the largest operations of its kind in the UK, the facility generates c.580,000 MWh of electricity each year from processing circa 750,000 tonnes of waste. What's more, we use the River Thames as a green highway to move the waste from the city to the facility on our fleet of tugs and barges, removing around 100,000 truck movements a year off our capital's congested roads. By generating electricity from domestic and commercial residual waste, after recycling, we are improving resource efficiency, avoiding London's use on landfill, and achieving greater sustainability as part of London's circular economy.

With the Riverside Resource Recovery facility continuing to be fully operational, the Environment Agency has renewed the facility R1 certification; this means that the facility is classified as a recovery operation. The facility is permitted to process 785,000 tonnes of waste from across London and exports 525,000 – 530,000 Mega Watt hours of electricity to the National Grid.
Cory's river operations are a key aspect of the process for Riverside, with over 85% of the waste being brought to the plant on barges along the River Thames. The Incinerator Bottom Ash (IBA) produced by Riverside is also taken away on the river to an IBA processing facility at Tilbury Docks.

The plant operates within a Health, Safety, Environmental and Quality Integrated Management System which is compliant with OHSAS 18001, ISO 14001 and ISO 9001 and is independently audited.

## 3. Summary of Plant Operation

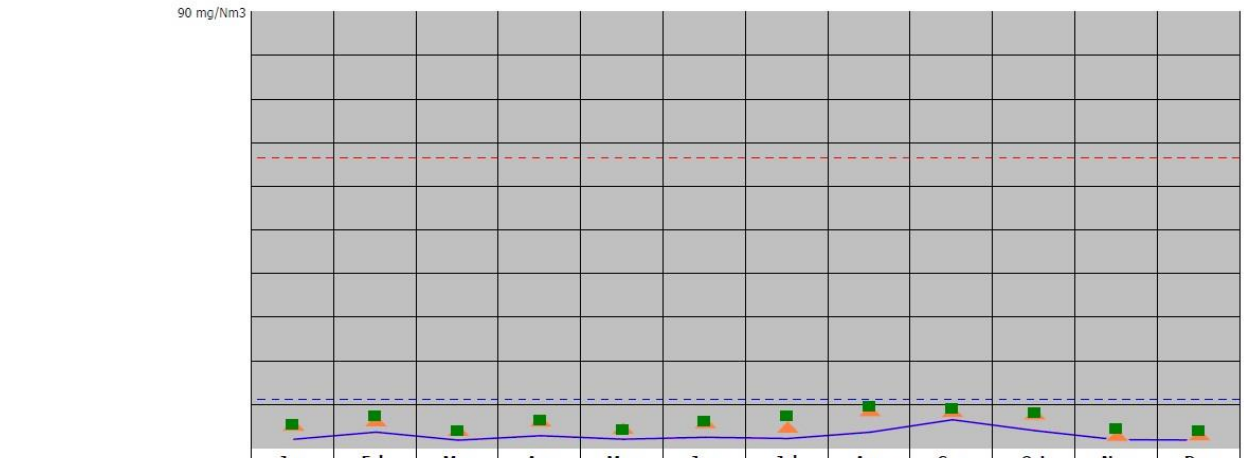
| | |
|---|---|
| Municipal waste received | 430,065.42 tonnes |
| Commercial and industrial waste received | 309,870.97 tonnes |
| Total waste received | 739,936.39 tonnes |
| Total plant operational hours | 23933 hours |
| Total hours of “abnormal operation” (see permit for definition) | Zero |
| Total quantity of incinerator bottom ash (IBA) produced | 175,420 tonnes |
| Disposal or recovery route for IBA | Metal content recovered.<br>IBA processed by Ballast Phoenix Ltd into the aggregate product IBAA. |
| Did any batches of IBA test as hazardous? If yes, state quantity | None |
| Total quantity of air pollution control (APC) residues produced | 18,688 tonnes |
| Disposal or recovery route for APC residues | 10,500 tonnes of APC processed using Accelerated Carbonation Technology (ACT) to manufacture a high quality lightweight aggregate by Carbon8 Aggregates Ltd.<br><br>8200 tonnes of APC sent for underground storage at the Minosis facility in Cheshire. |
| Total electricity generated for export to the National Grid | 343228.91 MWh |

# 4. Summary of Plant Emissions

## 4.1 Summary of continuous emissions monitoring results for emissions to air

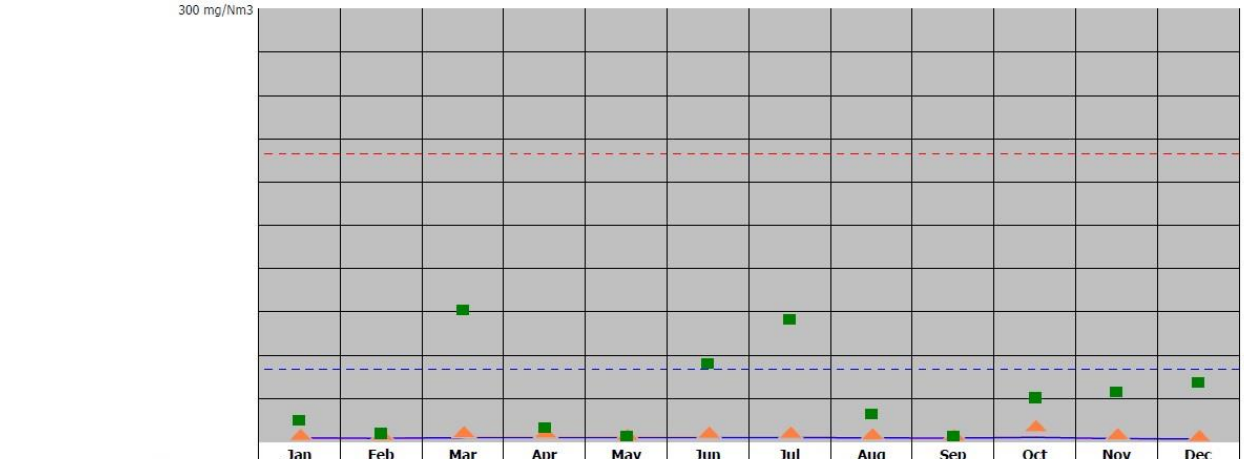
The following charts show the performance of the plant against its emission limit values (ELVs) for substances that are continuously monitored.

Line 1 - Hydrogen chloride



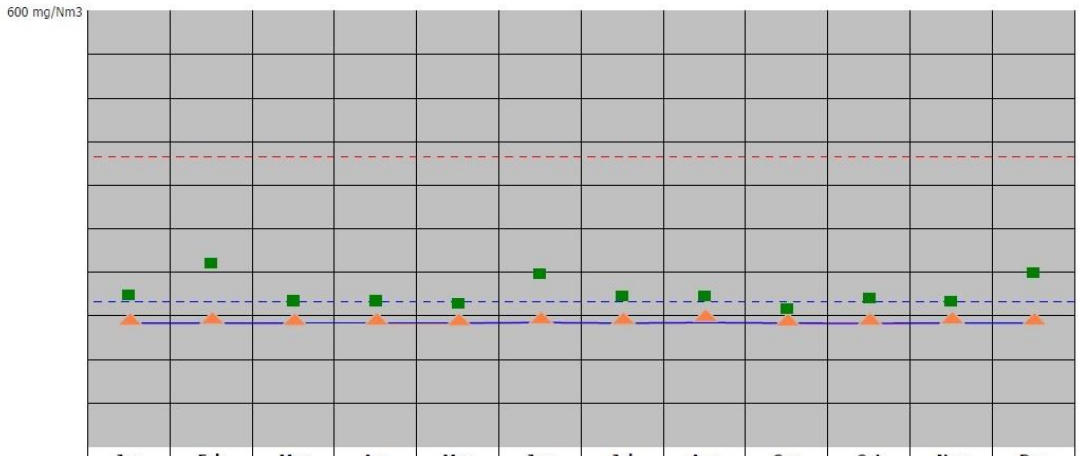

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| Monthly 1/2 hr Mean. | 1.8 | 3.2 | 1.6 | 2.5 | 1.8 | 2.1 | 1.9 | 3.3 | 5.8 | 3.6 | 1.7 | 1.7 |
| Monthly 1/2 hr Max | 5.0 | 6.7 | 3.5 | 5.8 | 3.8 | 5.5 | 6.7 | 8.6 | 8.1 | 7.4 | 4.0 | 3.6 |
| Daily ELV | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Daily Mean | 1.8 | 3.3 | 1.6 | 2.5 | 1.8 | 2.2 | 1.9 | 3.2 | 5.8 | 3.6 | 1.7 | 1.6 |
| Daily Max | 4.1 | 5.0 | 3.0 | 4.9 | 3.5 | 4.6 | 3.7 | 7.1 | 6.9 | 6.4 | 2.0 | 2.1 |

Line 1 – Sulphur dioxide



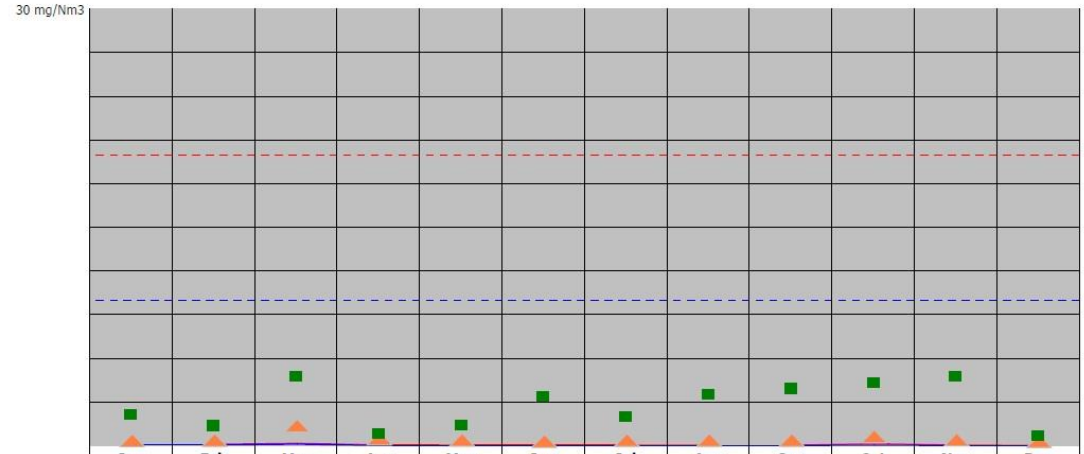

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| Monthly 1/2 hr Mean. | 2.5 | 2.4 | 2.7 | 2.8 | 2.7 | 2.8 | 2.8 | 2.6 | 2.4 | 3.0 | 2.0 | 1.8 |
| Monthly 1/2 hr Max | 14.6 | 5.7 | 91.5 | 9.9 | 4.0 | 54.0 | 84.6 | 18.9 | 3.7 | 30.5 | 34.4 | 41.3 |
| Daily ELV | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Daily Mean | 2.5 | 2.3 | 2.7 | 2.7 | 2.6 | 2.7 | 2.8 | 2.6 | 2.4 | 3.0 | 2.0 | 1.7 |
| Daily Max | 2.9 | 2.9 | 4.9 | 4.6 | 2.9 | 4.5 | 4.5 | 3.4 | 2.6 | 9.1 | 3.5 | 2.2 |

## Line 1 – Oxides of nitrogen



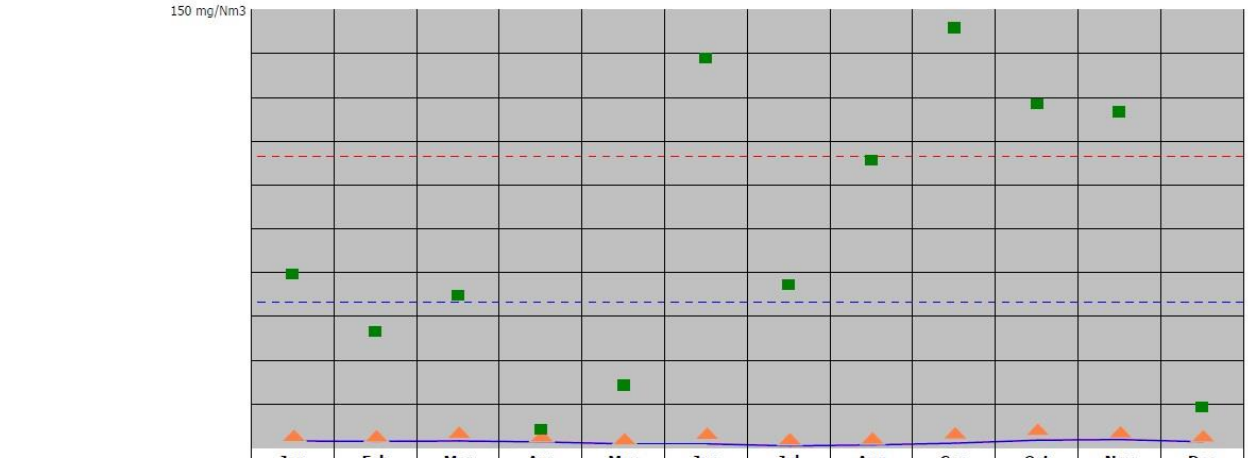

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 |
| Monthly 1/2 hr Mean. | 169.8 | 170.1 | 170.0 | 169.8 | 170.0 | 170.7 | 170.0 | 170.7 | 170.0 | 169.3 | 170.1 | 170.1 |
| Monthly 1/2 hr Max | 208.6 | 252.5 | 201.0 | 201.1 | 197.8 | 238.5 | 208.0 | 206.9 | 189.5 | 205.1 | 200.0 | 239.3 |
| Daily ELV | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| Daily Mean | 169.9 | 170.1 | 169.9 | 169.9 | 170.0 | 170.6 | 170.0 | 170.6 | 170.0 | 169.7 | 170.0 | 170.0 |
| Daily Max | 171.2 | 172.9 | 171.1 | 171.7 | 170.7 | 173.2 | 172.5 | 176.7 | 170.6 | 171.6 | 173.1 | 171.8 |

## Line 1 – Total organic carbon



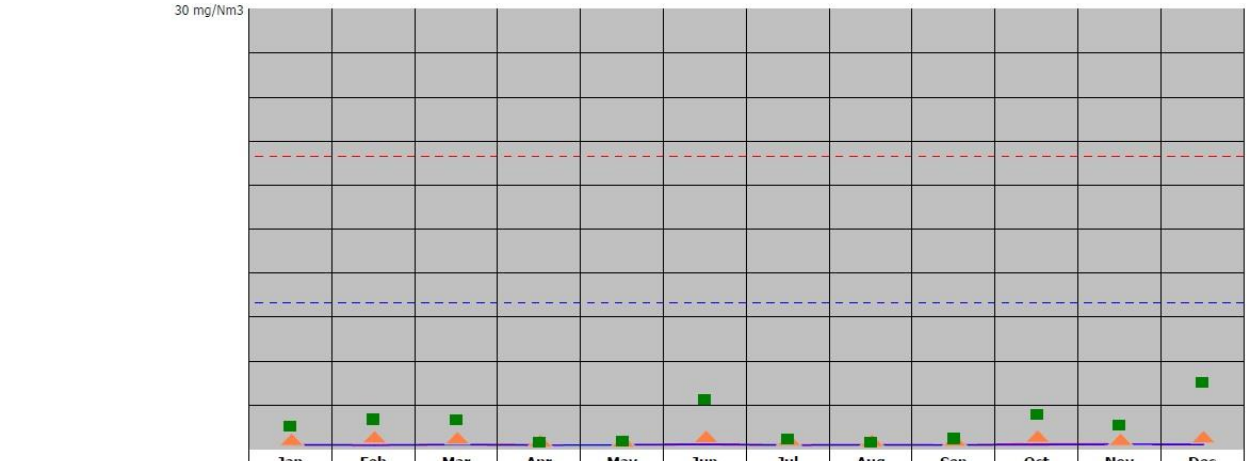

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Monthly 1/2 hr Mean. | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Monthly 1/2 hr Max | 2.2 | 1.4 | 4.8 | 0.8 | 1.4 | 3.4 | 2.0 | 3.5 | 3.9 | 4.3 | 4.7 | 0.7 |
| Daily ELV | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Daily Mean | 0.0 | 0.0 | 0.1 | -0.0 | -0.0 | -0.0 | -0.0 | -0.0 | -0.0 | 0.0 | -0.0 | -0.0 |
| Daily Max | 0.1 | 0.2 | 1.2 | 0.3 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.4 | 0.2 | 0.1 |

## Line 1 – Carbon monoxide



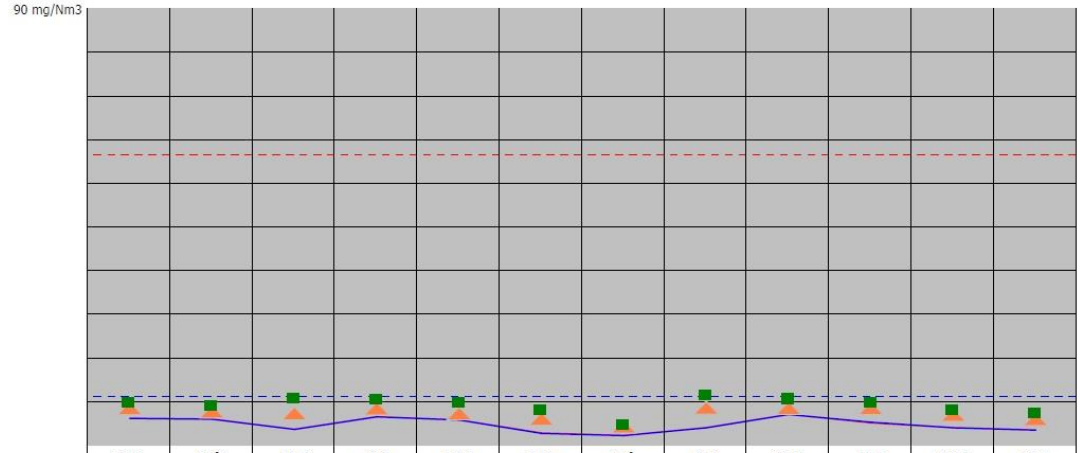

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Monthly 1/2 hr Mean. | 2.3 | 2.2 | 2.3 | 2.0 | 1.3 | 1.3 | 0.6 | 0.9 | 1.6 | 2.6 | 2.8 | 2.0 |
| Monthly 1/2 hr Max | 59.5 | 39.9 | 52.3 | 6.3 | 21.4 | 133.4 | 56.0 | 98.6 | 144.0 | 117.9 | 115.1 | 13.8 |
| Daily ELV | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Daily Mean | 2.3 | 2.2 | 2.3 | 2.0 | 1.3 | 1.3 | 0.6 | 0.9 | 1.5 | 2.5 | 2.8 | 2.0 |
| Daily Max | 3.2 | 3.0 | 4.3 | 3.0 | 2.1 | 3.9 | 2.1 | 2.3 | 4.1 | 5.2 | 4.4 | 3.1 |

## Line 1 – Ammonia



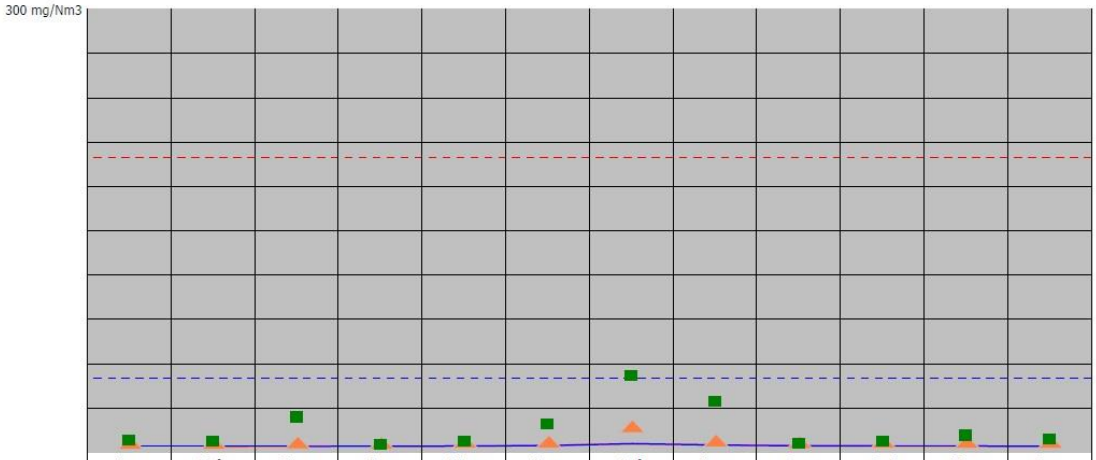

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Monthly 1/2 hr Mean. | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 |
| Monthly 1/2 hr Max | 1.5 | 2.0 | 2.0 | 0.5 | 0.5 | 3.4 | 0.7 | 0.5 | 0.7 | 2.4 | 1.7 | 4.5 |
| Daily ELV | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Daily Mean | 0.3 | 0.2 | 0.3 | 0.2 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Daily Max | 0.4 | 0.6 | 0.6 | 0.4 | 0.3 | 0.7 | 0.4 | 0.4 | 0.4 | 0.7 | 0.4 | 0.6 |

## Line 2 - Hydrogen chloride



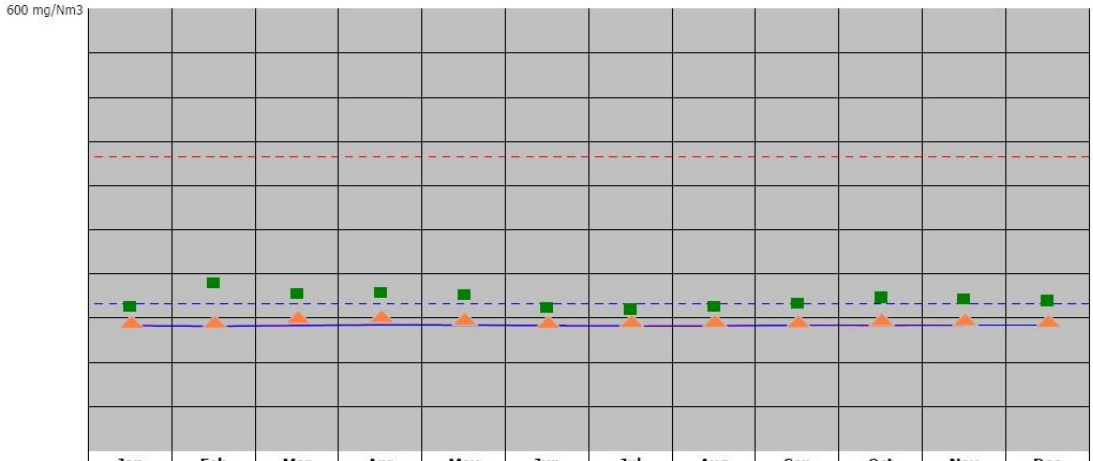

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| Monthly 1/2 hr Mean. | 5.5 | 5.4 | 3.2 | 5.9 | 5.2 | 2.5 | 2.0 | 3.6 | 6.3 | 4.6 | 3.6 | 3.1 |
| Monthly 1/2 hr Max | 8.9 | 8.2 | 9.7 | 9.5 | 8.7 | 7.4 | 4.2 | 10.4 | 9.6 | 8.8 | 7.2 | 6.6 |
| Daily ELV | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Daily Mean | 5.5 | 5.3 | 3.2 | 5.8 | 5.1 | 2.4 | 1.9 | 3.6 | 6.3 | 4.7 | 3.6 | 3.1 |
| Daily Max | 6.9 | 6.2 | 5.9 | 6.9 | 5.9 | 4.7 | 3.1 | 7.0 | 7.0 | 7.0 | 5.5 | 4.6 |

## Line 2 – Sulphur dioxide



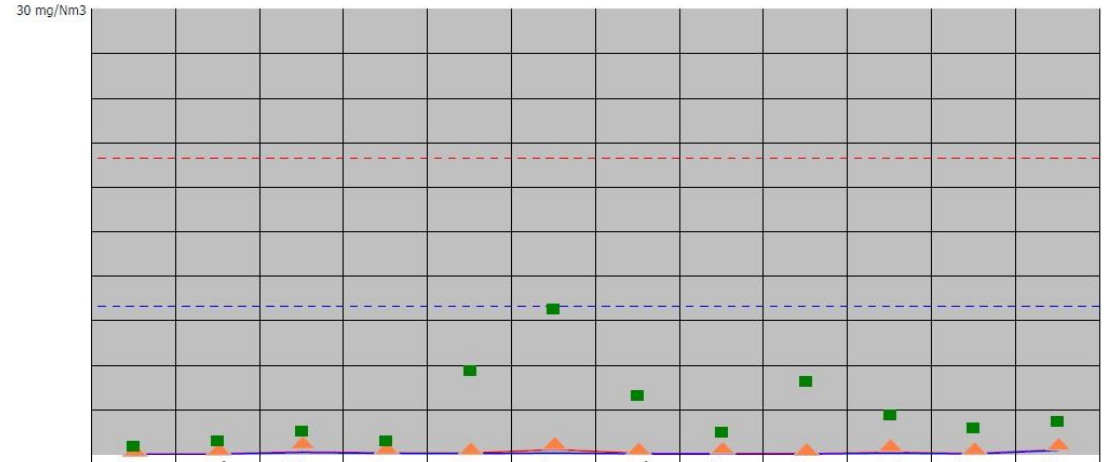

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| Monthly 1/2 hr Mean. | 3.9 | 3.9 | 4.0 | 4.0 | 4.2 | 4.6 | 5.8 | 4.9 | 4.4 | 4.3 | 4.2 | 4.1 |
| Monthly 1/2 hr Max | 8.2 | 7.2 | 23.9 | 5.2 | 7.2 | 19.0 | 51.8 | 34.6 | 6.3 | 7.5 | 11.6 | 8.8 |
| Daily ELV | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Daily Mean | 3.8 | 3.8 | 3.9 | 4.0 | 4.2 | 4.5 | 5.7 | 4.9 | 4.4 | 4.2 | 4.2 | 4.0 |
| Daily Max | 4.1 | 4.1 | 4.4 | 4.2 | 4.9 | 5.0 | 15.4 | 5.7 | 4.7 | 4.9 | 4.8 | 4.8 |

## Line 2 – Oxides of nitrogen



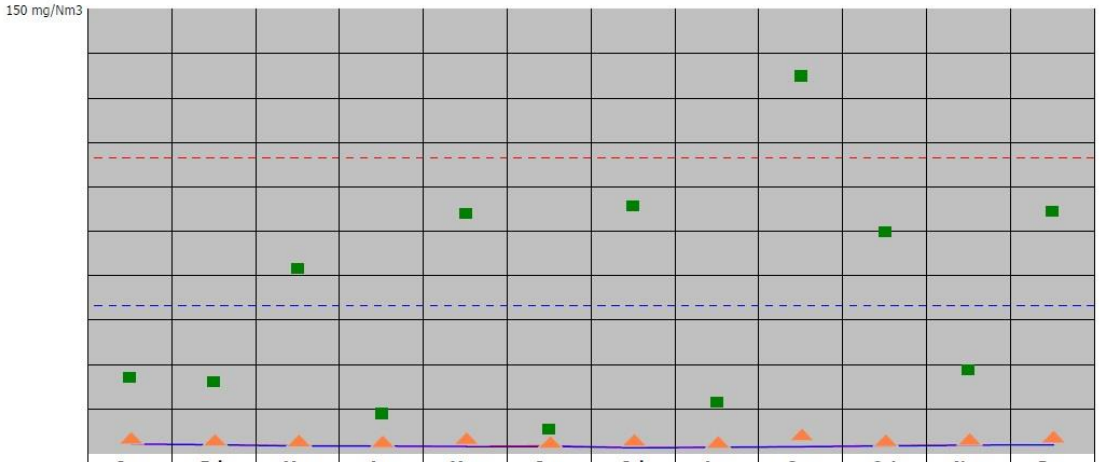

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 |
| Monthly 1/2 hr Mean. | 169.7 | 168.8 | 169.7 | 170.7 | 170.4 | 169.4 | 169.5 | 169.5 | 170.1 | 169.6 | 170.1 | 170.2 |
| Monthly 1/2 hr Max | 196.2 | 228.0 | 213.1 | 214.6 | 212.1 | 194.1 | 192.2 | 195.9 | 199.6 | 208.3 | 205.7 | 203.8 |
| Daily ELV | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| Daily Mean | 169.7 | 168.7 | 169.9 | 170.6 | 170.4 | 169.8 | 169.4 | 169.5 | 170.0 | 170.1 | 170.1 | 170.2 |
| Daily Max | 170.5 | 170.9 | 177.0 | 178.2 | 174.9 | 170.2 | 171.7 | 171.8 | 171.1 | 174.0 | 174.1 | 171.9 |

## Line 2 – Total organic carbon



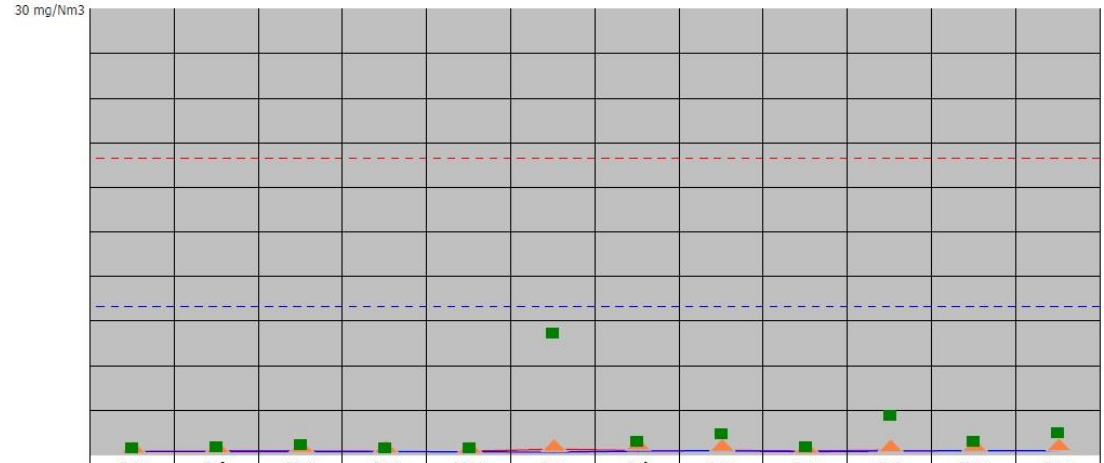

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Monthly 1/2 hr Mean. | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 |
| Monthly 1/2 hr Max | 0.6 | 0.9 | 1.6 | 0.9 | 5.6 | 9.8 | 4.0 | 1.5 | 4.9 | 2.6 | 1.8 | 2.2 |
| Daily ELV | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Daily Mean | -0.0 | -0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | -0.0 | -0.0 | 0.1 | 0.0 | 0.3 |
| Daily Max | 0.1 | 0.2 | 0.6 | 0.2 | 0.2 | 0.6 | 0.2 | 0.2 | 0.1 | 0.4 | 0.2 | 0.5 |

## Line 2 – Carbon monoxide



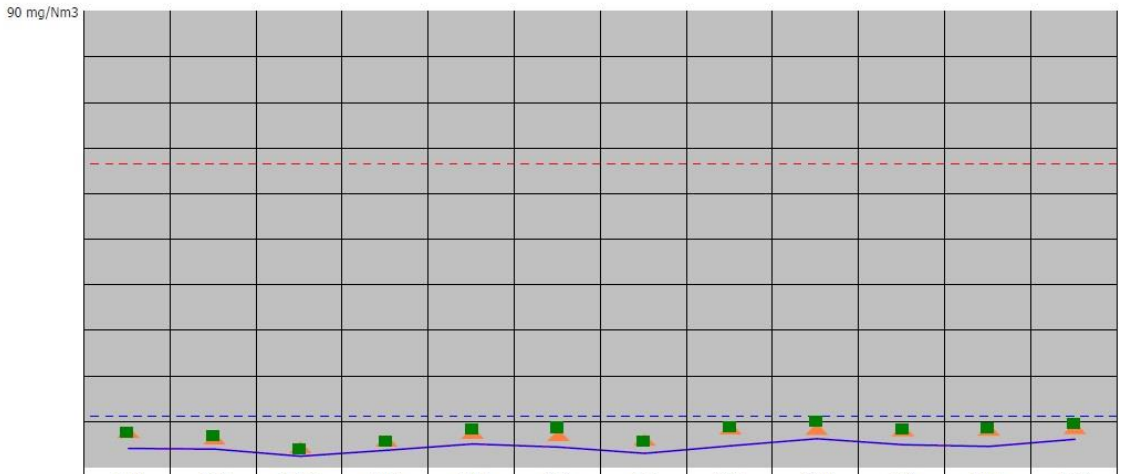

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Monthly 1/2 hr Mean. | 3.1 | 2.8 | 2.5 | 2.4 | 2.3 | 2.5 | 1.9 | 2.0 | 2.2 | 2.5 | 2.7 | 2.8 |
| Monthly 1/2 hr Max | 25.6 | 24.2 | 62.5 | 13.4 | 81.0 | 8.0 | 83.5 | 17.3 | 127.6 | 75.0 | 28.1 | 81.8 |
| Daily ELV | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Daily Mean | 3.1 | 2.8 | 2.4 | 2.4 | 2.3 | 2.3 | 1.8 | 2.0 | 2.2 | 2.4 | 2.7 | 2.7 |
| Daily Max | 4.1 | 3.5 | 3.2 | 2.9 | 4.0 | 2.7 | 3.5 | 2.8 | 5.3 | 3.3 | 3.7 | 4.5 |

## Line 2 – Ammonia



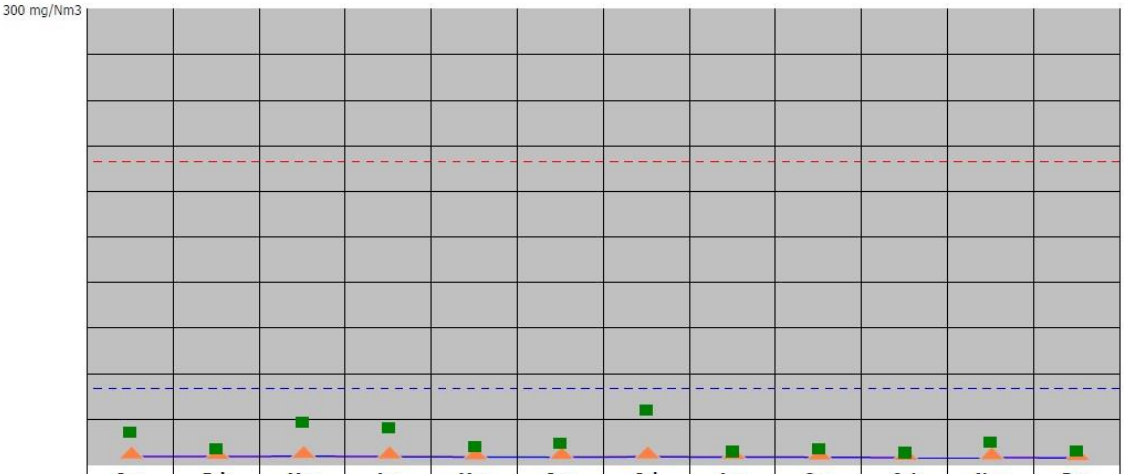

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Monthly 1/2 hr Mean. | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 |
| Monthly 1/2 hr Max | 0.5 | 0.6 | 0.7 | 0.5 | 0.5 | 8.2 | 0.9 | 1.4 | 0.5 | 2.7 | 0.9 | 1.5 |
| Daily ELV | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Daily Mean | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 |
| Daily Max | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.4 | 0.5 | 0.5 | 0.3 | 0.4 | 0.4 | 0.5 |

## Line 3 - Hydrogen chloride



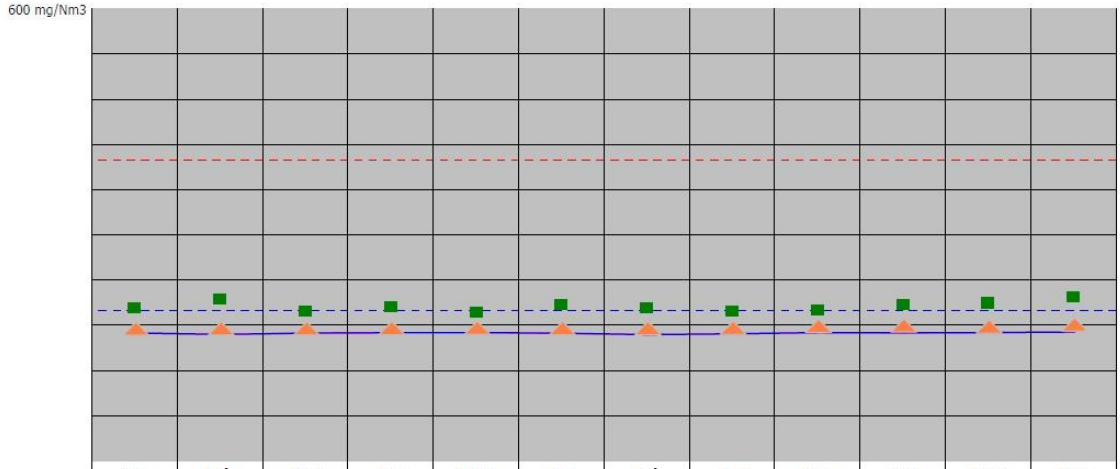

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| Monthly 1/2 hr Mean. | 3.7 | 3.6 | 2.1 | 3.3 | 4.5 | 3.9 | 2.7 | 4.2 | 5.6 | 4.4 | 4.1 | 5.5 |
| Monthly 1/2 hr Max | 6.8 | 6.3 | 3.6 | 5.0 | 7.5 | 7.8 | 5.1 | 7.9 | 9.1 | 7.5 | 7.7 | 8.6 |
| Daily ELV | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Daily Mean | 3.6 | 3.5 | 2.1 | 3.3 | 4.5 | 3.9 | 2.7 | 4.2 | 5.6 | 4.4 | 4.0 | 5.5 |
| Daily Max | 6.2 | 5.0 | 3.2 | 4.5 | 6.1 | 5.6 | 4.7 | 7.0 | 6.9 | 6.6 | 6.7 | 7.0 |

## Line 3 – Sulphur dioxide



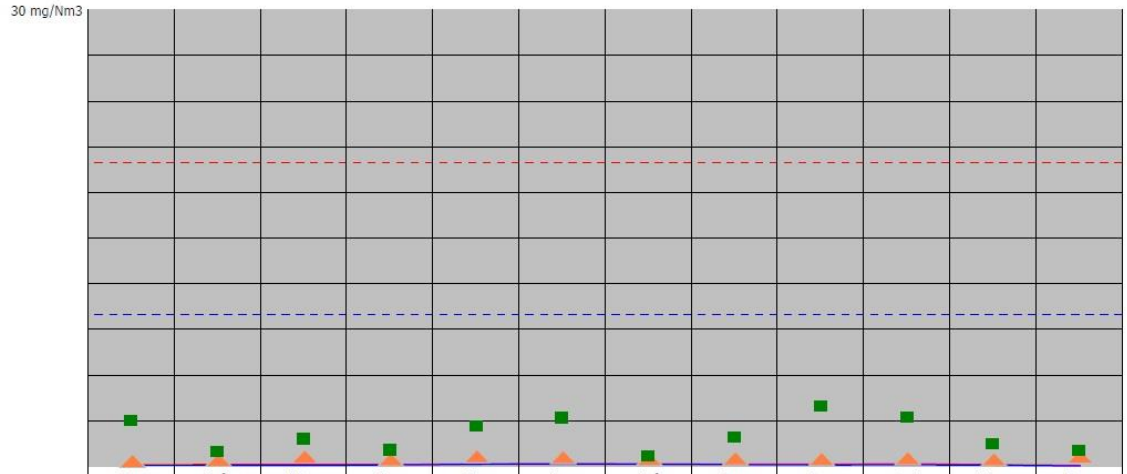

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| Monthly 1/2 hr Mean. | 5.4 | 5.3 | 5.6 | 5.3 | 5.0 | 4.9 | 5.1 | 4.9 | 4.8 | 4.6 | 4.6 | 4.4 |
| Monthly 1/2 hr Max | 21.4 | 10.3 | 27.9 | 24.0 | 12.0 | 13.8 | 35.8 | 8.6 | 10.6 | 7.9 | 14.9 | 9.2 |
| Daily ELV | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Daily Mean | 5.3 | 5.2 | 5.5 | 5.3 | 5.0 | 4.9 | 5.1 | 4.9 | 4.8 | 4.5 | 4.5 | 4.4 |
| Daily Max | 5.8 | 5.5 | 6.3 | 6.0 | 5.4 | 5.6 | 6.0 | 5.4 | 5.2 | 5.1 | 5.3 | 4.7 |

## Line 3 – Oxides of nitrogen



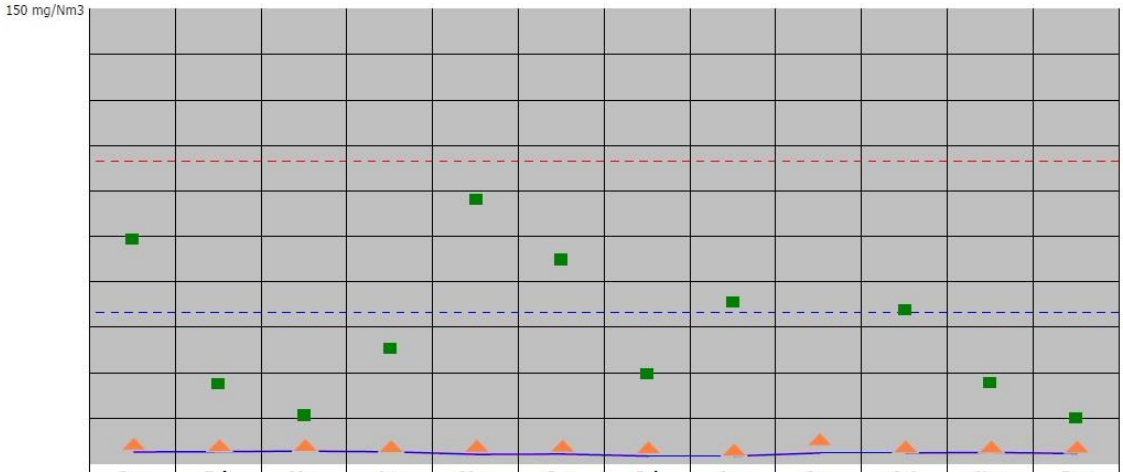

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 |
| Monthly 1/2 hr Mean. | 169.7 | 167.8 | 169.5 | 170.0 | 170.2 | 169.1 | 167.6 | 168.6 | 170.1 | 169.5 | 170.3 | 171.1 |
| Monthly 1/2 hr Max | 203.6 | 214.5 | 199.2 | 205.1 | 197.5 | 207.4 | 203.5 | 199.2 | 200.1 | 207.8 | 209.7 | 218.3 |
| Daily ELV | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| Daily Mean | 169.6 | 167.7 | 169.4 | 170.0 | 170.1 | 169.3 | 167.5 | 168.5 | 170.2 | 169.9 | 170.3 | 171.0 |
| Daily Max | 171.0 | 171.4 | 171.3 | 171.8 | 172.0 | 171.6 | 171.9 | 172.0 | 174.8 | 175.4 | 173.8 | 176.5 |

## Line 3 – Total organic carbon



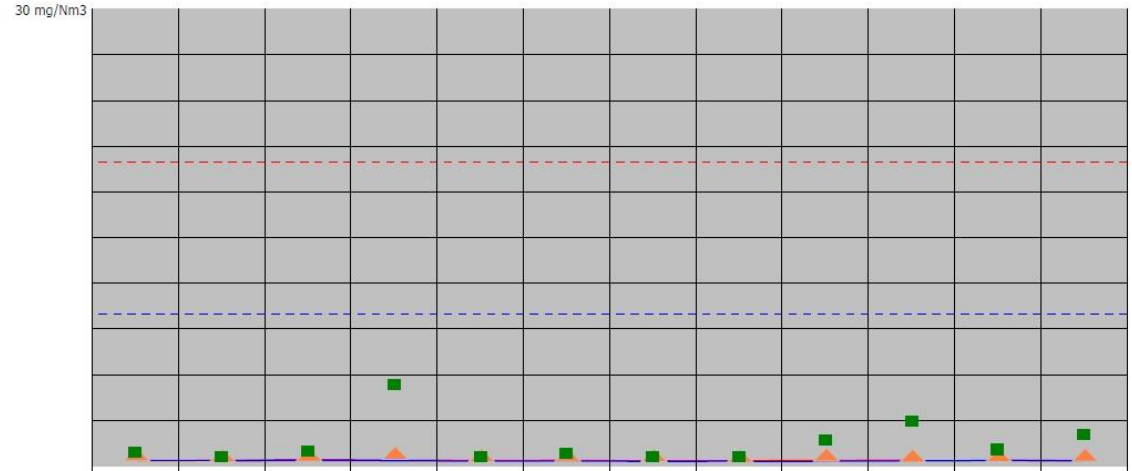

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Monthly 1/2 hr Mean. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 |
| Monthly 1/2 hr Max | 3.0 | 1.0 | 1.8 | 1.1 | 2.7 | 3.2 | 0.7 | 1.9 | 4.0 | 3.2 | 1.5 | 1.1 |
| Daily ELV | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Daily Mean | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 |
| Daily Max | 0.1 | 0.2 | 0.4 | 0.2 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.4 |

## Line 3 – Carbon monoxide




| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Monthly 1/2 hr Mean. | 3.8 | 3.9 | 4.1 | 3.9 | 3.0 | 3.1 | 2.4 | 2.4 | 3.5 | 3.5 | 3.6 | 3.3 |
| Monthly 1/2 hr Max | 74.2 | 26.4 | 16.0 | 38.0 | 87.4 | 67.3 | 29.6 | 53.2 | 167.6 | 50.7 | 26.8 | 15.1 |
| Daily ELV | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Daily Mean | 3.7 | 3.9 | 4.1 | 3.8 | 3.0 | 3.1 | 2.4 | 2.4 | 3.4 | 3.5 | 3.6 | 3.2 |
| Daily Max | 5.5 | 5.0 | 5.0 | 4.7 | 4.8 | 4.8 | 4.3 | 3.5 | 7.0 | 4.6 | 4.6 | 4.6 |

## Line 3 – Ammonia




| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 min ELV | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Monthly 1/2 hr Mean. | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 |
| Monthly 1/2 hr Max | 0.9 | 0.6 | 1.0 | 5.4 | 0.6 | 0.8 | 0.6 | 0.6 | 1.7 | 2.9 | 1.1 | 2.1 |
| Daily ELV | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Daily Mean | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Daily Max | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

## 4.2 Summary of periodic monitoring results for emissions to air

The table below shows the results of periodically monitored substances.

| Substance | Emission limit value | Results | | | |
|---|---|---|---|---|---|
| | | 12/02/18 | 06/04/18 | 20/07/18 | 04/10/18 |
| Mercury and its compounds | 0.05 mg/m$^3$ | L1- 0.0009 mg/m$^3$<br>L2- 0.0005 mg/m$^3$<br>L3- 0.0003 mg/m$^3$ | L1- 0.0004 mg/m$^3$<br>L2- 0.0004 mg/m$^3$<br>L3- 0.0004 mg/m$^3$ | L1- 0.001 mg/m$^3$<br>L2- 0.0006 mg/m$^3$<br>L3- 0.0005 mg/m$^3$ | L1- 0.001 mg/m$^3$<br>L2- 0.001 mg/m$^3$<br>L3- 0.0004 mg/m$^3$ |
| Cadmium & thallium and their compounds (total) | 0.05 mg/m$^3$ | L1- 0.0006 mg/m$^3$<br>L2- 0.0005 mg/m$^3$<br>L3- 0.0005 mg/m$^3$ | L1- 0.001 mg/m$^3$<br>L2- 0.001 mg/m$^3$<br>L3- 0.001 mg/m$^3$ | L1- 0.001 mg/m$^3$<br>L2- 0.001 mg/m$^3$<br>L3- 0.0006 mg/m$^3$ | L1- 0.0005 mg/m$^3$<br>L2- 0.001 mg/m$^3$<br>L3- 0.0004 mg/m$^3$ |
| Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) | 0.5 mg/m$^3$ | L1- 0.1706 mg/m$^3$<br>L2- 0.0275 mg/m$^3$<br>L3- 0.0946 mg/m$^3$ | L1- 0.134 mg/m$^3$<br>L2- 0.038 mg/m$^3$<br>L3- 0.023 mg/m$^3$ | L1- 0.04 mg/m$^3$<br>L2- 0.024 mg/m$^3$<br>L3- 0.047 mg/m$^3$ | L1- 0.121 mg/m$^3$<br>L2- 0.125 mg/m$^3$<br>L3- 0.09 mg/m$^3$ |
| Dioxins and furans (I-TEQ) | 0.1 ng/m$^3$ | L1- 0.0034 ng/m$^3$<br>L2- 0.0039 ng/m$^3$<br>L3- 0.0031 ng/m$^3$ | L1- 0.0103 ng/m$^3$<br>L2- 0.0023 ng/m$^3$<br>L3- 0.0075 ng/m$^3$ | L1- 0.0022 mg/m$^3$<br>L2- 0.0261 mg/m$^3$<br>L3- 0.0029 ng/m$^3$ | L1- 0.0028 ng/m$^3$<br>L2- 0.0029 ng/m$^3$<br>L3- 0.0045 ng/m$^3$ |
| Hydrogen Fluoride | 4 mg/m$^3$ | L1- 0.04 mg/m$^3$<br>L2- 0.03 mg/m$^3$<br>L3- 0.05 mg/m$^3$ | | L1- 0.07 mg/m$^3$<br>L2- 0.03 mg/m$^3$<br>L3- 0.03 mg/m$^3$ | |

## 4.3 Summary of monitoring results for emissions to water

There are no emissions to water from the process other than non-contaminated rainwater.

# 5. Summary of Permit Compliance

## 5.1 Compliance with permit limits for continuously monitored pollutants

The plant met its emission limits as shown in the table below.

| Substance | Percentage time compliant during operation | |
|---|---|---|
| | **Half-hourly limit** | **Daily limit** |
| **Particulates** | 100 % | 100 % |
| **Oxides of nitrogen** | 100 % | 100 % |
| **Sulphur dioxide** | 100 % | 100 % |
| **Carbon monoxide** | 99.97 % | 100 % |
| **Total organic carbon** | 100 % | 100 % |
| **Hydrogen chloride** | 100 % | 100 % |

## 5.2 Summary of any notifications or non-compliances under the permit

| Date | Summary of notification or non-compliance | Reason | Measures taken to prevent reoccurrence |
|---|---|---|---|
| 06/06/18 | notification for half-hourly CO ELV exceedance | Volatile waste on the boiler grate surface resulting in an over-pressurisation of the boiler. | Monitoring of incoming waste deliveries to eradicate volatile materials eg. gas bottles. |
| 10/09/18 | notification for half-hourly CO ELV exceedance | Volatile waste on the boiler grate surface resulting in an over-pressurisation of the boiler. | Monitoring of incoming waste deliveries to eradicate volatile materials eg. gas bottles. |
| 16/09/18 | notification for half-hourly CO ELV exceedance | Volatile waste on the boiler grate surface resulting in an over-pressurisation of the boiler. | Monitoring of incoming waste deliveries to eradicate volatile materials eg. gas bottles. |
| 26/09/18 | notification for half-hourly CO ELV exceedance | Volatile waste on the boiler grate surface resulting in an over-pressurisation of the boiler. | Monitoring of incoming waste deliveries to eradicate volatile materials eg. gas bottles. |
| 02/10/18 | notification for half-hourly CO ELV exceedance | Volatile waste on the boiler grate surface resulting in an over-pressurisation of the boiler. | Monitoring of incoming waste deliveries to eradicate volatile materials eg. gas bottles. |
| 22/11/18 | notification for half-hourly CO ELV exceedance | Volatile waste on the boiler grate surface resulting in an over-pressurisation of the boiler. | Monitoring of incoming waste deliveries to eradicate volatile materials eg. gas bottles. |

### 5.3 Summary of any complaints received and actions to taken to resolve them.

| Date of complaint | Summary of complaint | Reason for complaint including whether substantiated by the operator or the EA | If substantiated, measures to prevent reoccurrence |
|---|---|---|---|
| | None | | |

## 6. Summary of plant improvements

| **Summary of any permit improvement conditions that have been completed within the year and the resulting environmental benefits.** |
|---|
| None |
| **Summary of any changes to the plant or operating techniques which required a variation to the permit and a summary of the resulting environmental impact.** |
| None |
| **Summary of any other improvements made to the plant or planned to be made and a summary of the resulting environmental benefits.** |
| None |

## 7. Details of any public liaison planned for 2019:

| Date and time | Description | Location |
|---|---|---|
| 13/02/19 – 10:00am | Local School visit | Riverside EfW facility |
| 10/04/19 – 10:00am | Local School visit | Riverside EfW facility |
| 16/04/19 – 10:00am | Site Open Day | Riverside EfW facility |
| 17/04/19 – 10:00am | Site Open Day | Riverside EfW facility |
| 15/05/19 – 10:00am | Local School visit | Riverside EfW facility |
| 12/06/19 – 10:00am | Local School visit | Riverside EfW facility |
| 18/09/19 – 10:00am | Local School visit | Riverside EfW facility |
| 16/10/19 – 10:00am | Local School visit | Riverside EfW facility |
| 13/11/19 – 10:00am | Local School visit | Riverside EfW facility |
| 11/12/19 – 10:00am | Local School visit | Riverside EfW facility |

If you wish to be involved in the public liaison programme, please contact info@coryenergy.com