



# Annual Performance and Monitoring review

## EPR Permit BR9685IX

### Dow Silicones UK Ltd - 2024

+This report is to fulfil ERP permit BR9685IX condition 4.2.2

4.2.2 - For the following activities referenced in schedule 1, table S1.1 (A1 to A18) A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data

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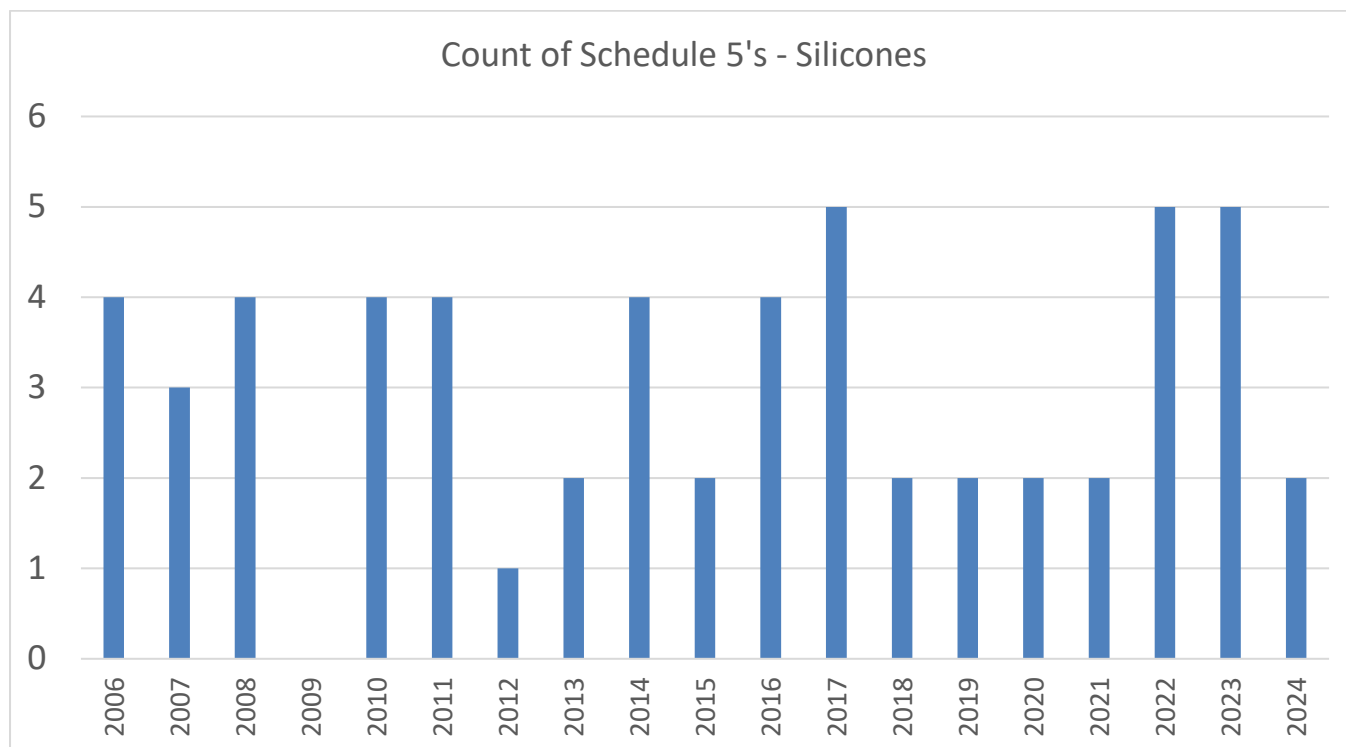
## Summary

The report includes details of our performance during 2024. SPC charts have been used for all analytical monitoring we carry out for releases to air and water.

Points of interest for 2024 :

- Production was slightly lower in 2024 versus 2023, this can be seen also with lower waste.
- Process plants W714 and W718 did not run during 2024.
- There were no schedule 5 notification for W1 or W2. Which shows the improvement in reliability of the WWT processes.
- Half yearly noise monitoring continues as part of our Noise Management programme.

## Incidents

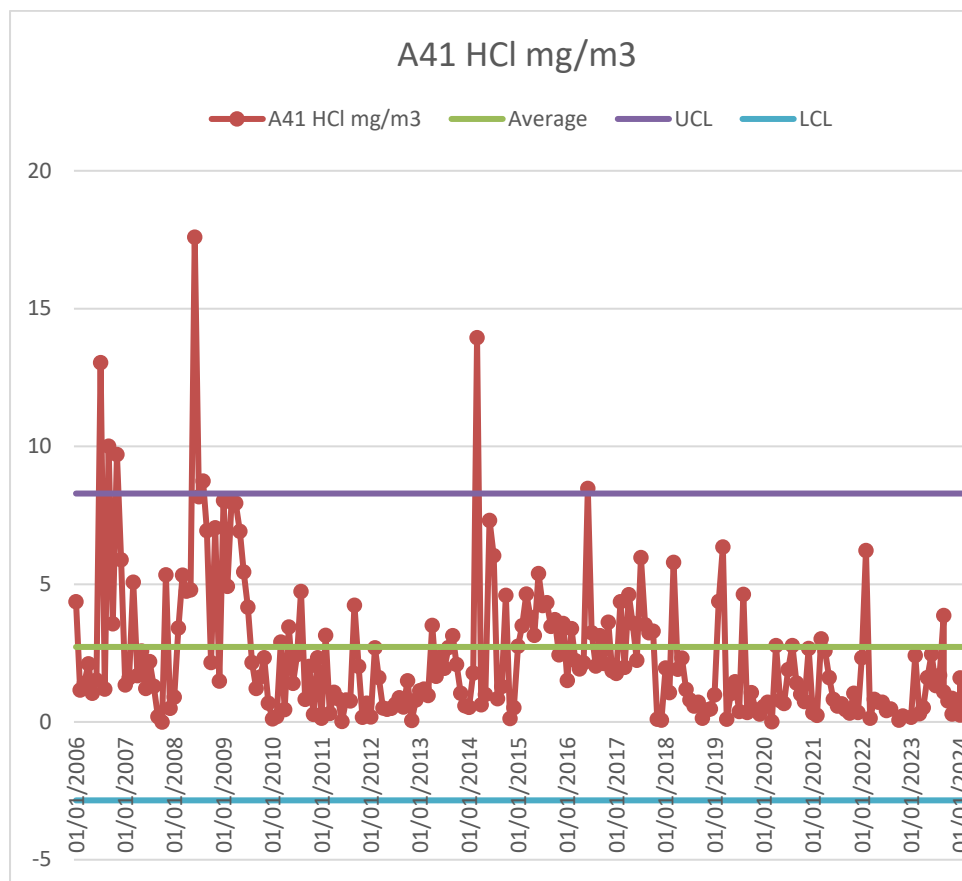


### Schedule 5's submitted during 2024:

- W348 pump HCl release – a leak of process material caused a fire and generated HCl vapour.
- W348 strainer HCl release – release of Chlorosilane liquid that generated HCl vapour into the atmosphere.

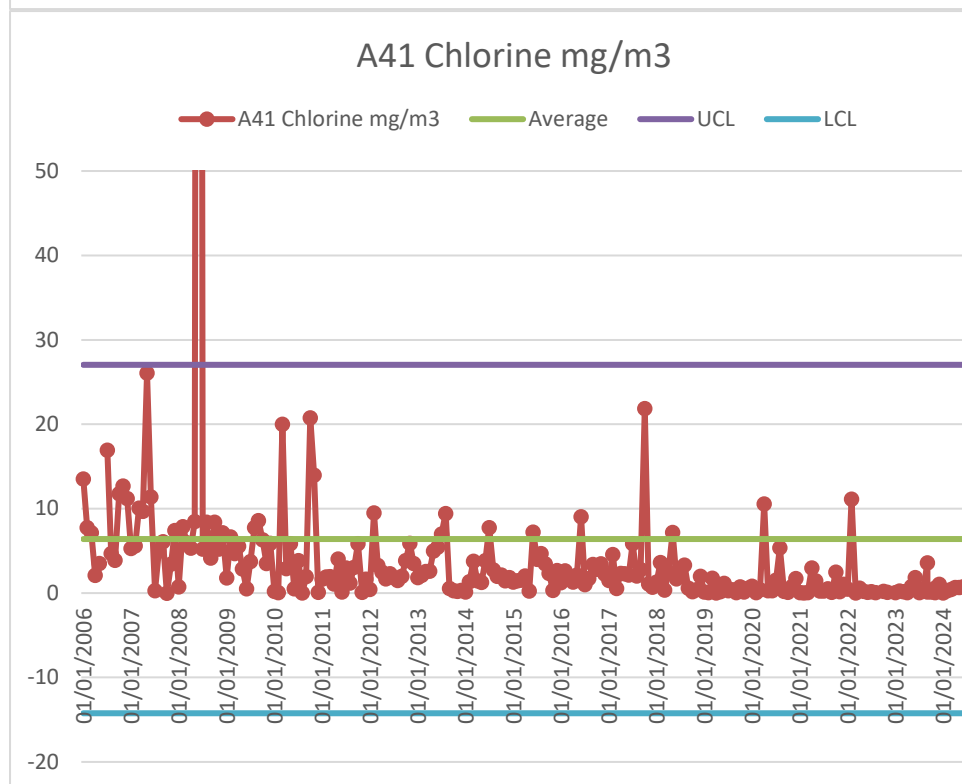
## Air monitoring

### Trends for Monthly monitoring



Results in control and within permit limit (15mg/m<sup>3</sup>).

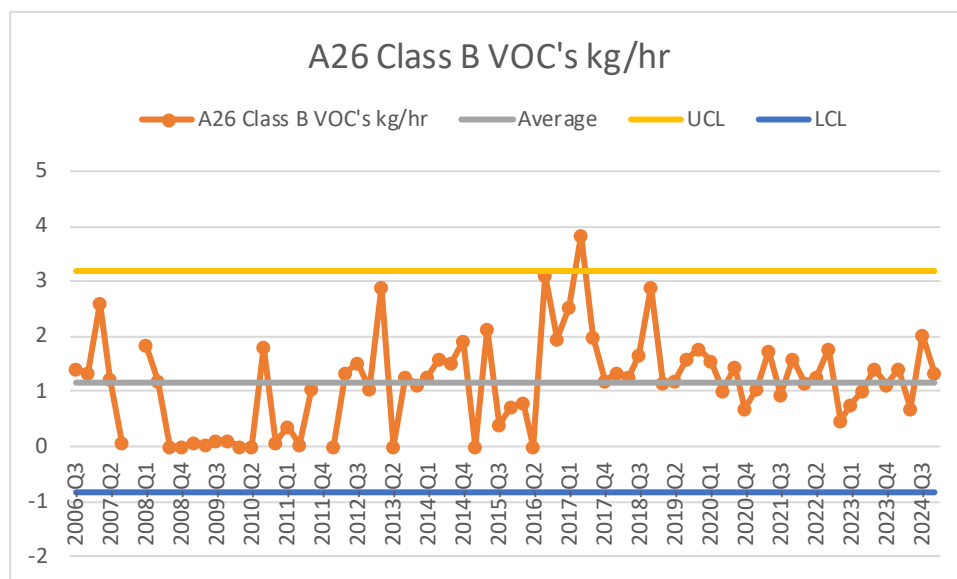
2024 Annual average = 0.86 mg/m<sup>3</sup>



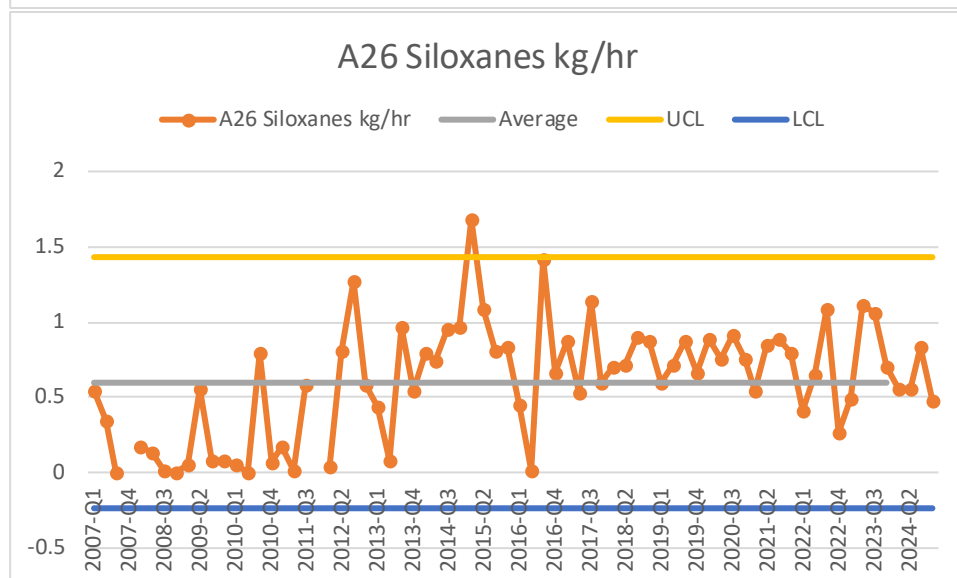
Results in control and within permit limit (15mg/m<sup>3</sup>).

2024 Annual average = 2.13 mg/m<sup>3</sup>

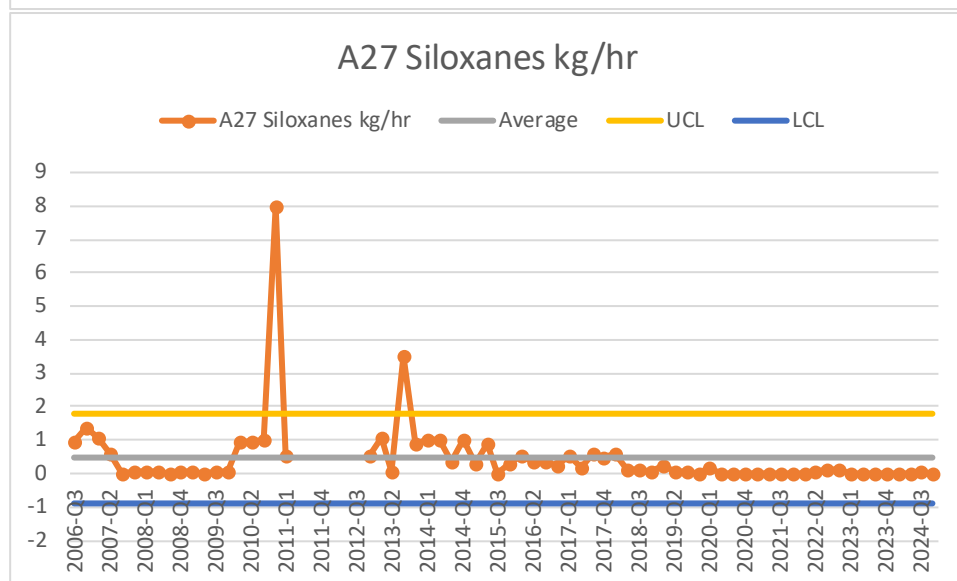
## Trends for Quarterly monitoring:



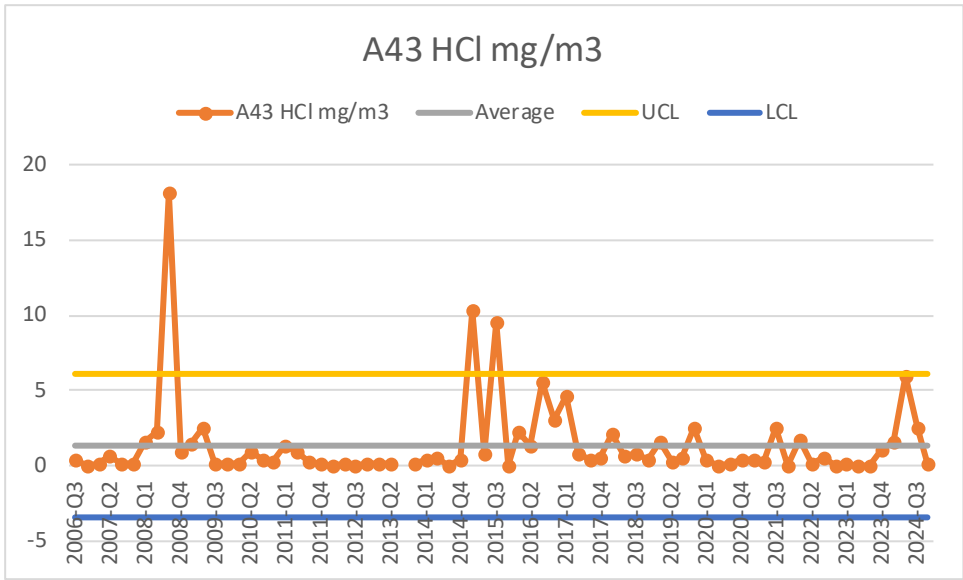
Results in control.



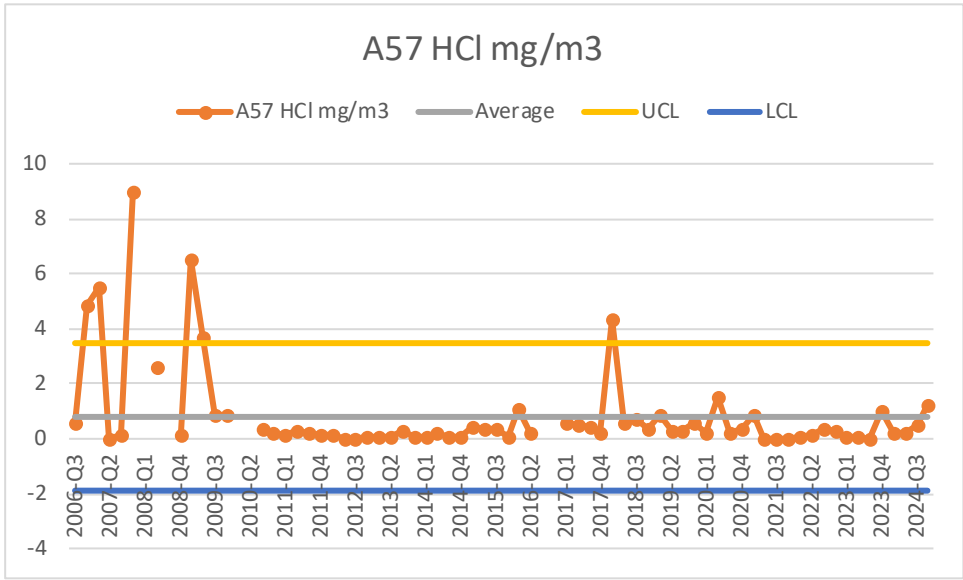
Results in control.



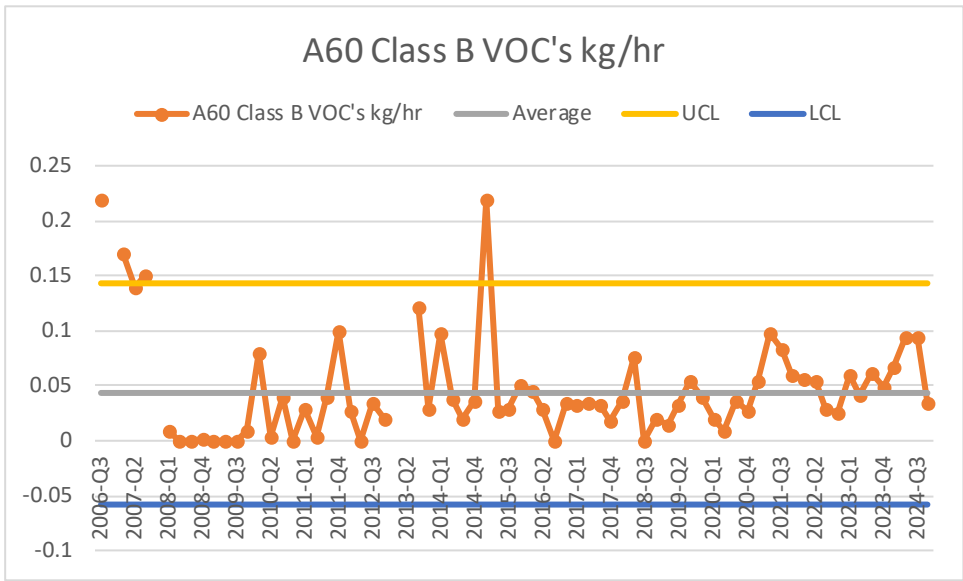
Results in control.



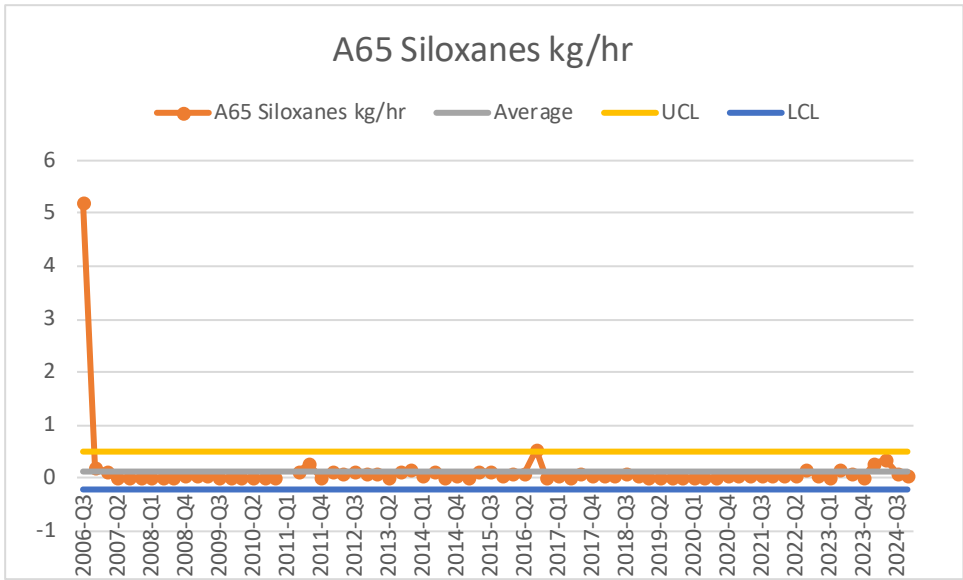
Results in control and within permit limit (10mg/m3).



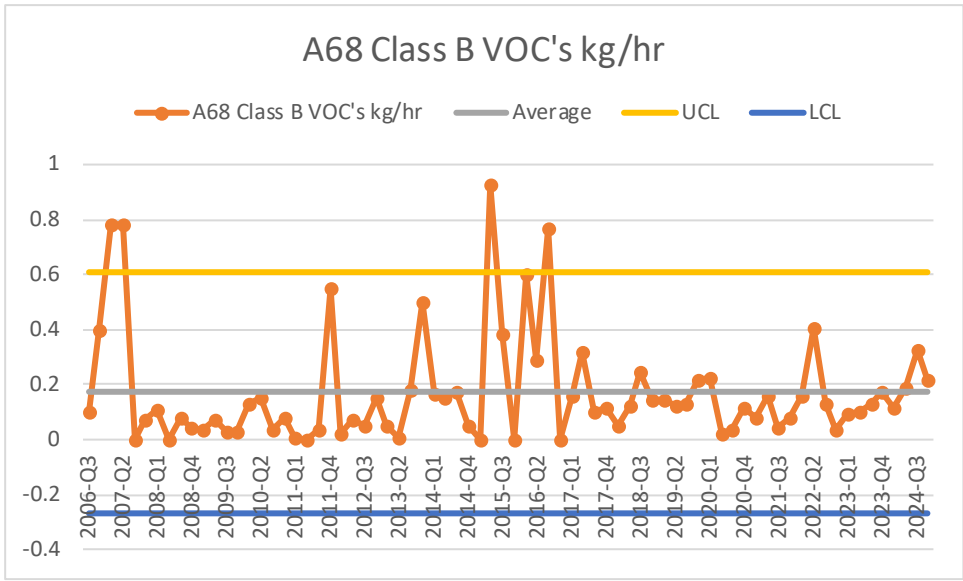
Results in control and within permit limit (10mg/m3).



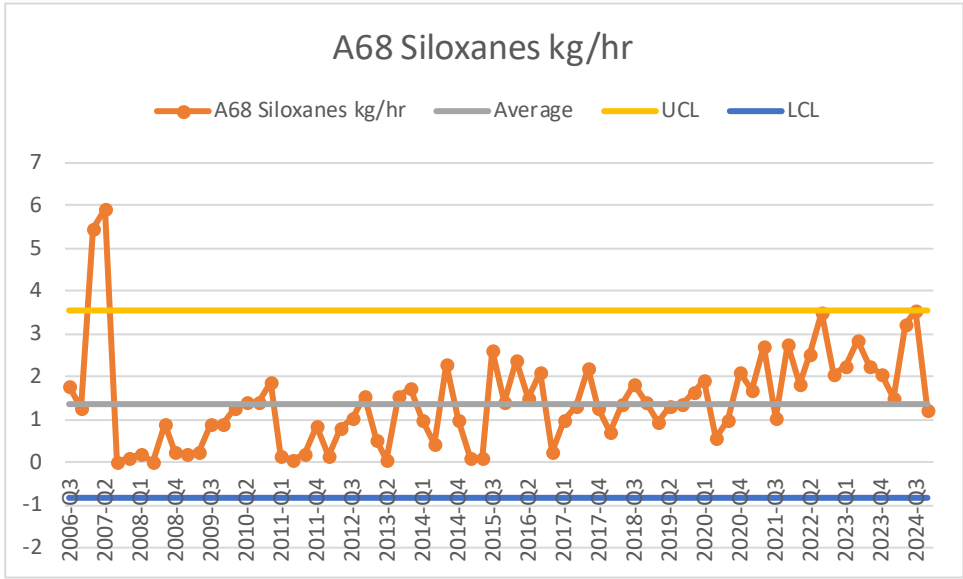
Results in control.



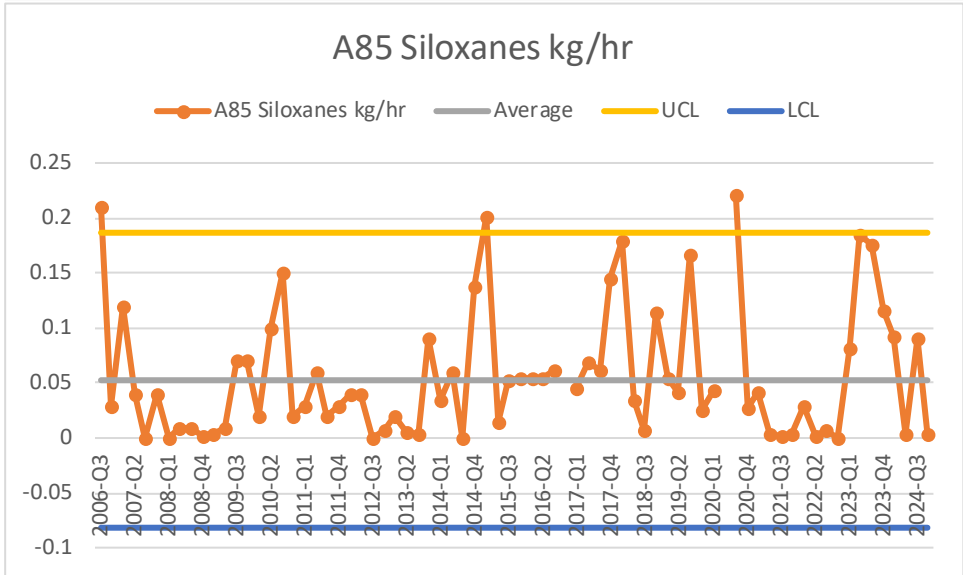
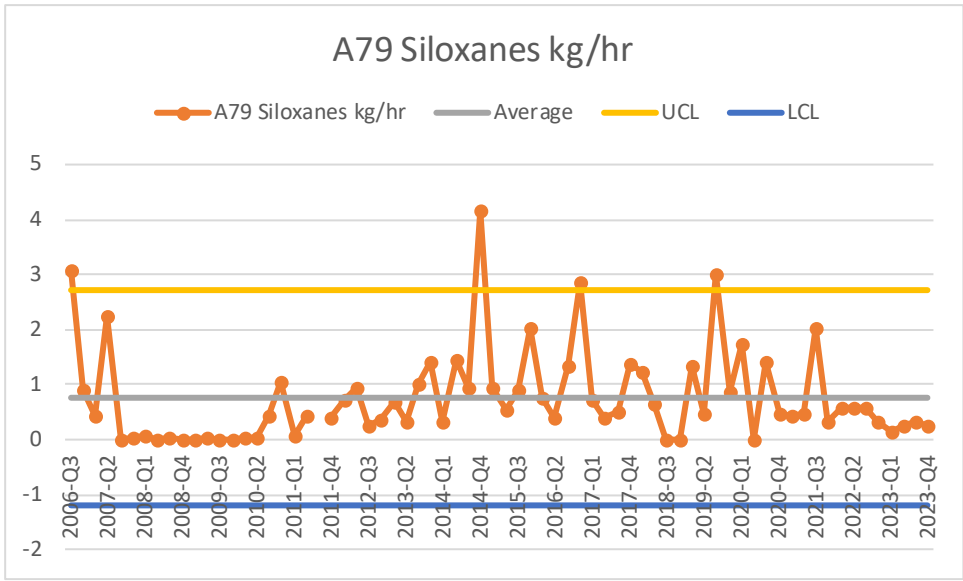
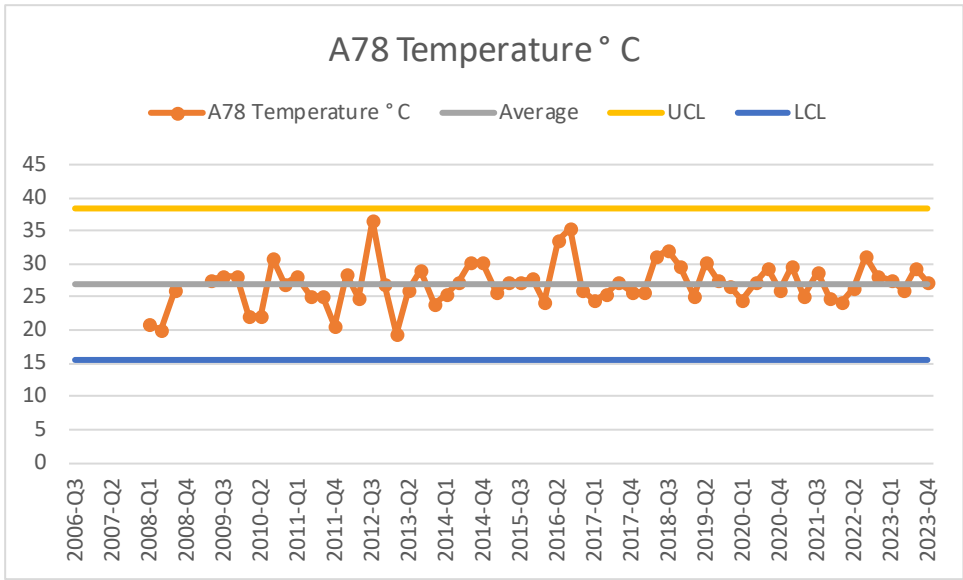
Results in control.

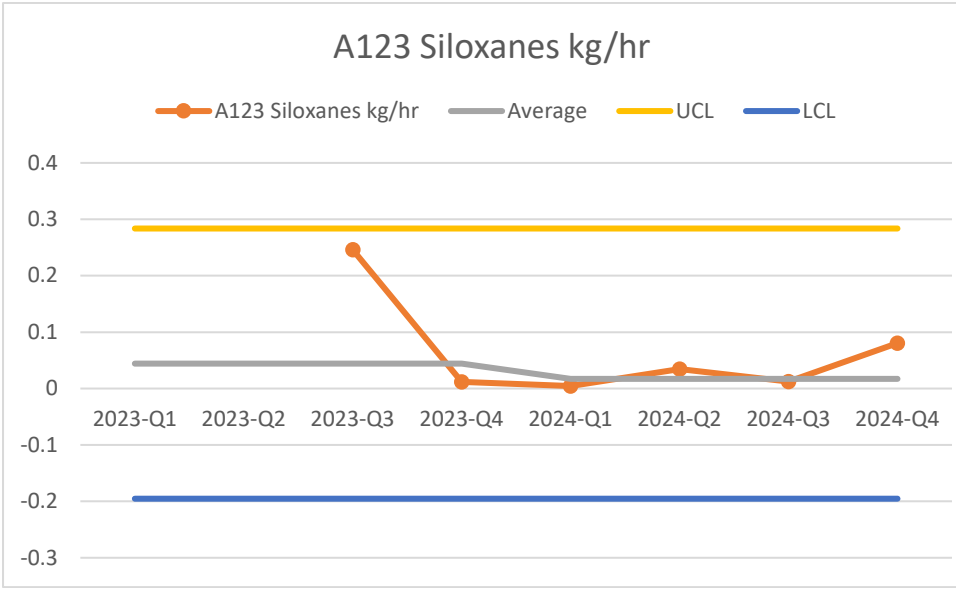


Results in control.

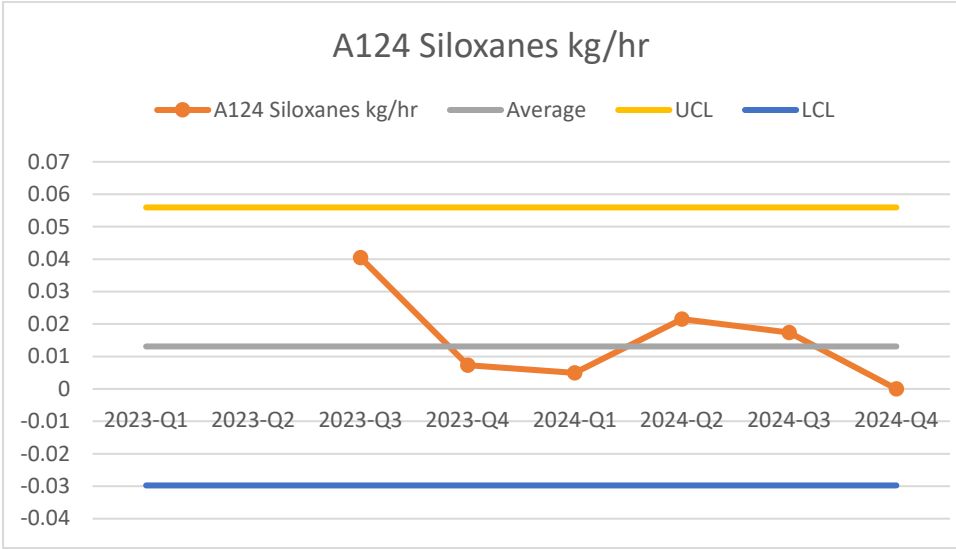


Results in control.



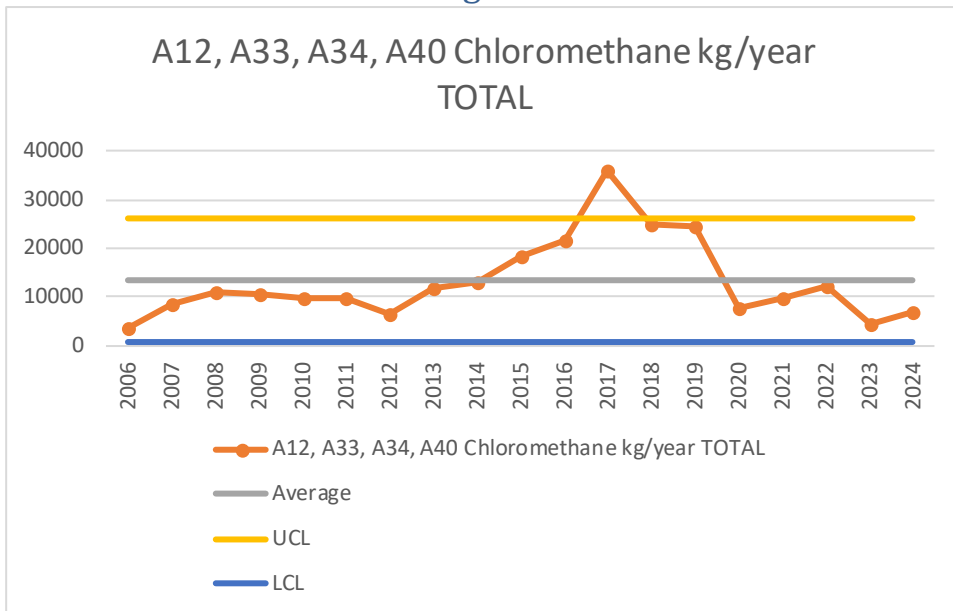


Results low

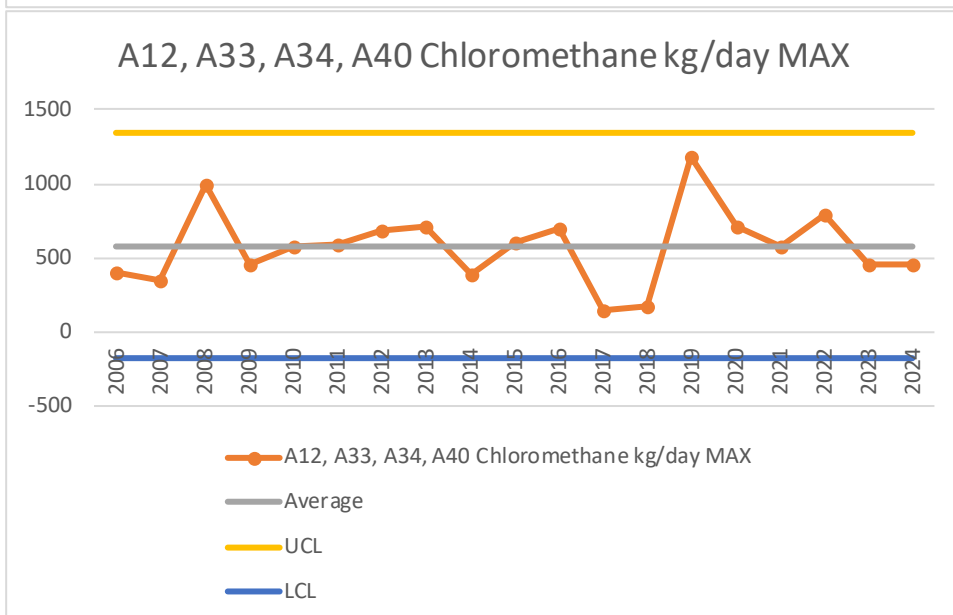


Results low

## Trends for Annual monitoring:

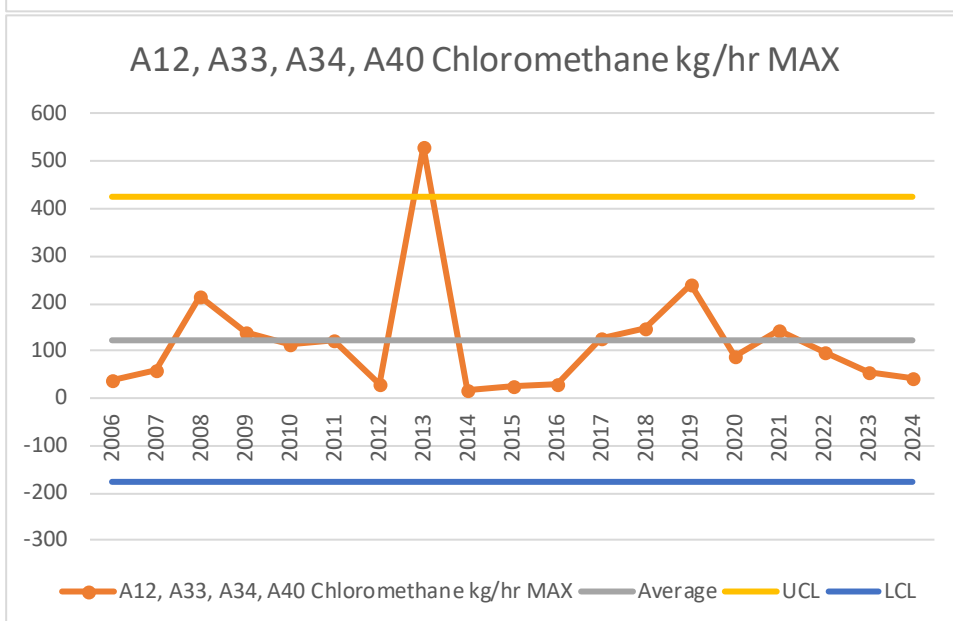


W714 (A12) and W718 (A33) did not run 2021, 2022, 2023 and 2024.



W714 (A12) and W718 (A33) did not run 2021, 2022, 2023 and 2024.

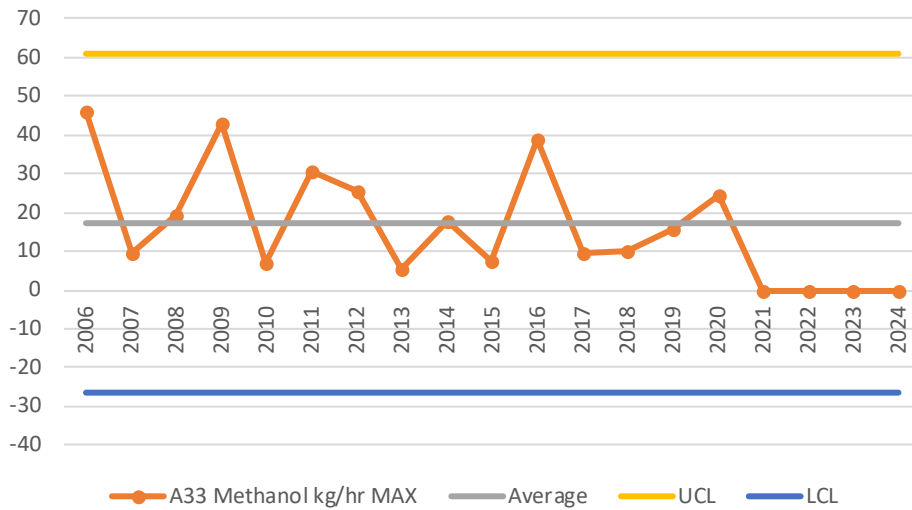
Results in control and within permit limit (1000 kg/day).



W714 (A12) and W718 (A33) did not run 2021, 2022, 2023 and 2024.

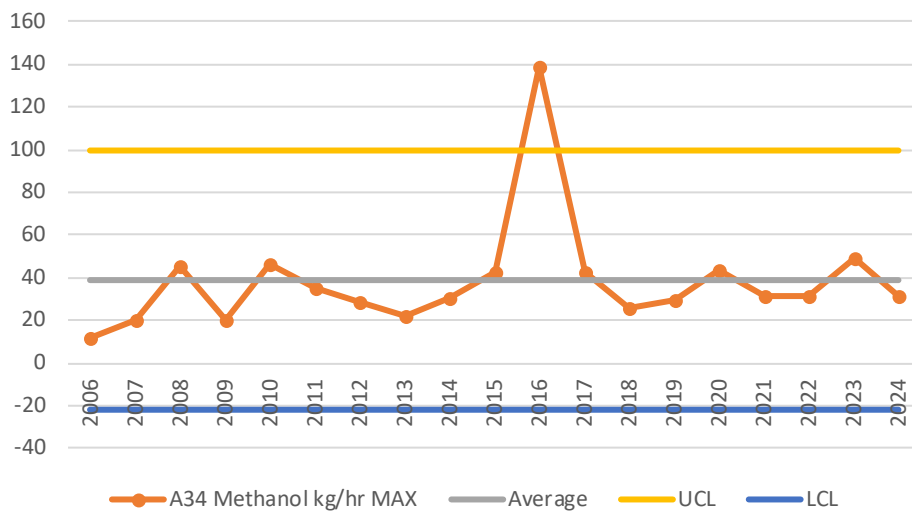
Results in control and within permit limit (250 kg/hr).

### A33 Methanol kg/hr MAX



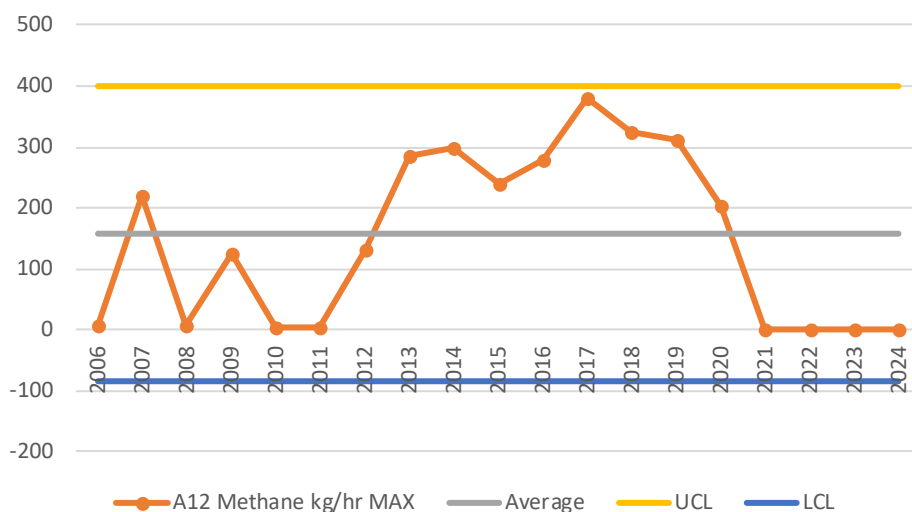
W718 (A33) did not run 2021, 2022, 2023 and 2024.

### A34 Methanol kg/hr MAX



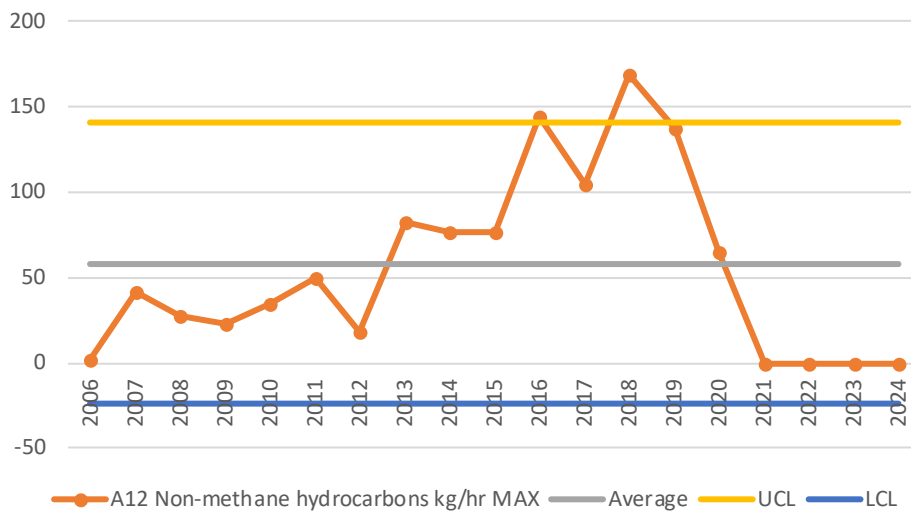
Results in control and within permit limit (max flow of 60kg/hr).

### A12 Methane kg/hr MAX



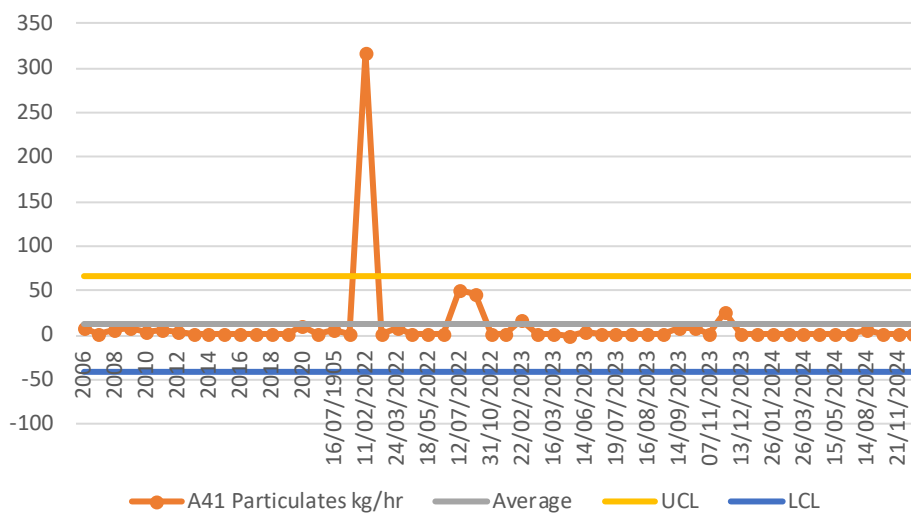
W714 (A12) did not run during 2021, 2022, 2023 and 2024.

### A12 Non-methane hydrocarbons kg/hr MAX



W714 (A12) did not run 2021, 2022, 2023 and 2024.

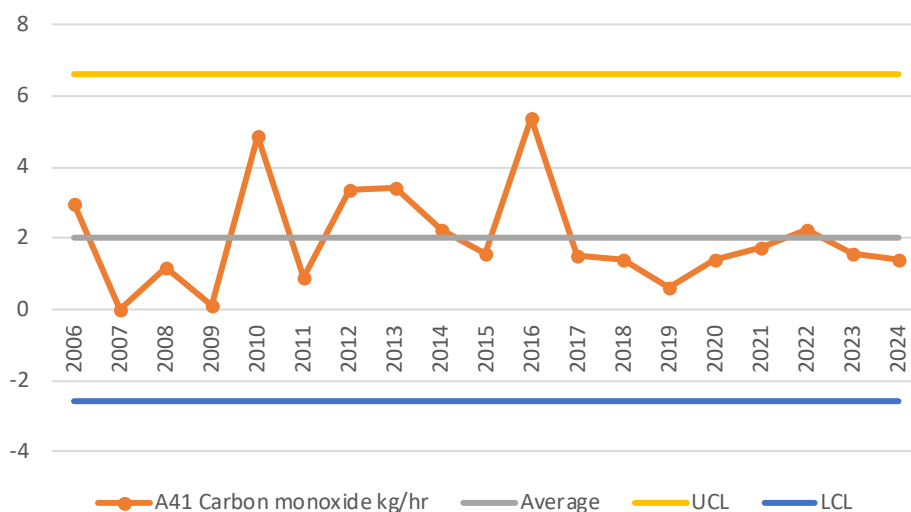
### A41 Particulates kg/hr



Permit requirement is annual sampling. Many extra samples taken throughout 2022, 2023 and 2024. All results for included on the chart. Propose to move back to annual sampling.

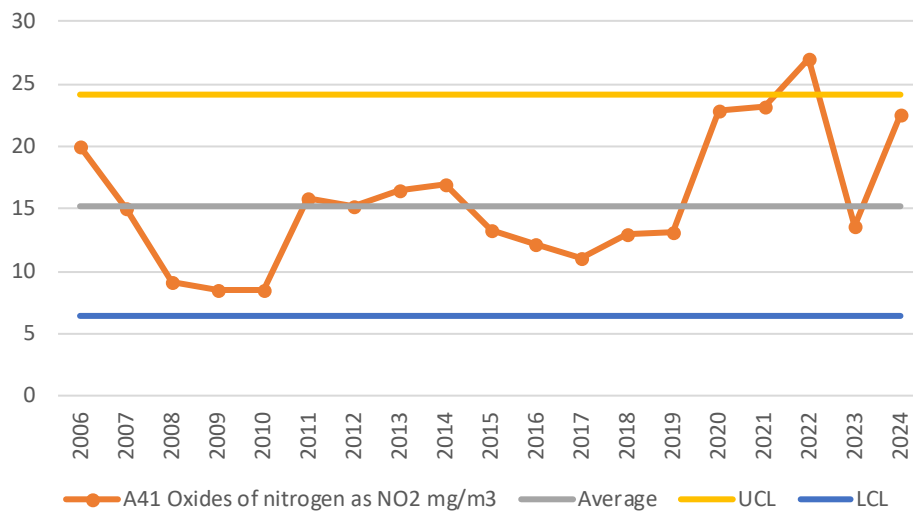
Permit limit (10 mg/m<sup>3</sup>).

### A41 Carbon monoxide kg/hr



Results in control and within permit limit (50mg/m<sup>3</sup>).

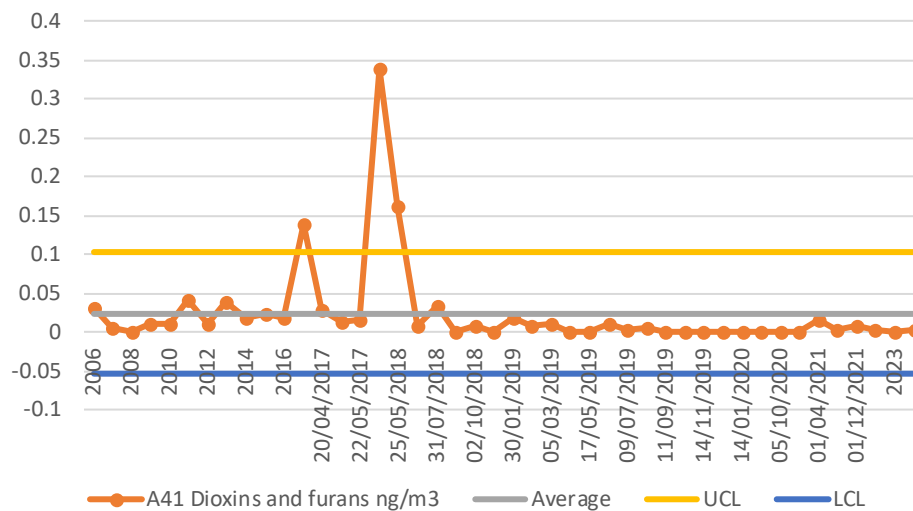
### A41 Oxides of nitrogen as NO2 mg/m3



Results out of control high, but still well within permit limit (100mg/m3).

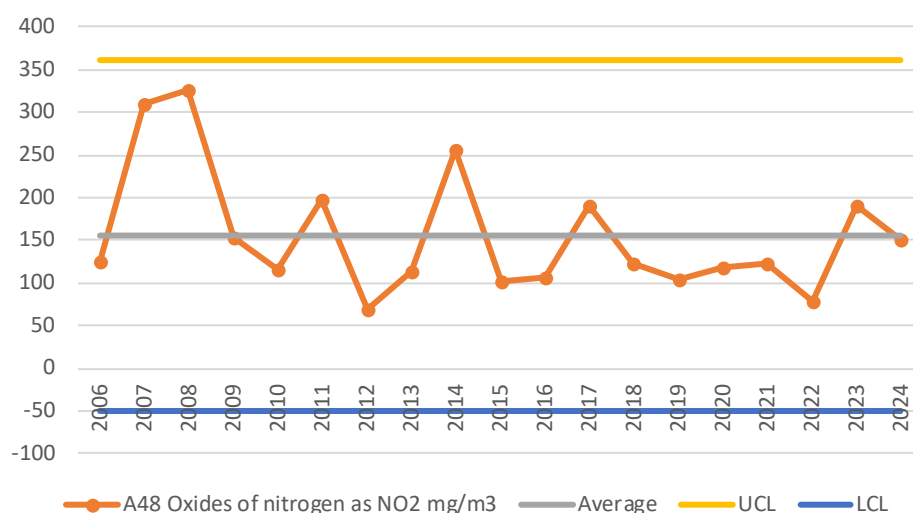
This will continue to be monitored on a monthly basis.

### A41 Dioxins and furans ng/m3



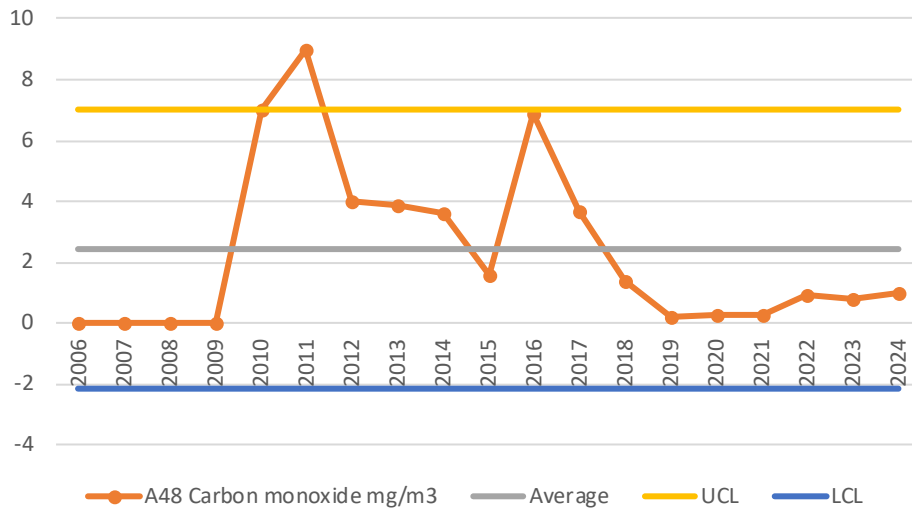
Results in control and within permit limit (0.1ng/m3).

### A48 Oxides of nitrogen as NO2 mg/m3



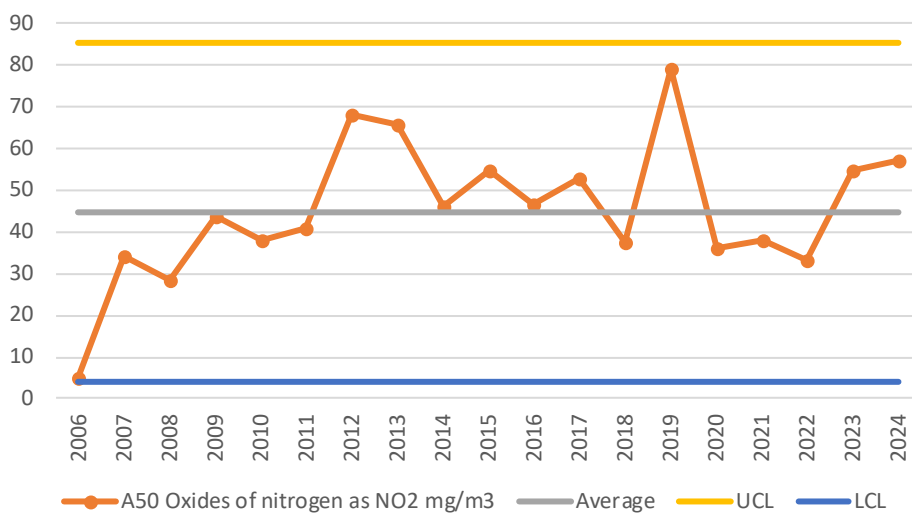
Results in control.

### A48 Carbon monoxide mg/m3



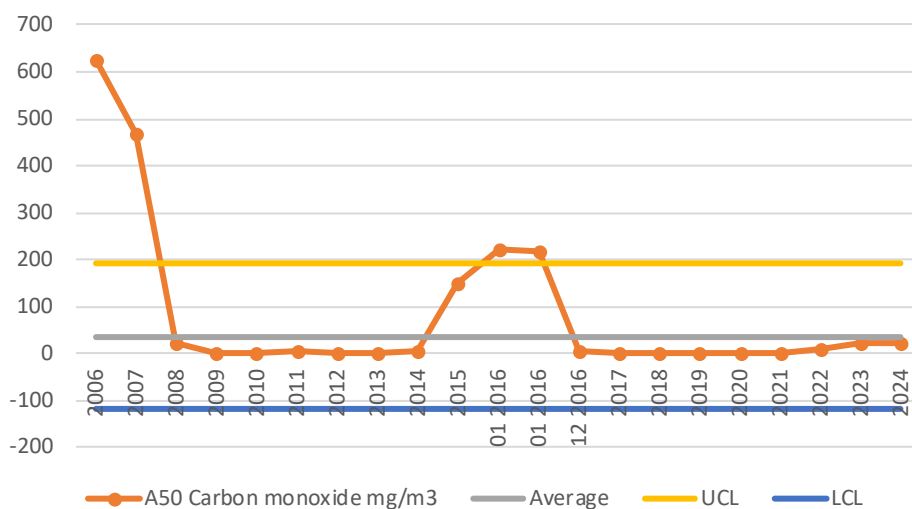
Results in control.

### A50 Oxides of nitrogen as NO2 mg/m3

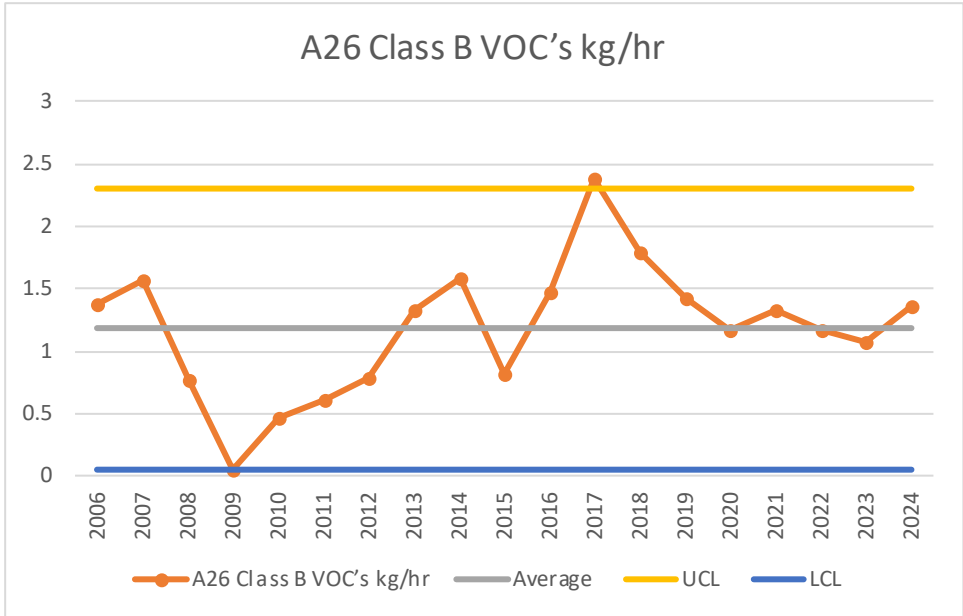


Results in control and within permit limit (200mg/m3).

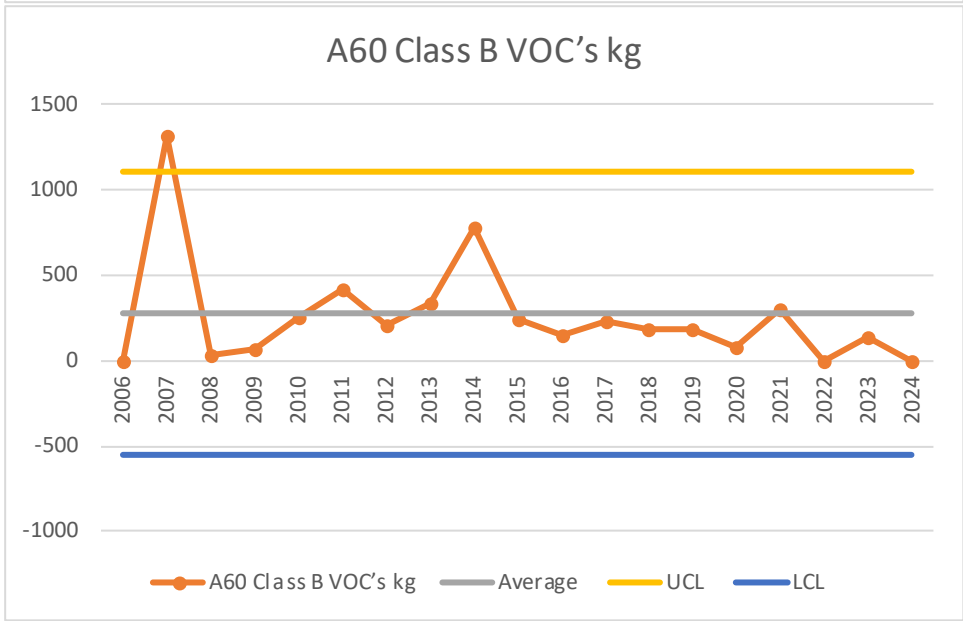
### A50 Carbon monoxide mg/m3



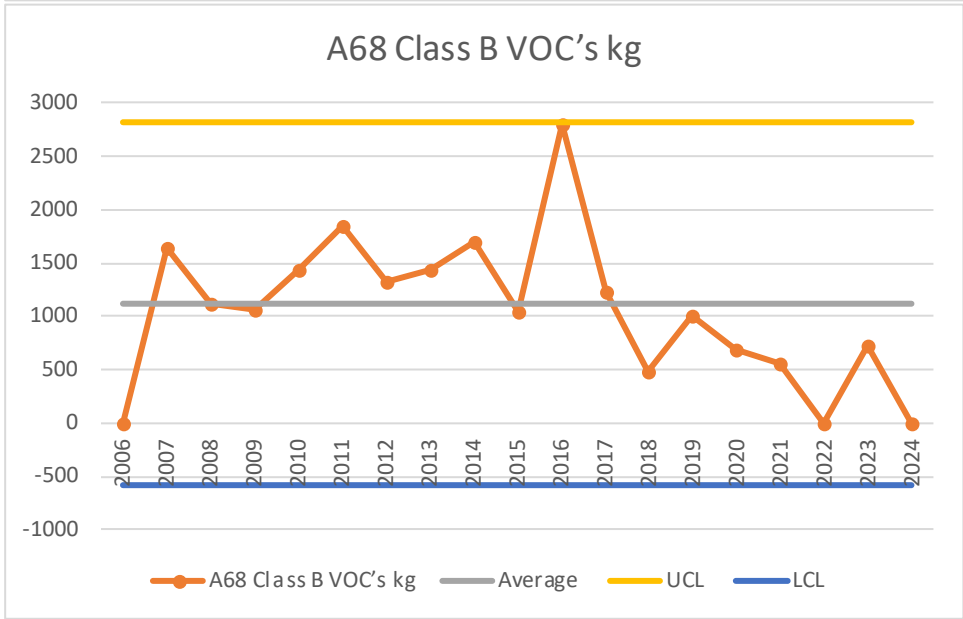
Results in control and within permit limit (200mg/m3).



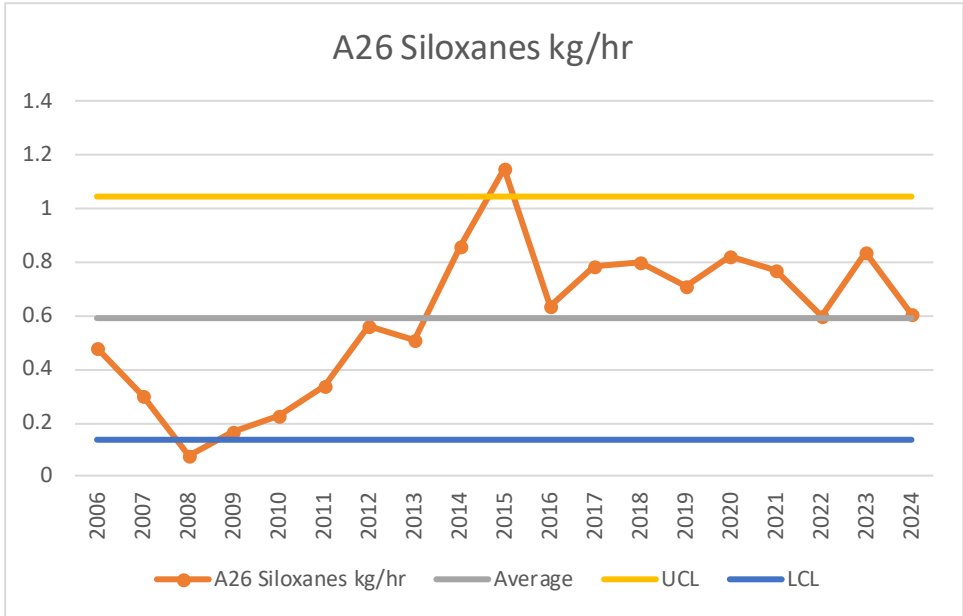
Results in control.



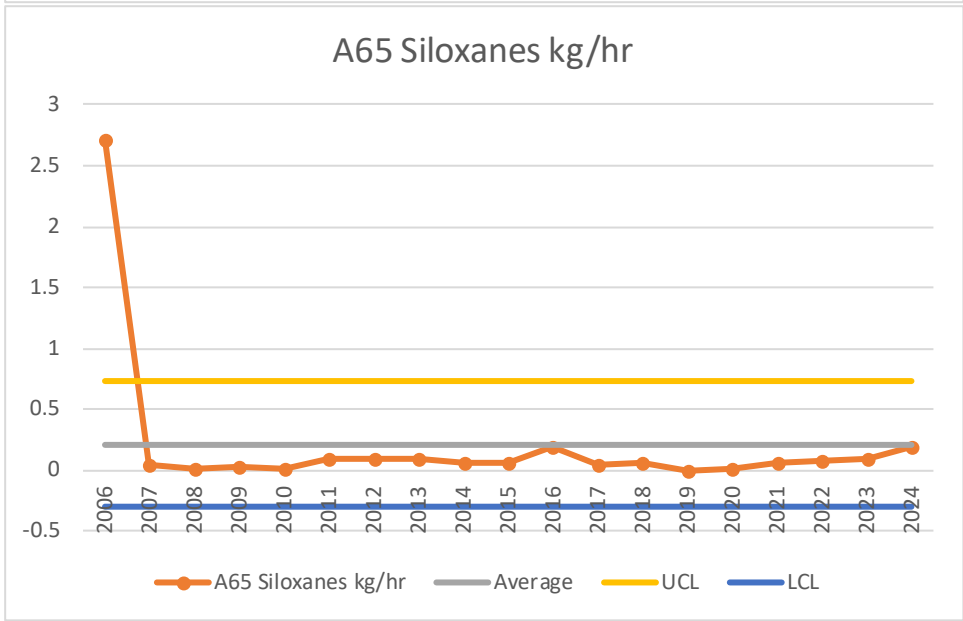
Results in control



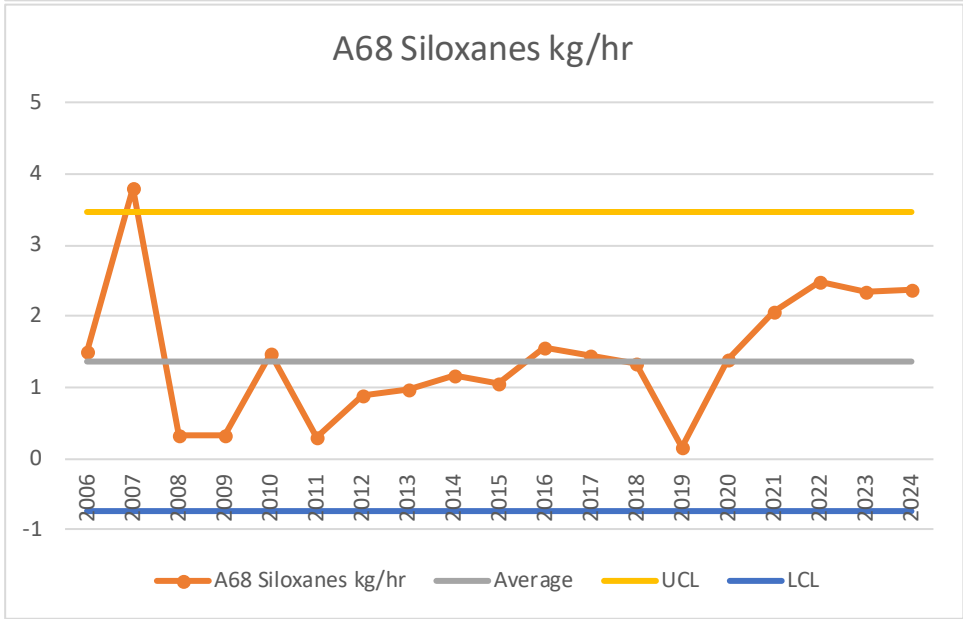
Results in control



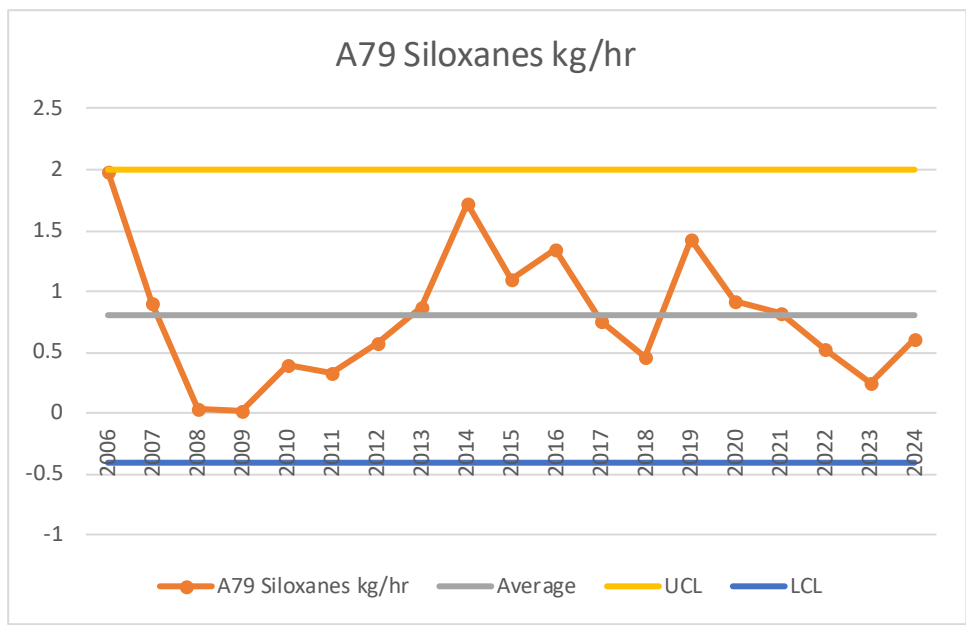
Results in control



Results in control



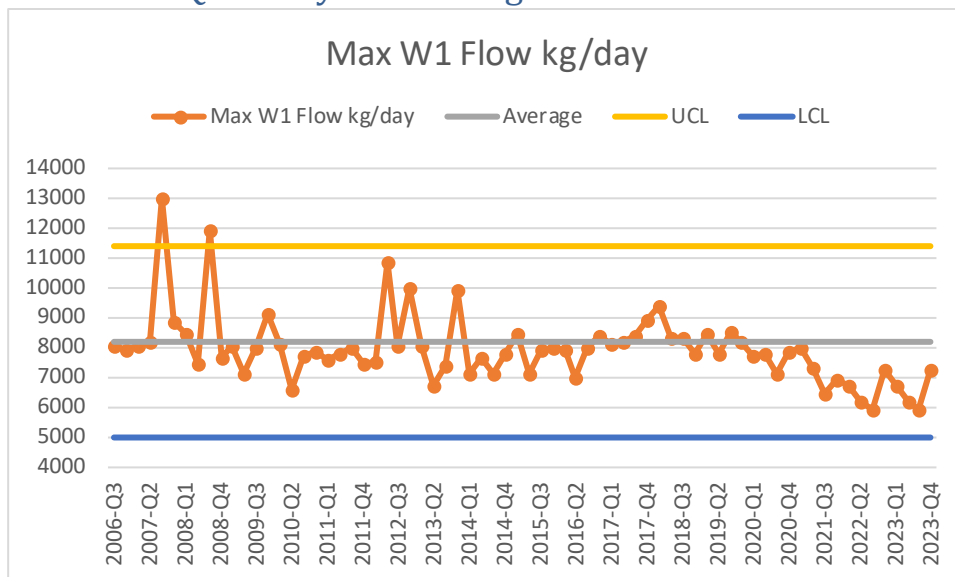
Results in control



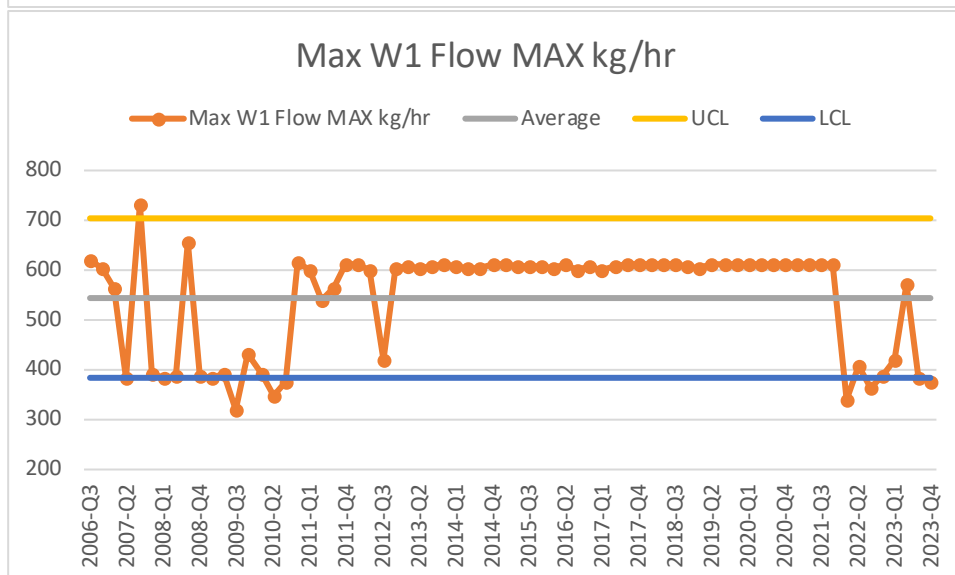
Results in control

## Water monitoring

### Trends for Quarterly monitoring:

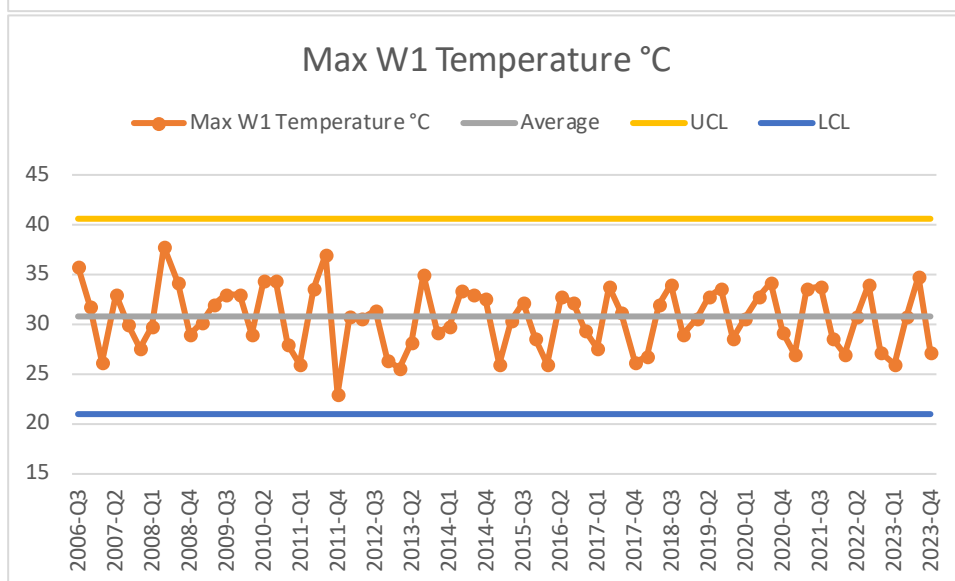


Results in control and within permit limit (11,000 m<sup>3</sup>/day)

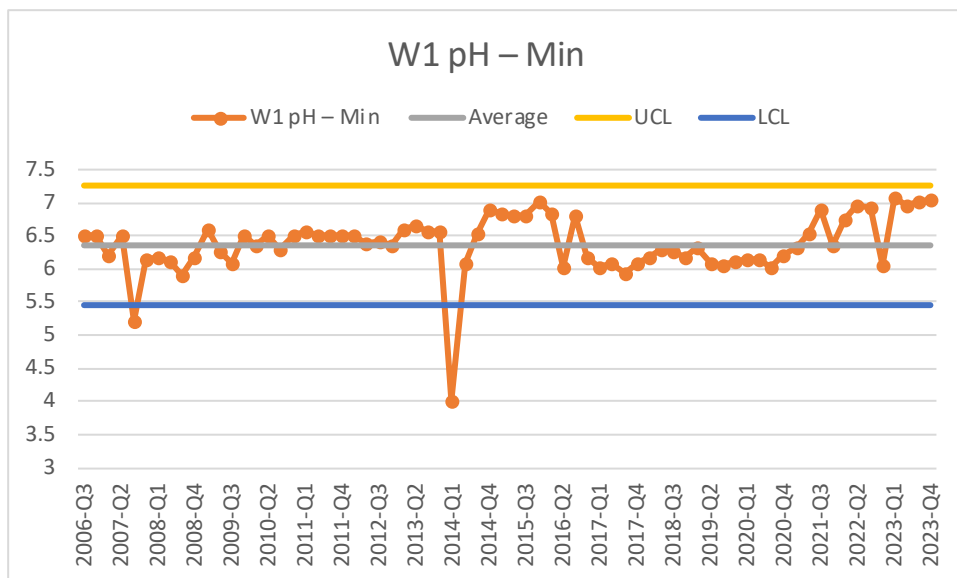


Results in control and within permit limit (625 m<sup>3</sup>/hr)

*Data from Q1 2022 onwards calculated using max of 15 minute averages rather than instantaneous maximums (in line with MCERTS)*

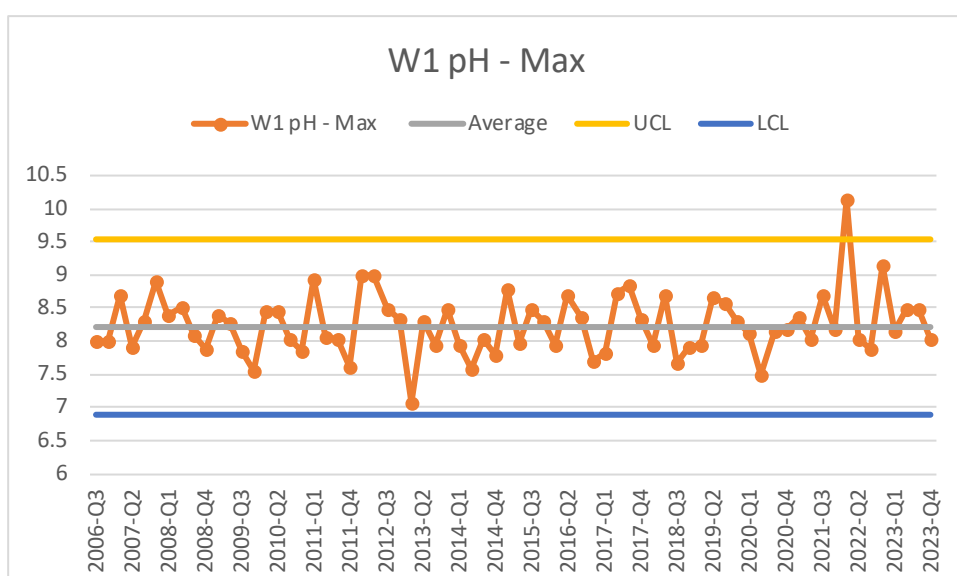


Results in control and within permit limit (40°C)

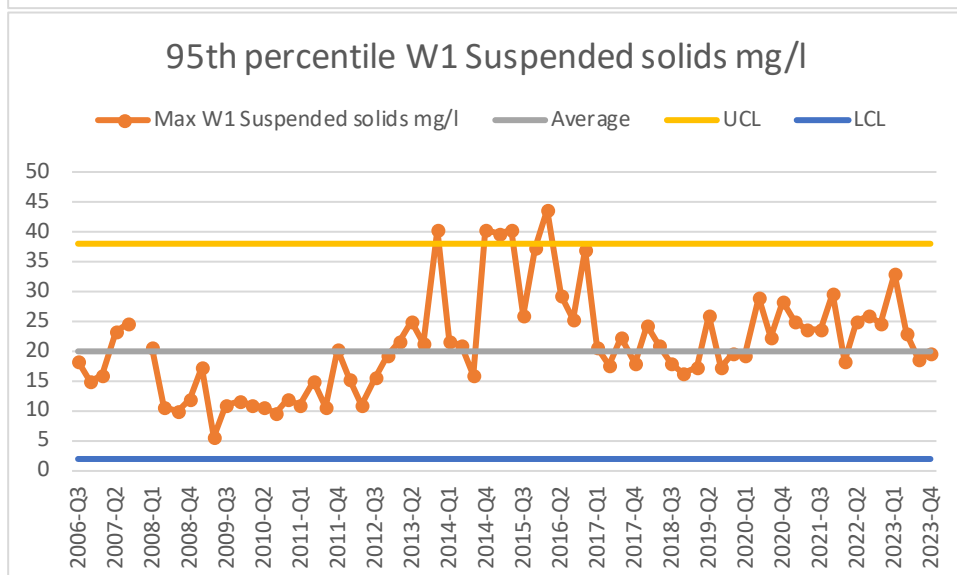


Results in control and within permit limit ( $>6$ )

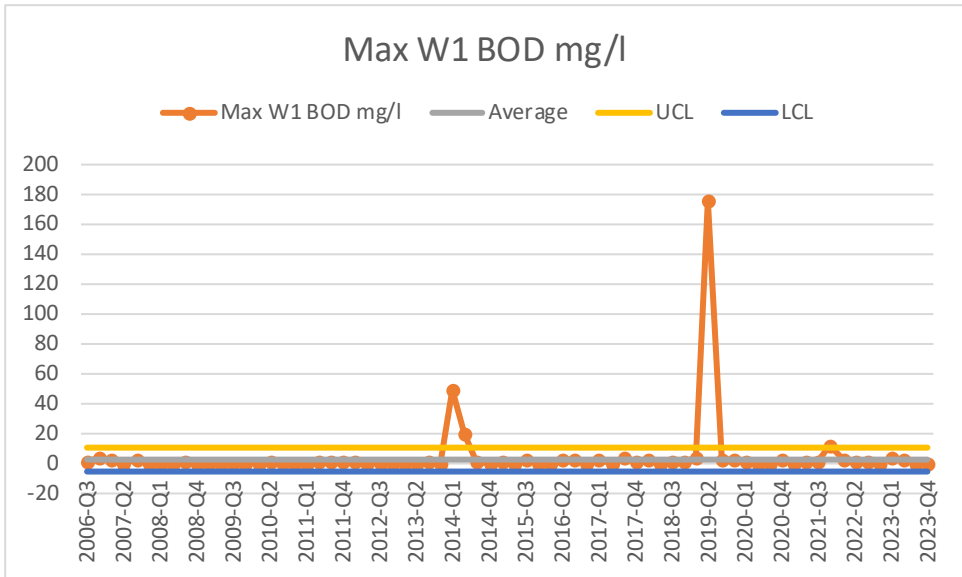
You can see the effect of the increase in pH to improve copper removal really well in this chart.



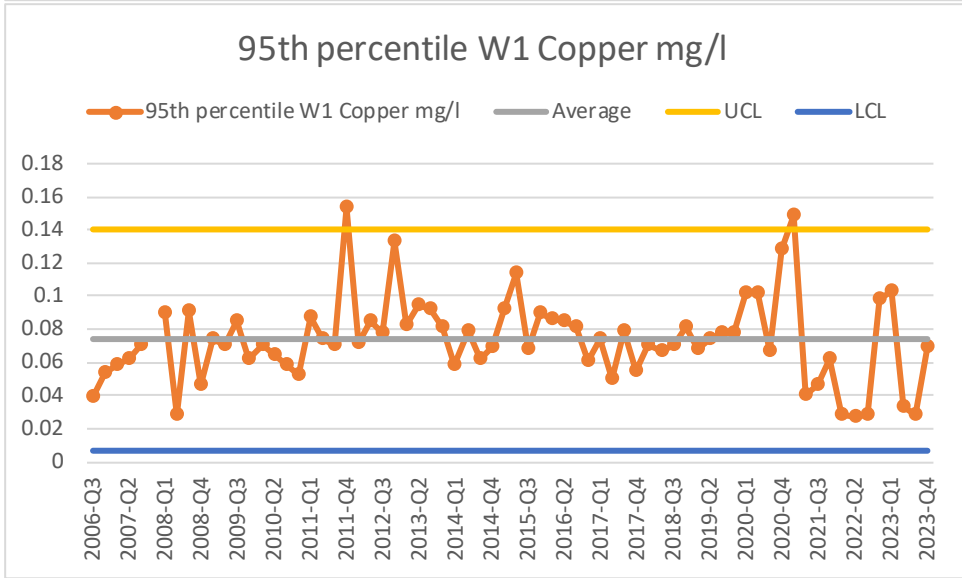
Results in control and within permit limit ( $<9$ )



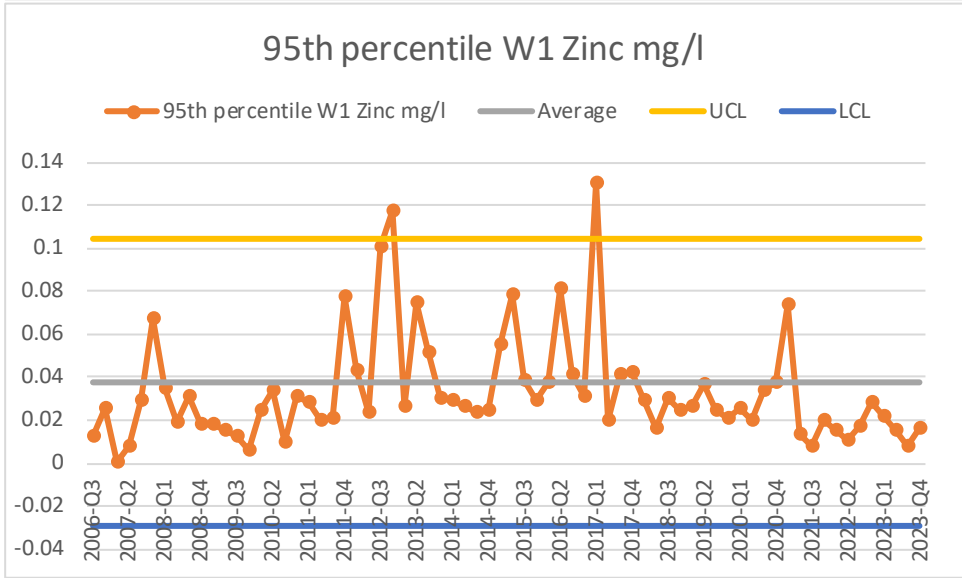
Results in control and within permit limit (30 mg/l)



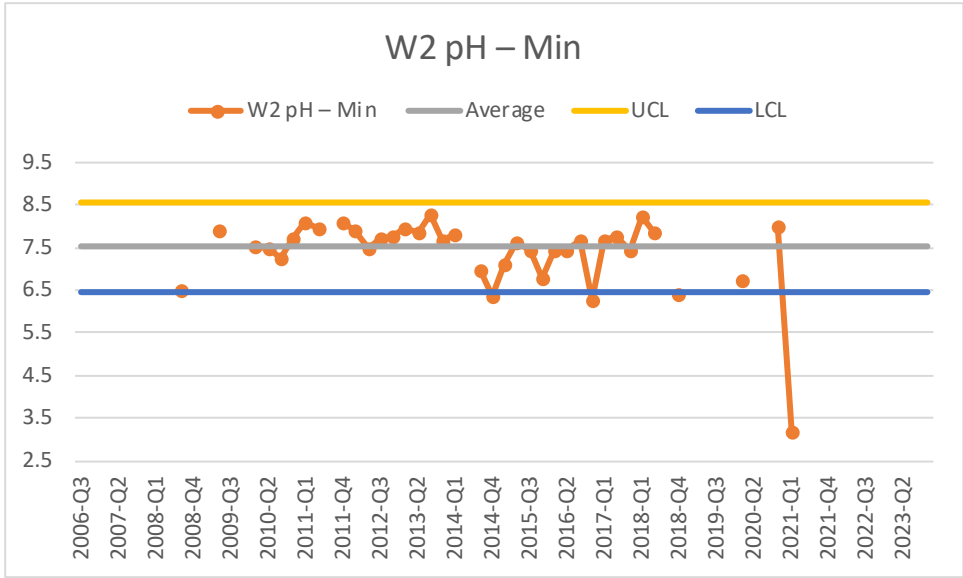
Results in control and within permit limit (20 mg/l)



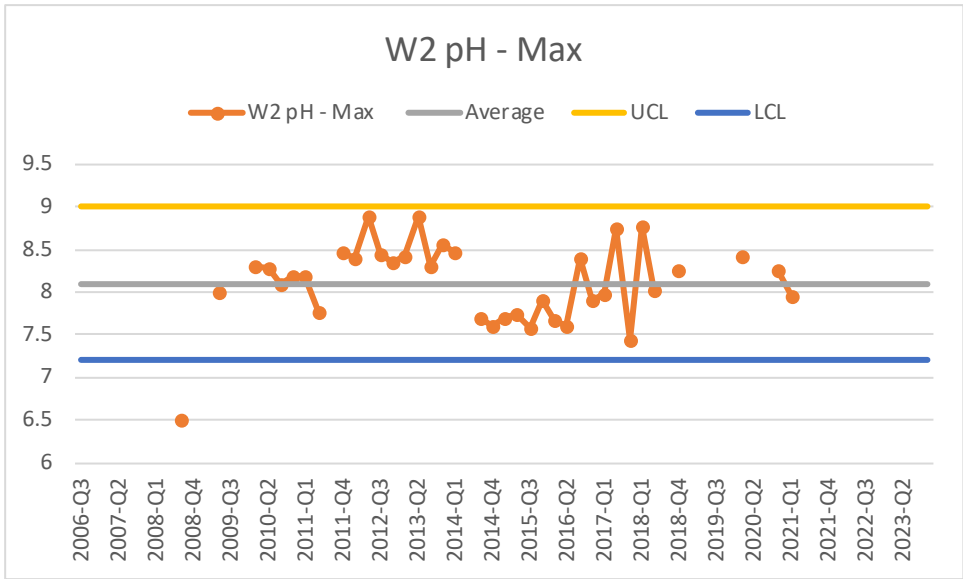
Q1 2024 result was just above limit due to ongoing SWWT issues which started in Q4-2022. This problem was resolved by 15<sup>th</sup> January and copper was low for the rest of the quarter.



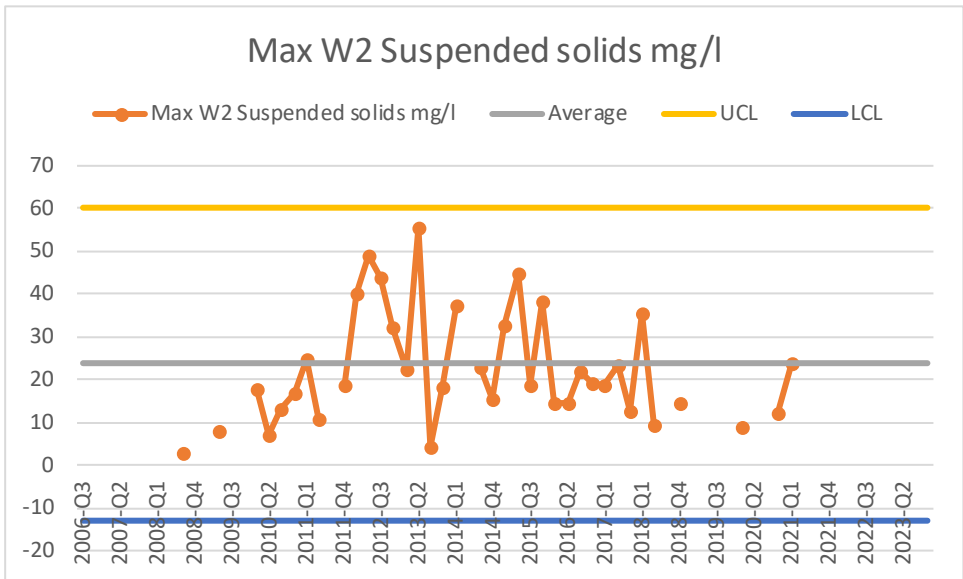
Results in control and within permit limit (0.5 mg/l)



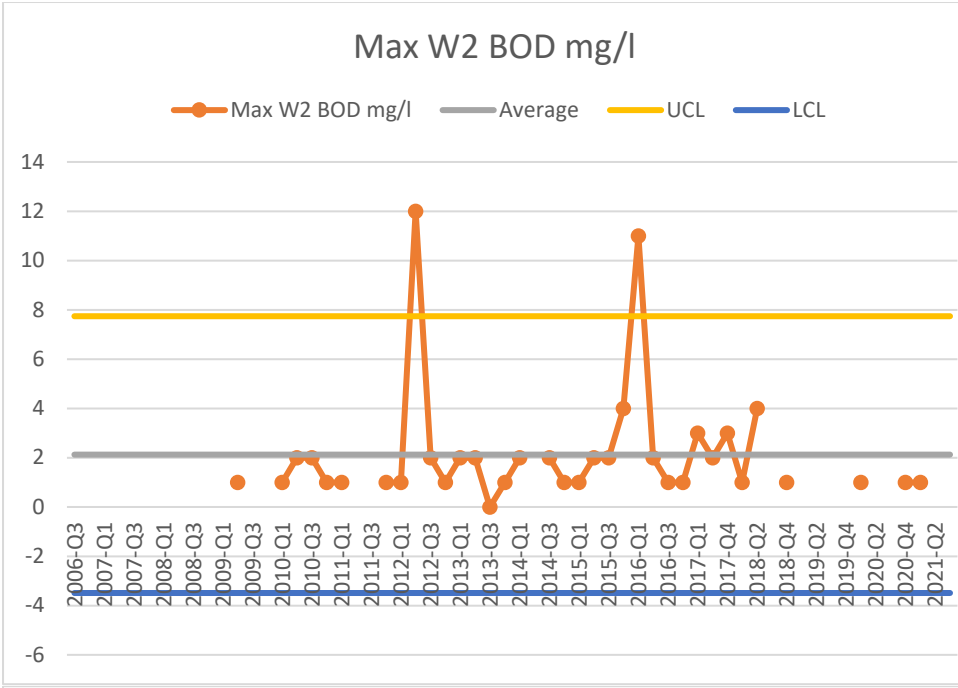
No storm water released  
to river in 2024



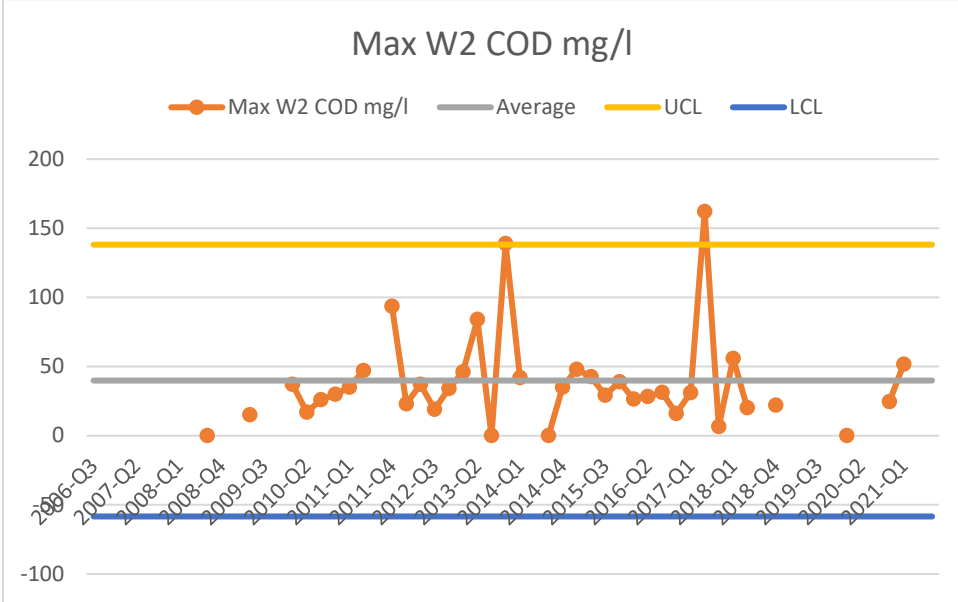
No storm water released  
to river in 2024



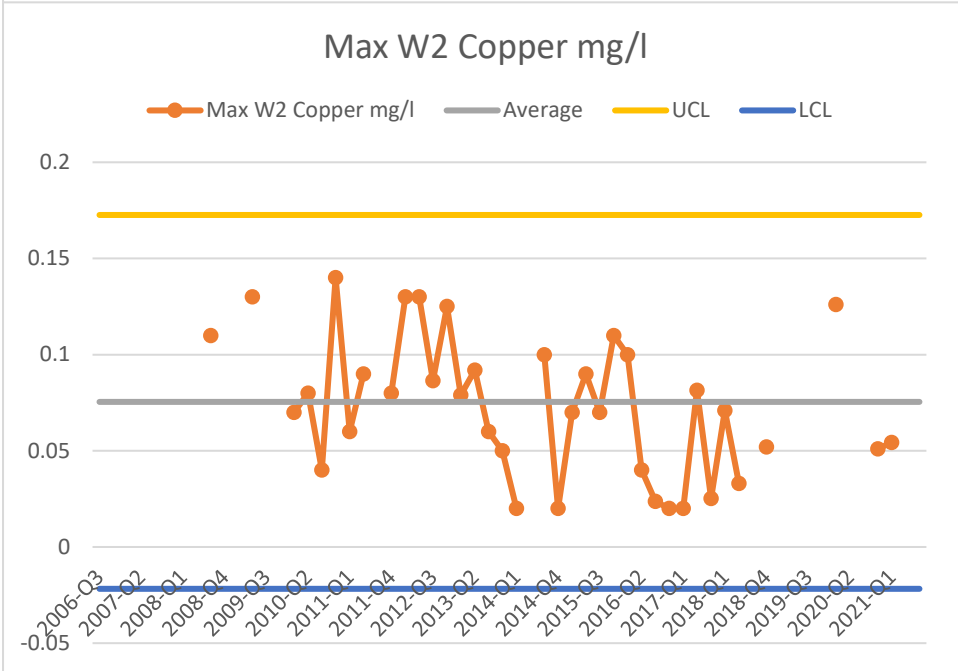
No storm water released  
to river in 2024



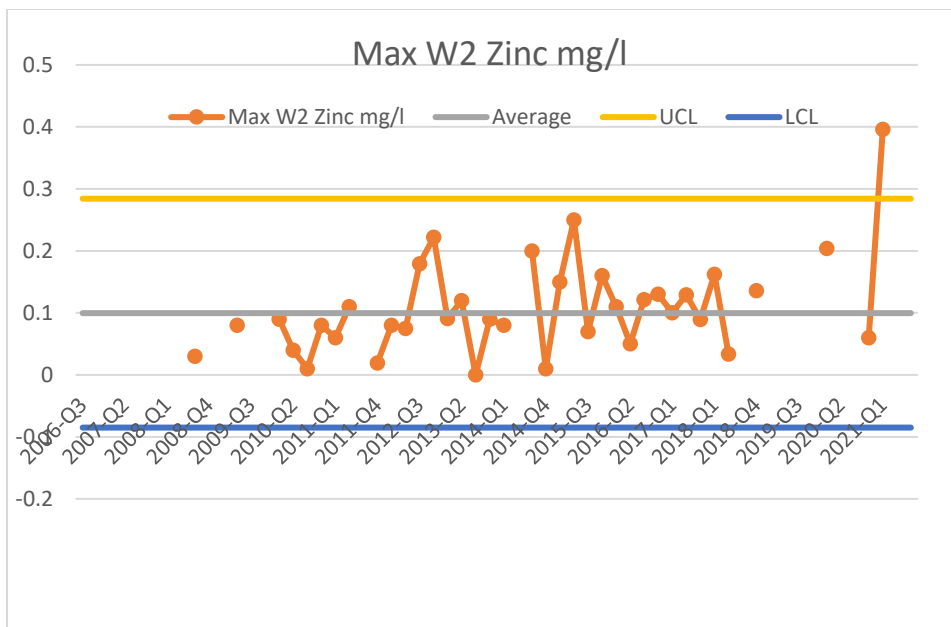
No storm water released  
to river in 2024



No storm water released  
to river in 2024



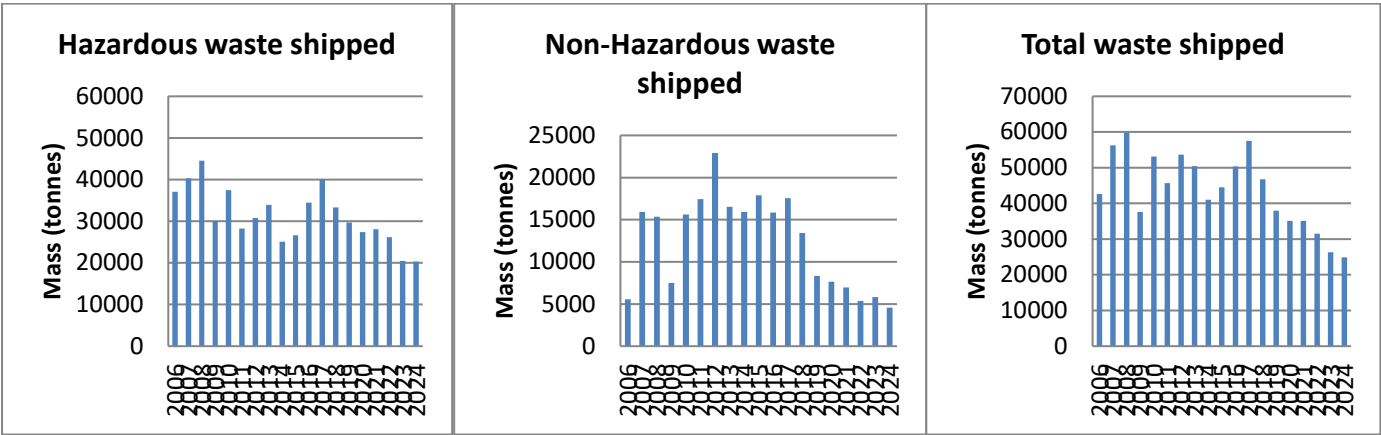
No storm water released  
to river in 2024



No storm water released  
to river in 2024

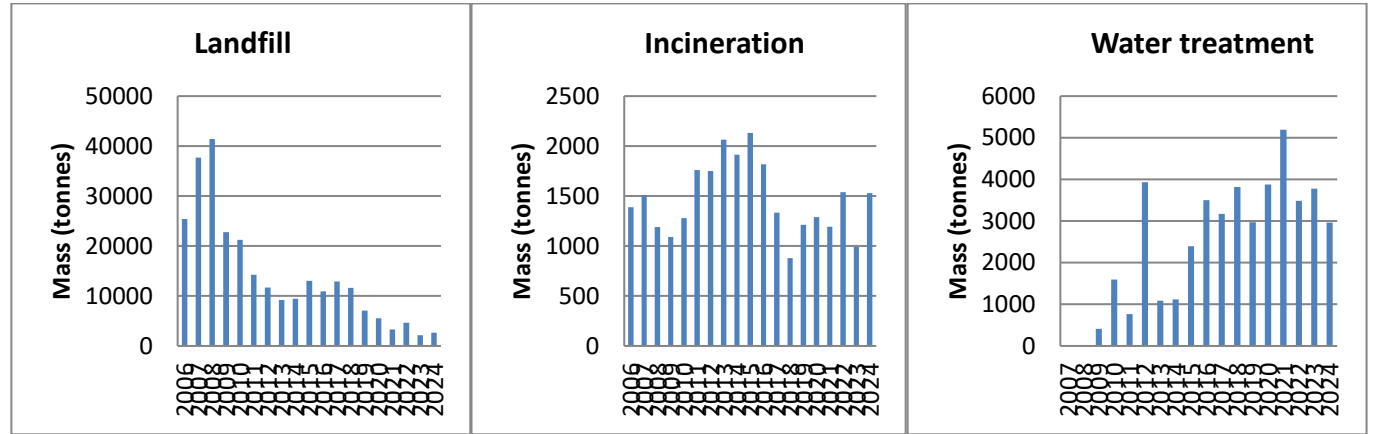
Waste

Waste shipped from the site in 2024 was as follows:

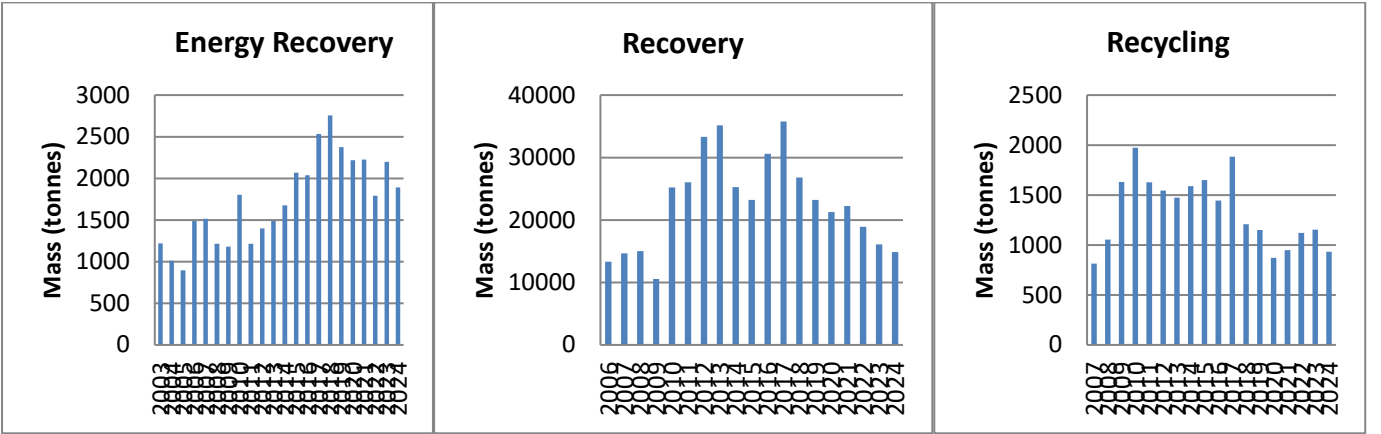


Waste shipments were slightly lower in 2024 over 2024 in line with slightly lower production.

Disposal



Recovery



- Landfill was up a little in 2024 vs 2023, but still much lower than previously
- Incineration was up and Recovery down during 2024 due to Force Majeure at Grillo in Germany
- Recycling saw a small increase from last year, but was more in line with previous years

## Complaints

There were 5 complaints to the Barry Industrial complex helpline in 2024

- 2 noise complaints:
  - One attributed to a temporary air conditioning unit at Dow Silicones. Sound proofing installed around unit and resident satisfied.
  - One regarding a low sounding boom, nothing was found when investigated.
- 1 regarding overgrown vegetation at the back of her garden from the nature reserve. At the time we were unable to cut back due to nesting birds. This work has now been completed, with a large clearance left.
- 2 regarding particulate deposits on their property, no source found.