Annual Performance and Monitoring review
EPR Permit BR9685IX
Dow Silicones UK Ltd - 2023

+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

Contents

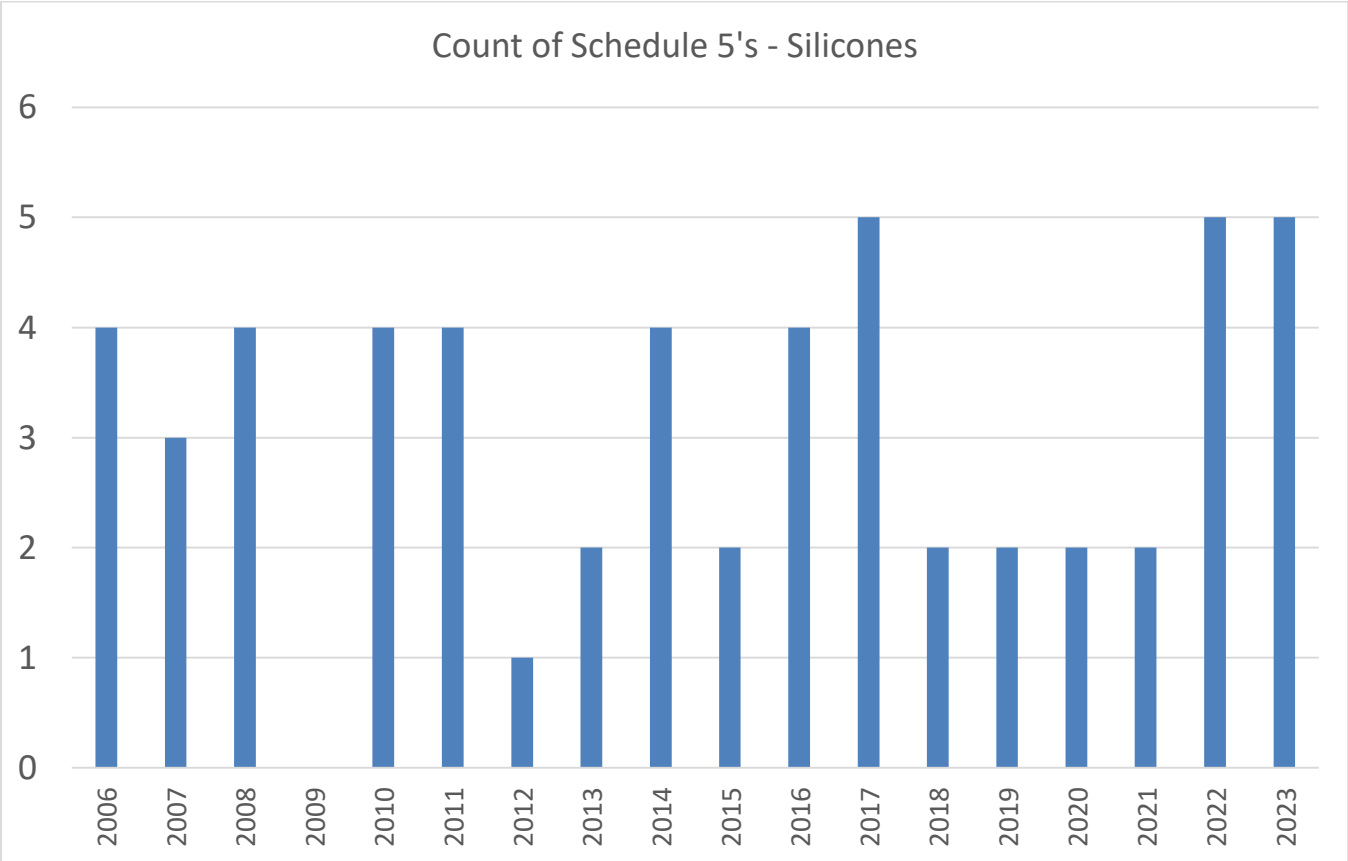
Summary

The report includes details of our performance during 2023. SPC charts have been used for all analytical monitoring we carry out for releases to air and water.

Points of interest for 2023 :

- Production was slightly lower in 2023 versus 2022, this can be seen also with lower waste.
- Process plants W714 and W718 did not run during 2023.
- The SWWT operational challenges which started at the end of 2022 continued until the middle of January.
- Methyl chloride cumulative venting to atmosphere was very low in 2023, this is due to better compressor reliability.
- Half yearly noise monitoring continues as part of our Noise Management programme.

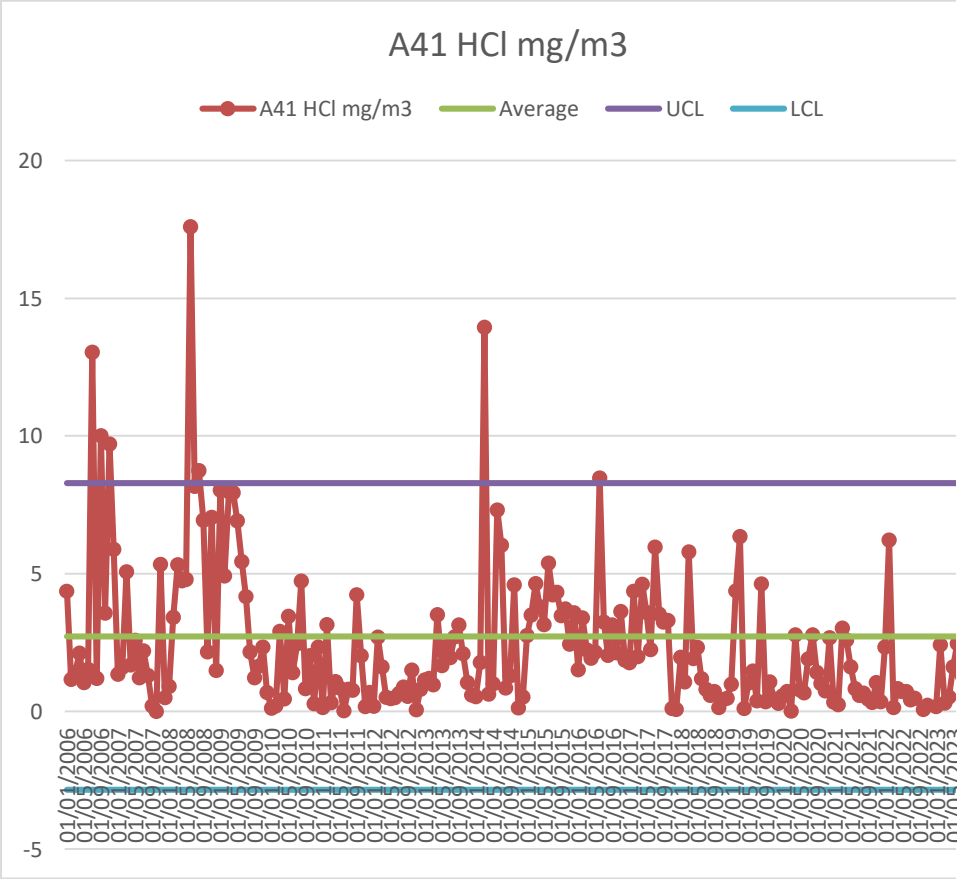
Incidents



Schedule 5's submitted during 2023:

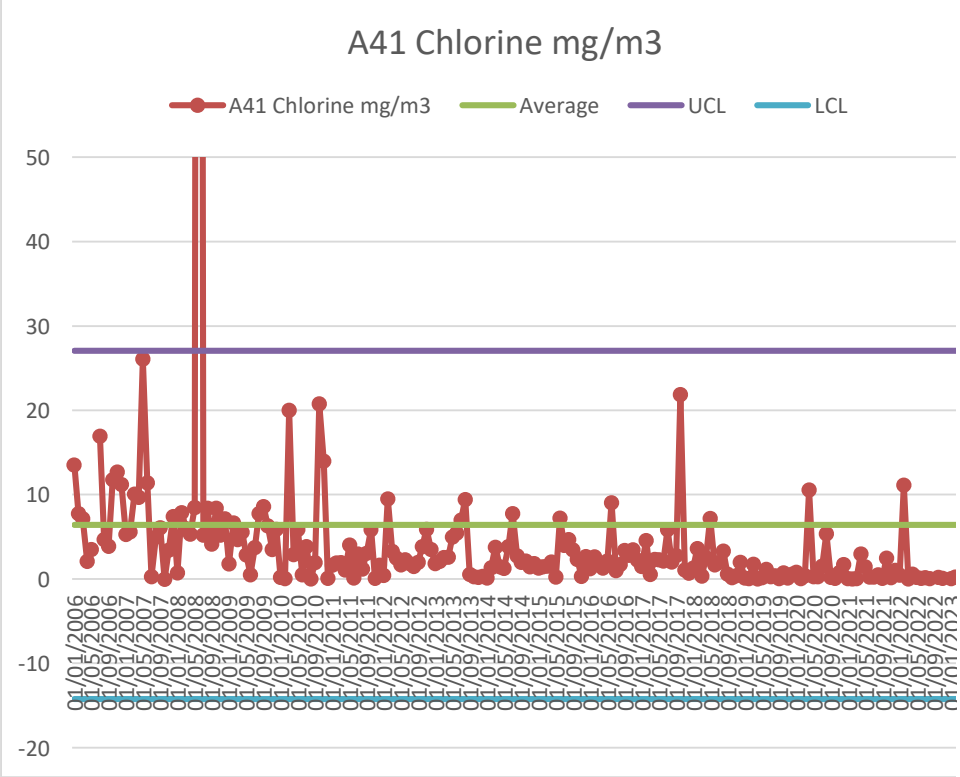
- W1 Copper – 95th percentile breach for Copper linked to the ongoing SWWT plant issues which started in Q4 2022
- W1 Suspended solids– 95th percentile breach for Suspended Solids linked to the ongoing SWWT plant issues which started in Q4 2022
- W953 jetting bay – HCl vapour release whilst carrying out cleaning of a heat exchanger bundle.
- 225 tank vent – small VOC release point identified during BREF sampling.
- A65 quarterly sample – sample unable to be taken due to reduced running and scaffold platform no longer in place.

Air monitoring
Trends for Monthly monitoring



Results in control and within permit limit (15mg/m3).

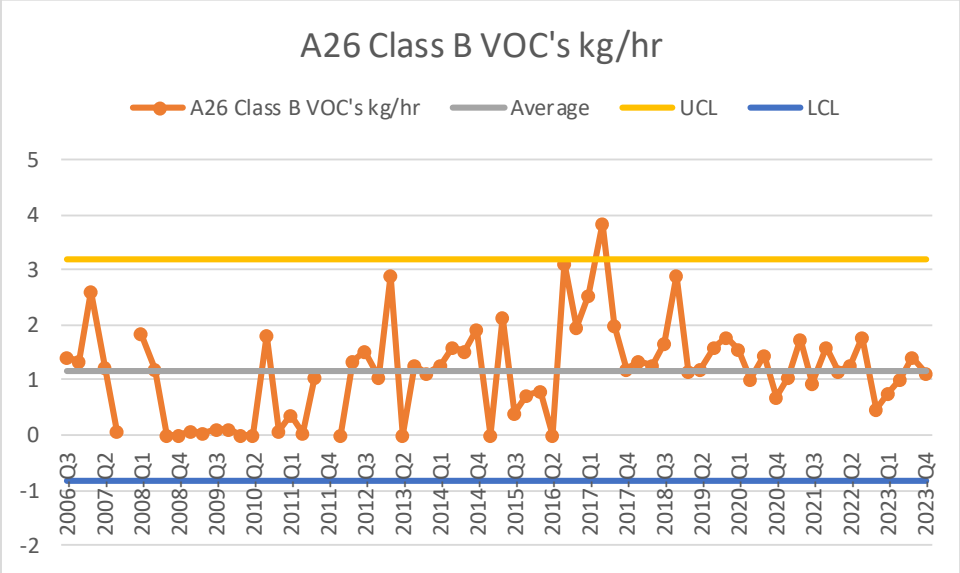
2023 Annual average = 1.079 mg/m3



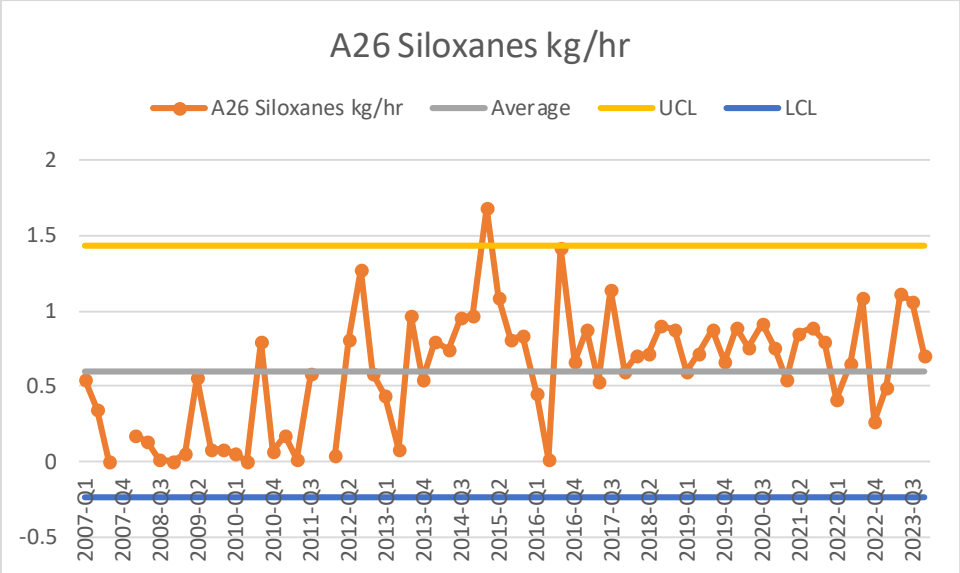
Results in control and within permit limit (15mg/m3).

2023 Annual average = 1.092mg/m3

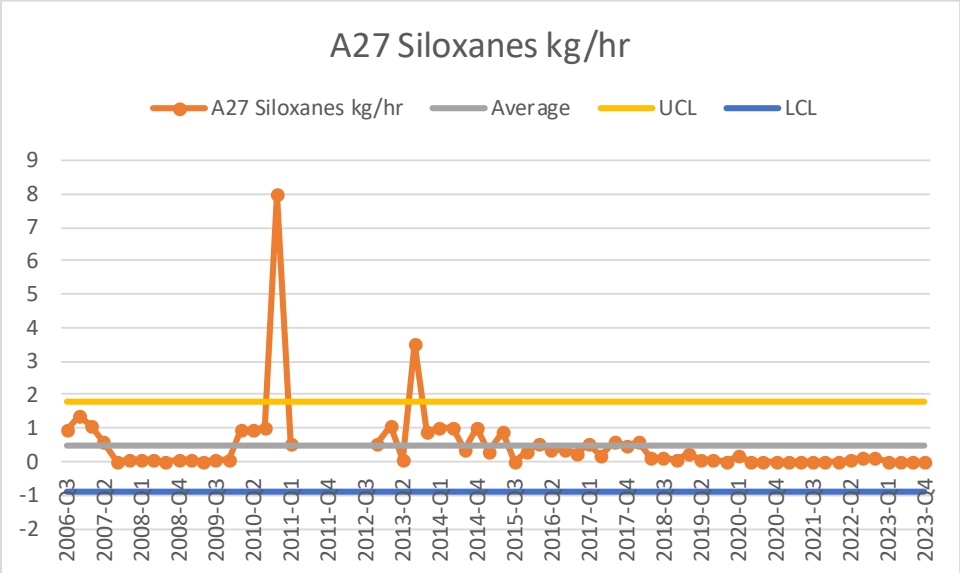
Trends for Quarterly monitoring:



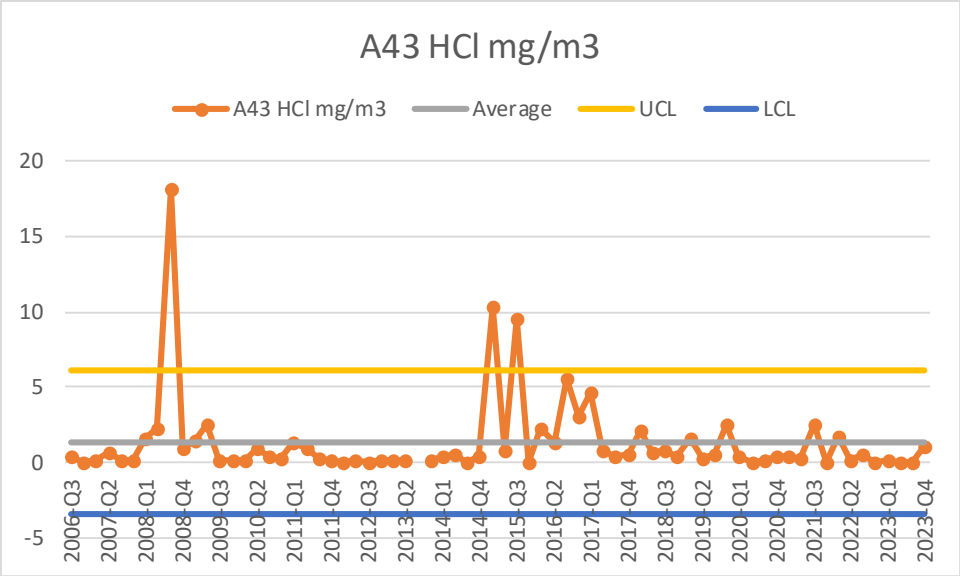
Results in control.



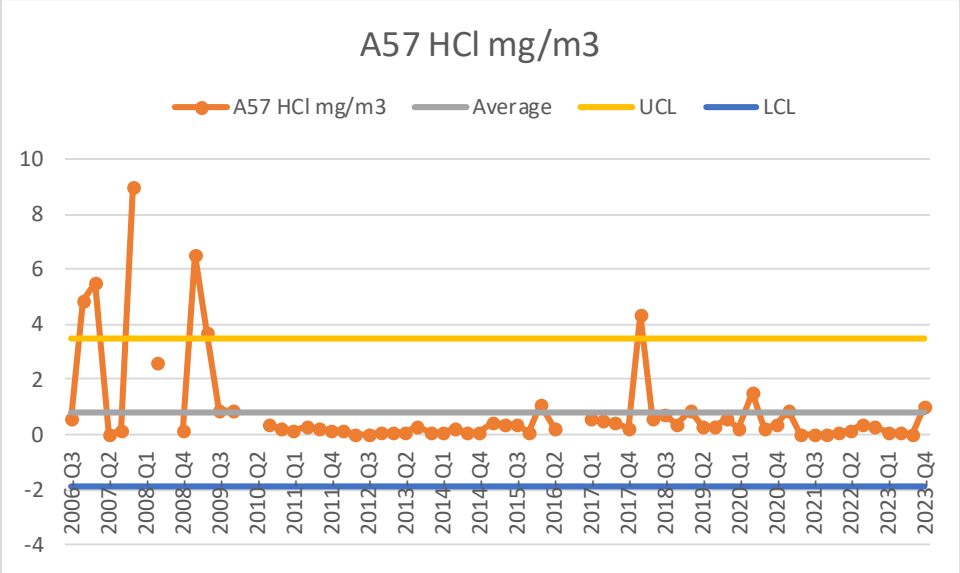
Results in control.



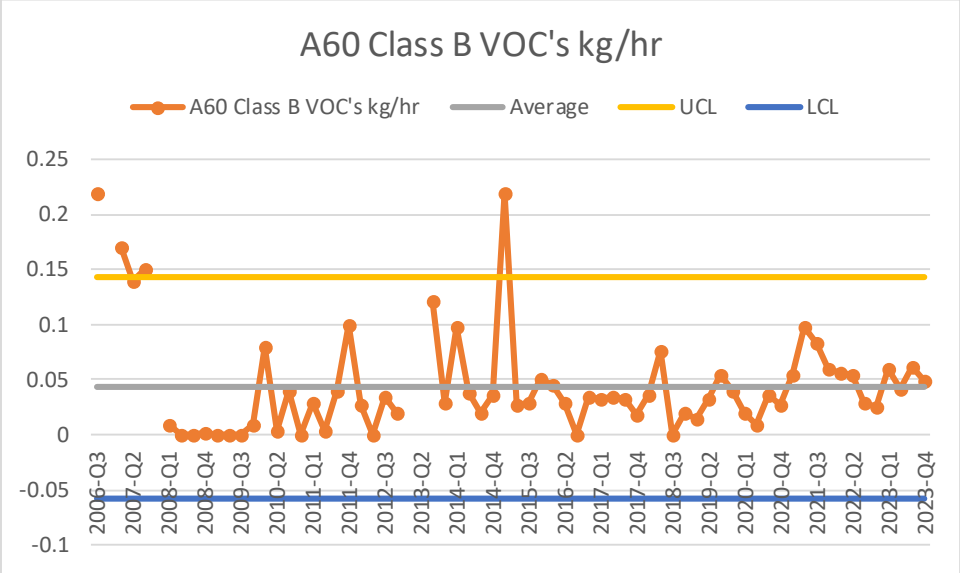
Results in control.



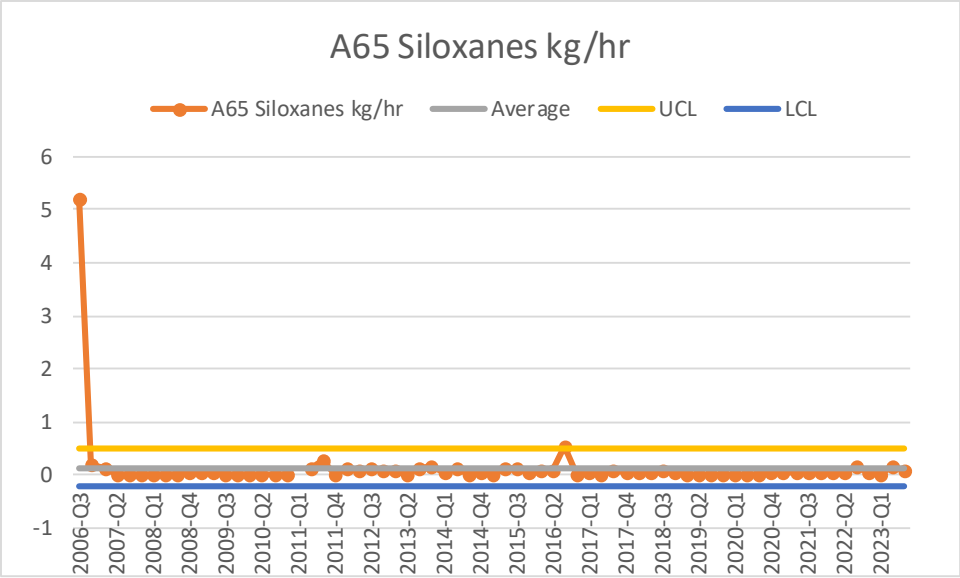
Results in control and within permit limit (10mg/m3).



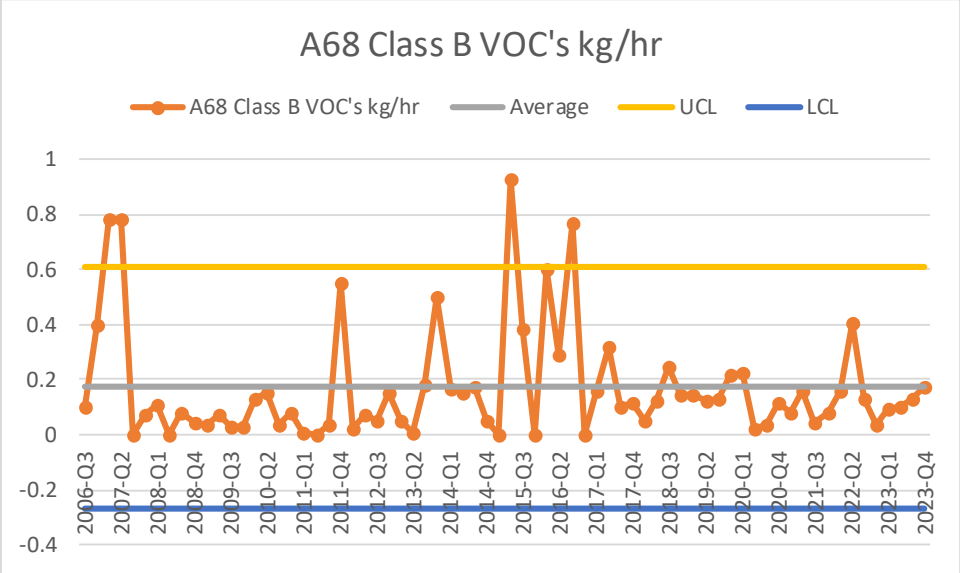
Results in control and within permit limit (10mg/m3).



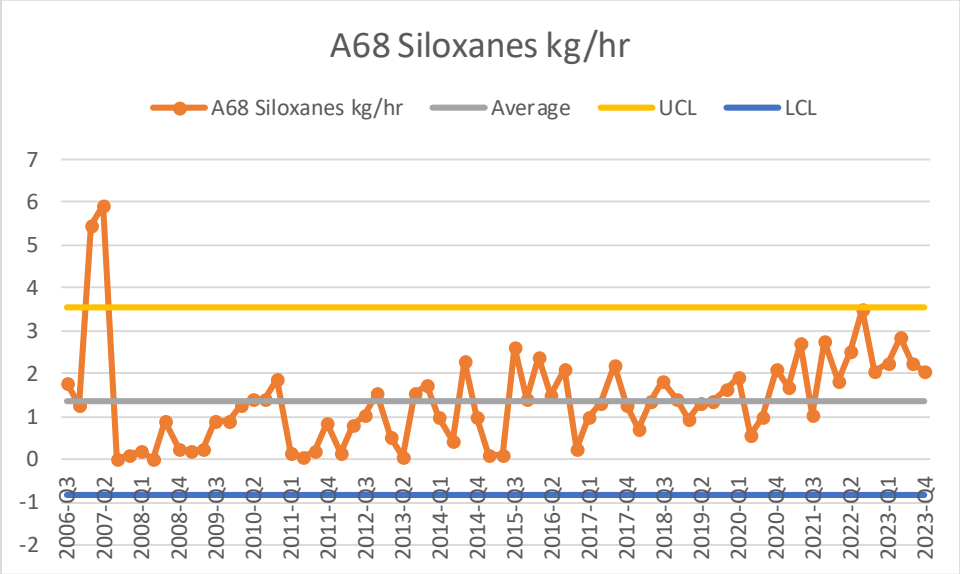
Results in control.



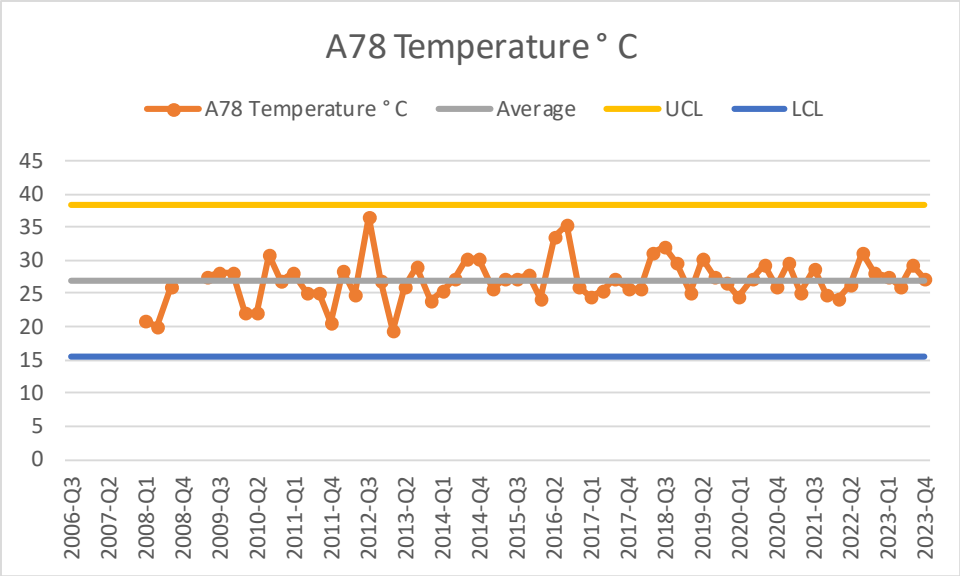
Results in control.



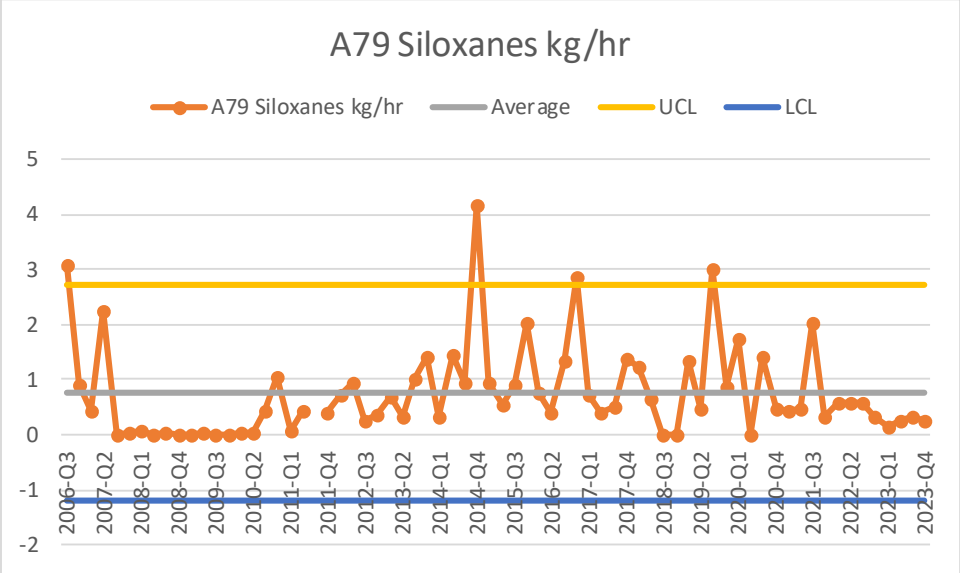
Results in control.



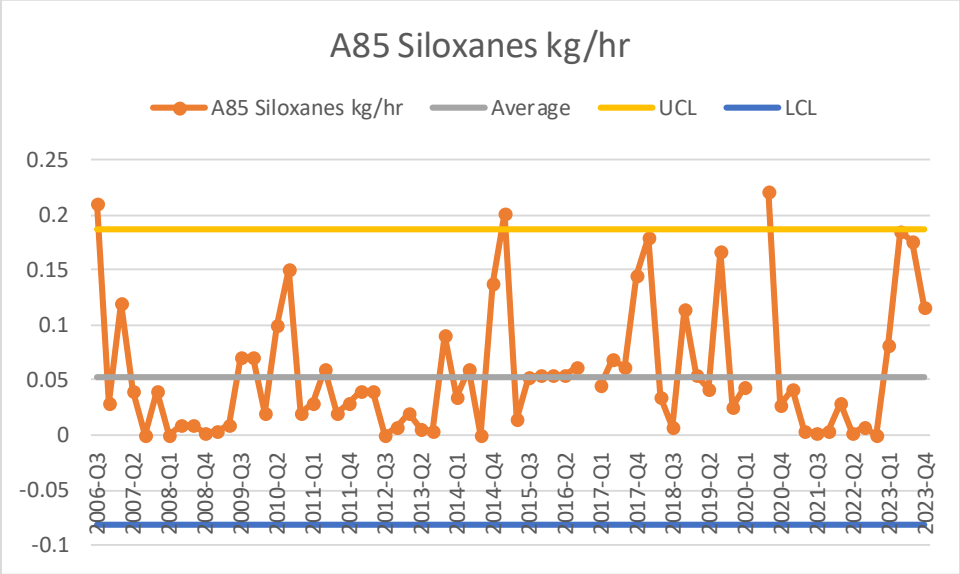
Results in control.



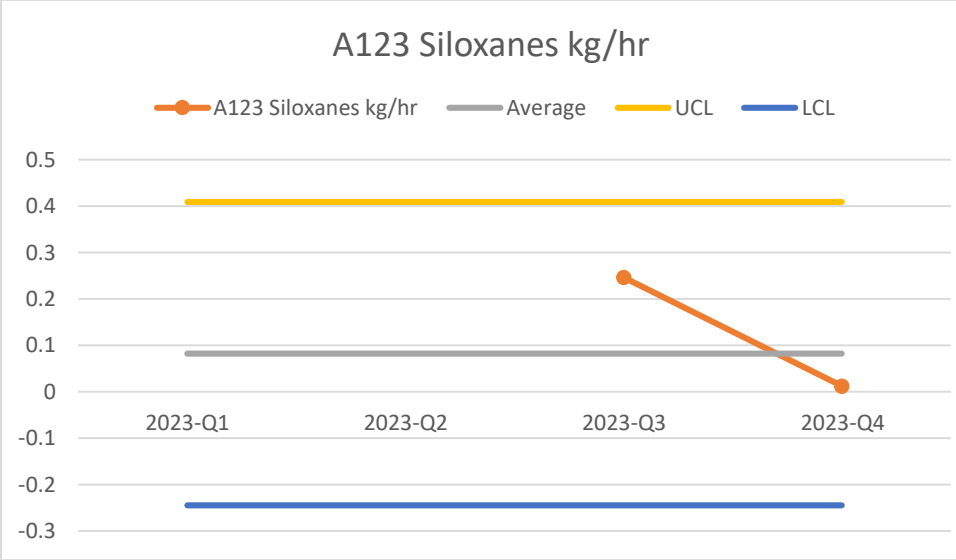
Results in control.



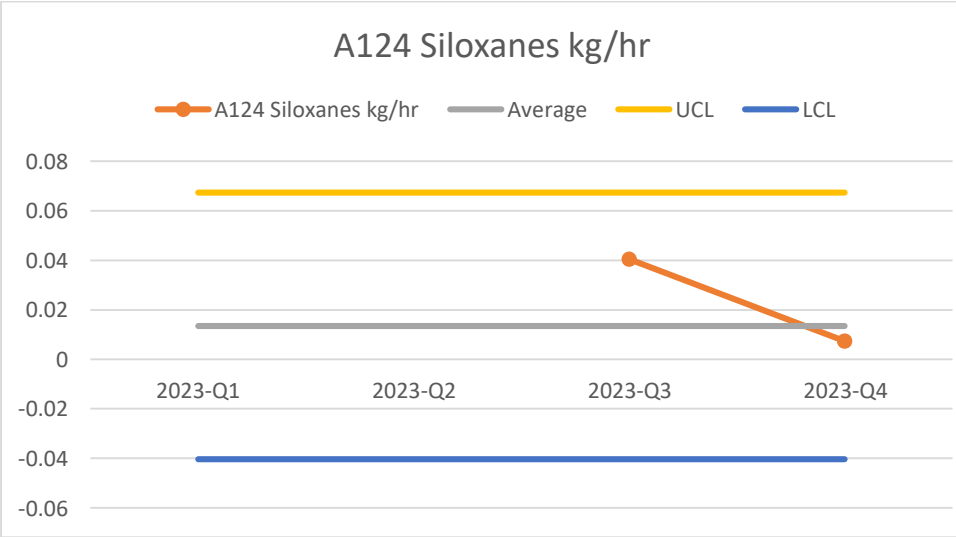
Results in control.



Results in control.

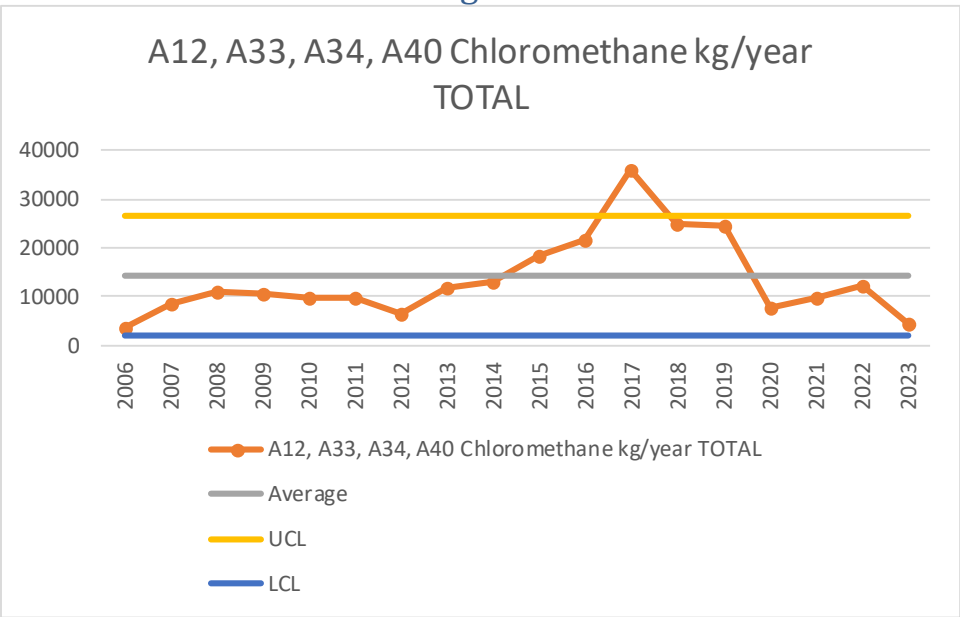


Results low – not enough data for control limits to be meaningful.

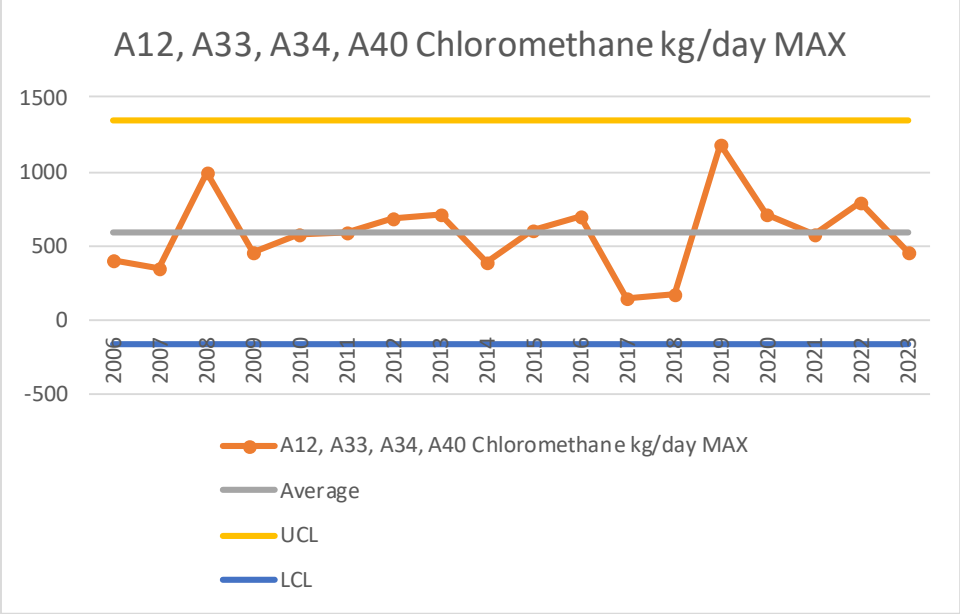


Results low – not enough data for control limits to be meaningful.

Trends for Annual monitoring:

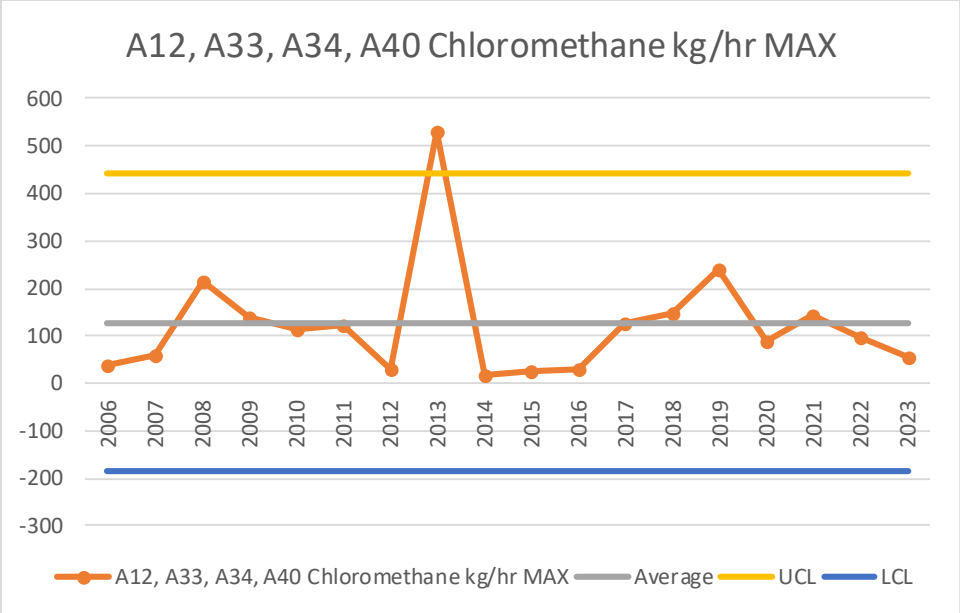


W714 (A12) and W718 (A33) did not run 2021, 2022 and 2023.



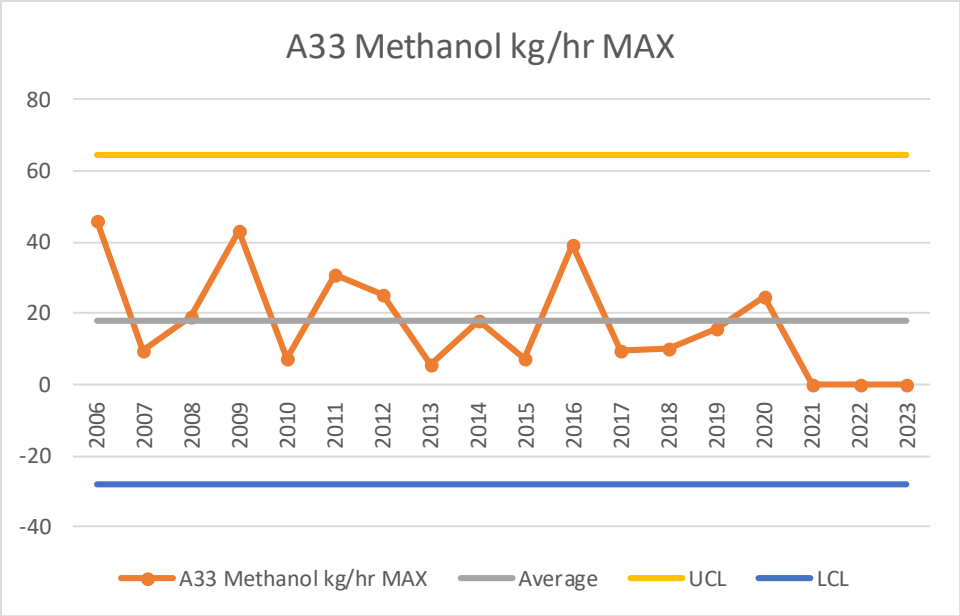
W714 (A12) and W718 (A33) did not run 2021, 2022 and 2023.

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

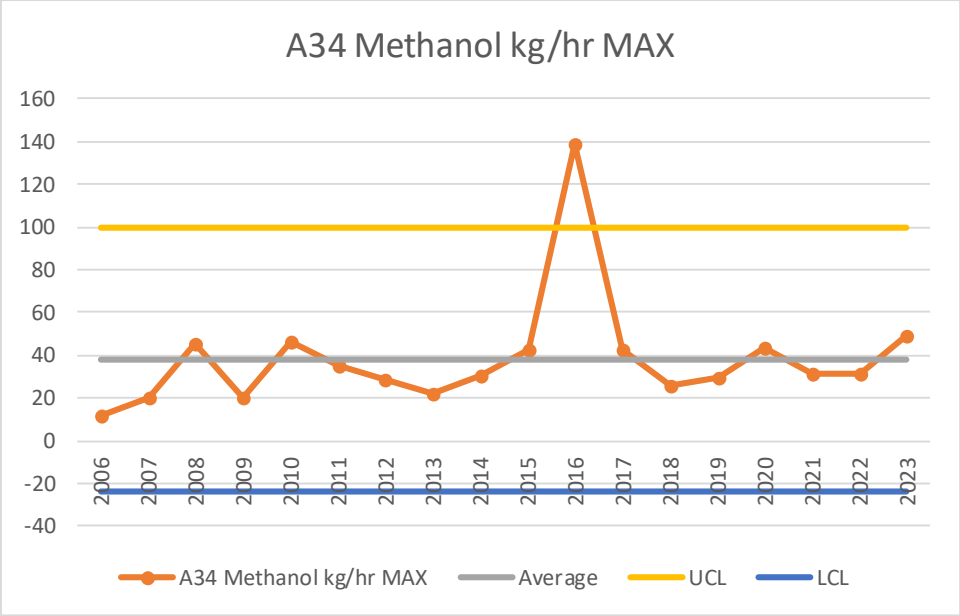


W714 (A12) and W718 (A33) did not run 2021, 2022 and 2023.

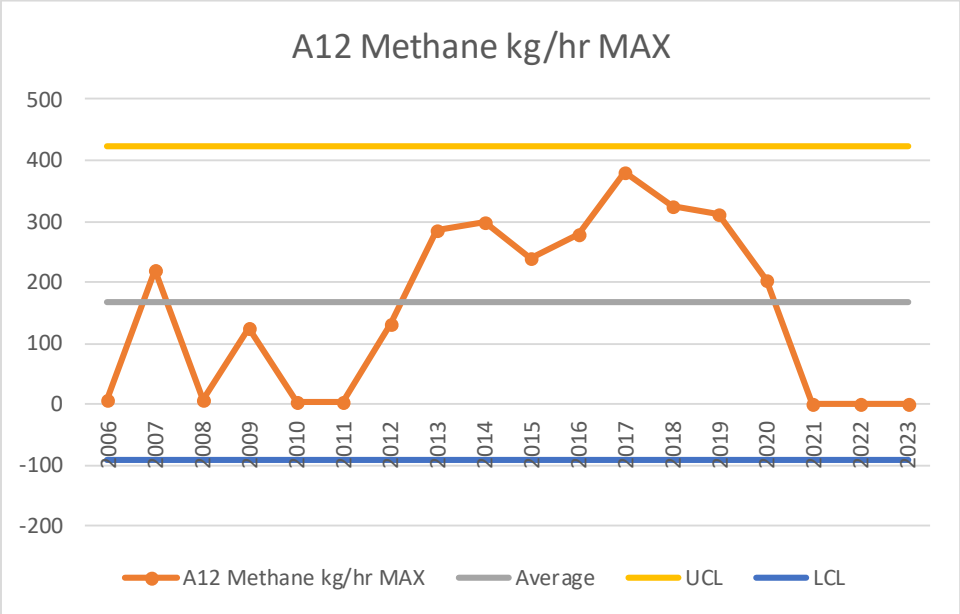
Results in control and within permit limit (250 kg/hr).



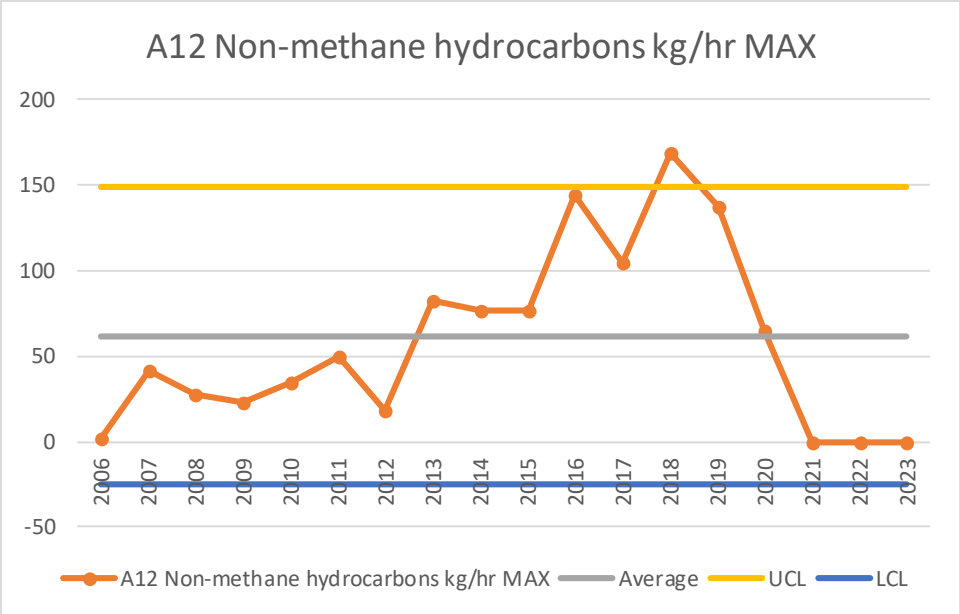
W718 (A33) did not run 2021, 2022 and 2023.



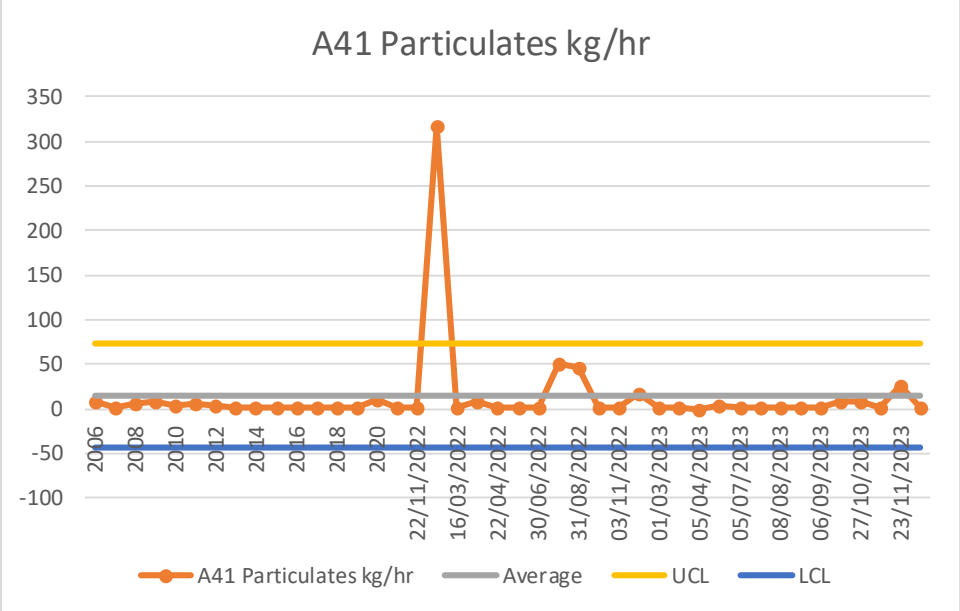
Results in control and within permit limit (max flow of 60kg/hr).



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

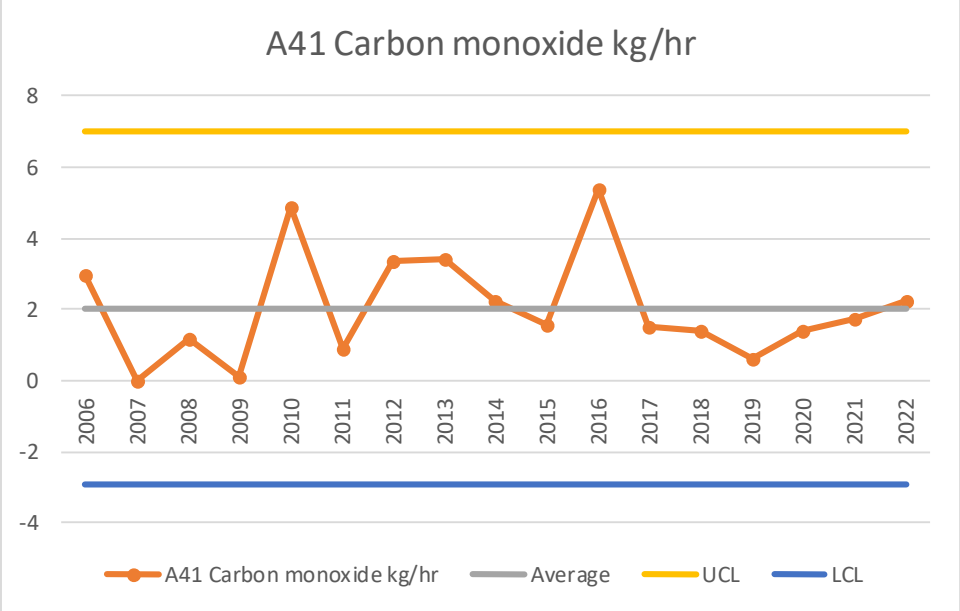


W714 (A12) did not run 2021, 2022 and 2023.

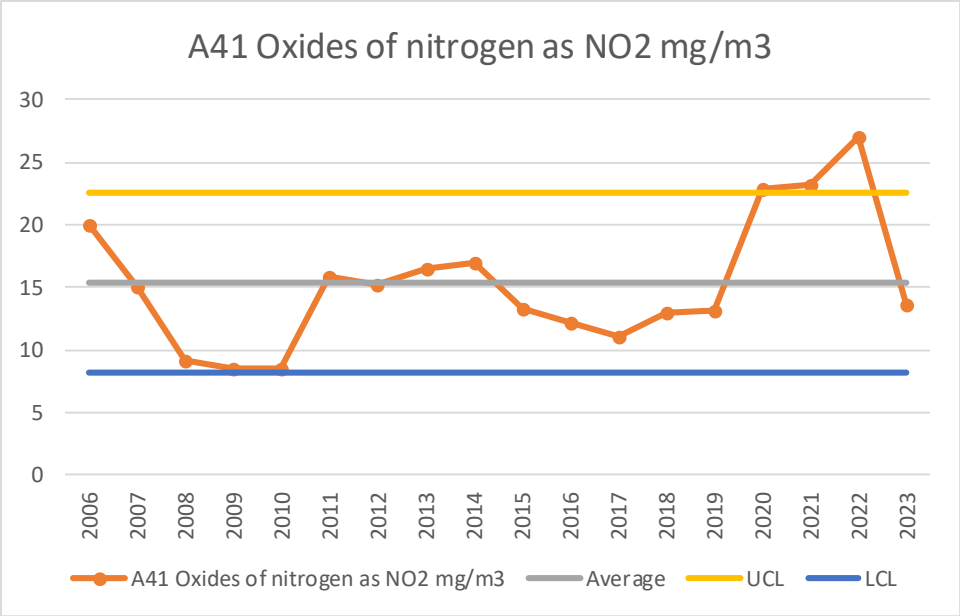


Permit requirement is annual sampling. Many extra samples taken throughout 2022 and 2023. All results for included on the chart – investigation still ongoing regarding permit exceedances

Permit limit (10 mg/m3).

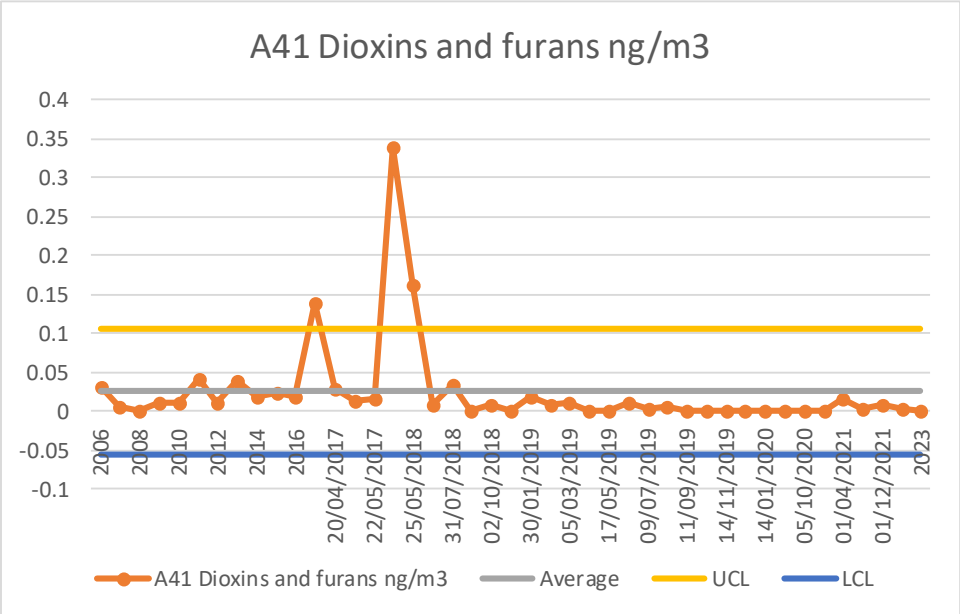


Results in control and within permit limit (50mg/m3).

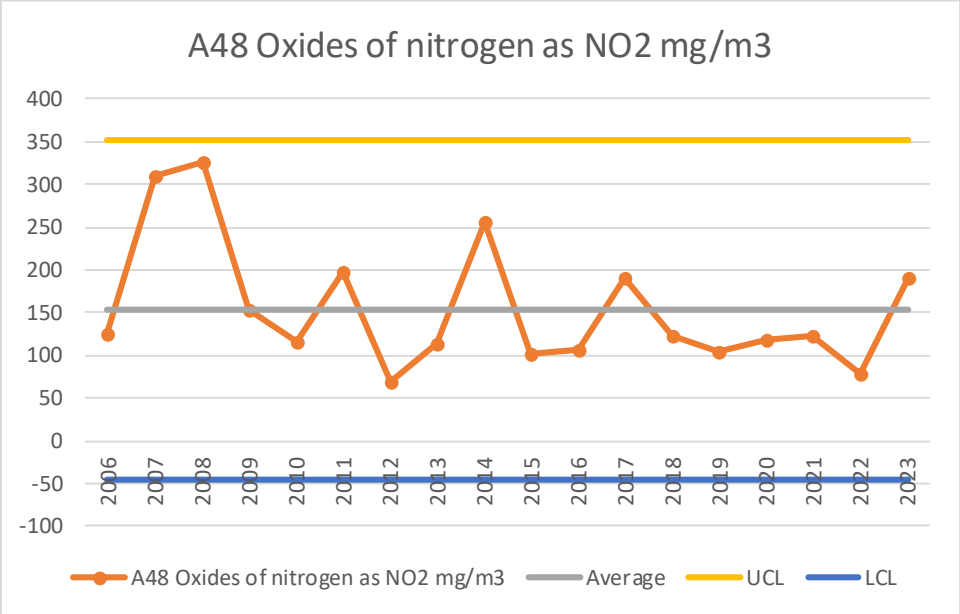


Results out of control high, but still well within permit limit (100mg/m3).

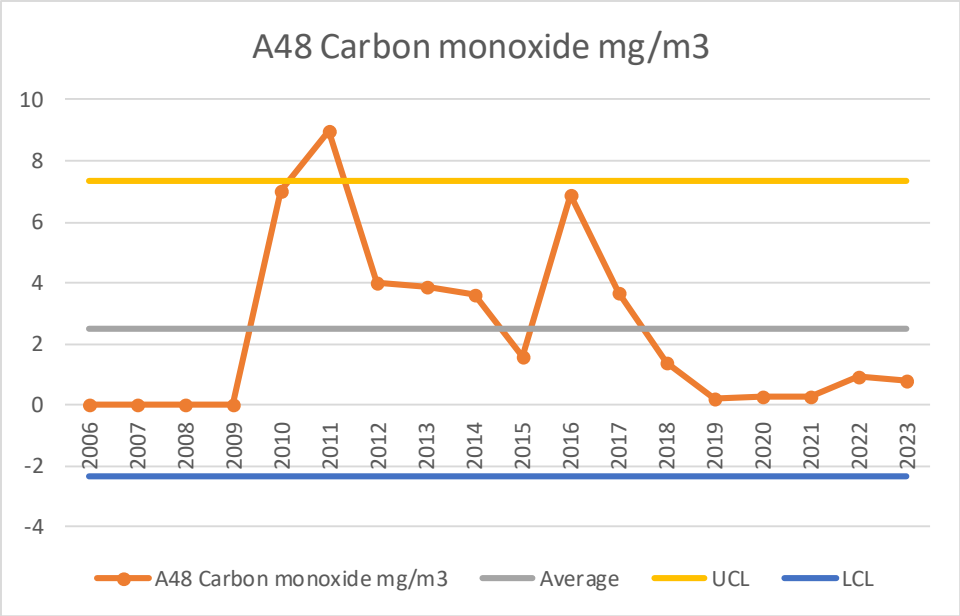
This will continue to be monitored on a monthly basis.



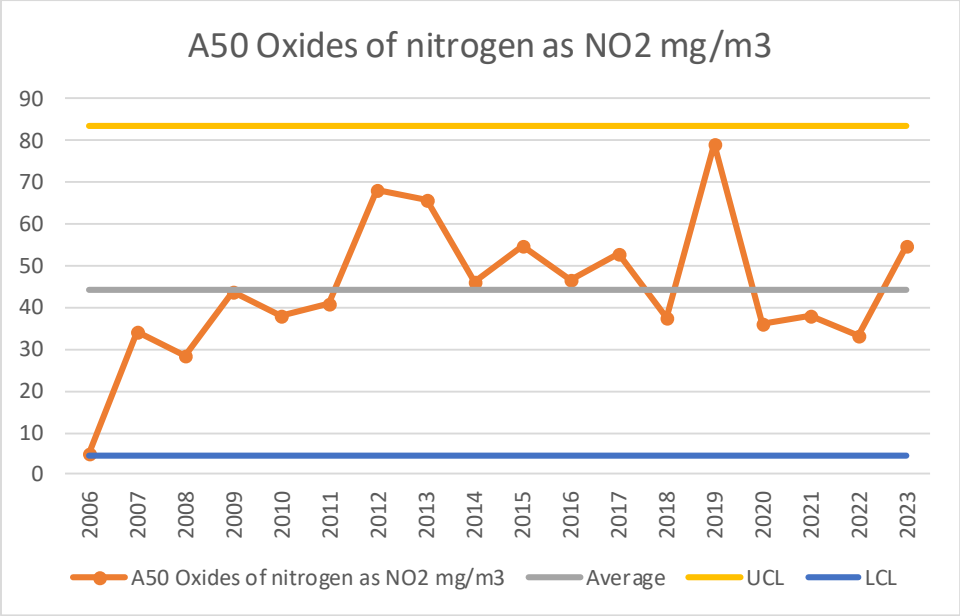
Results in control and within permit limit (0.1ng/m3).



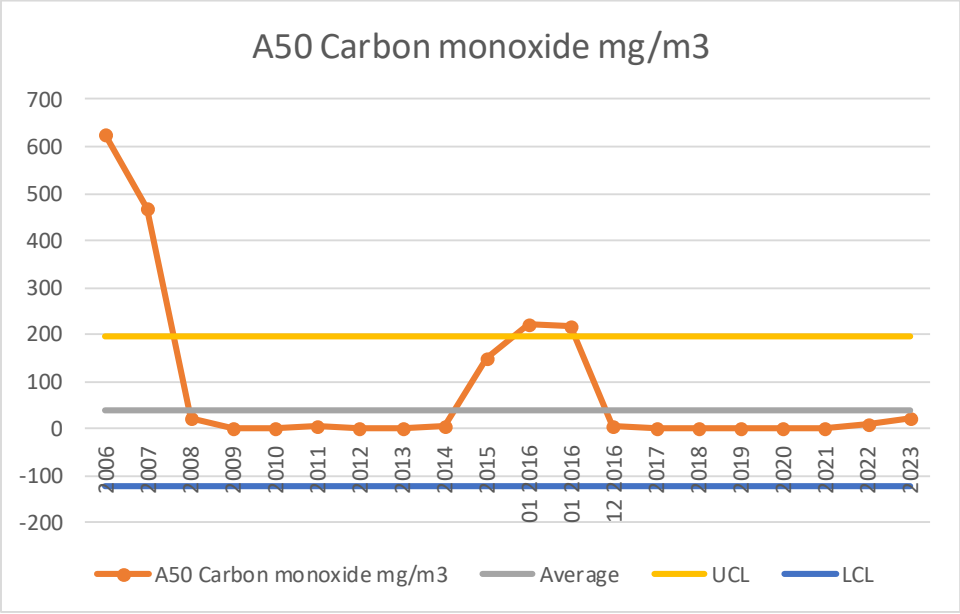
Results in control.



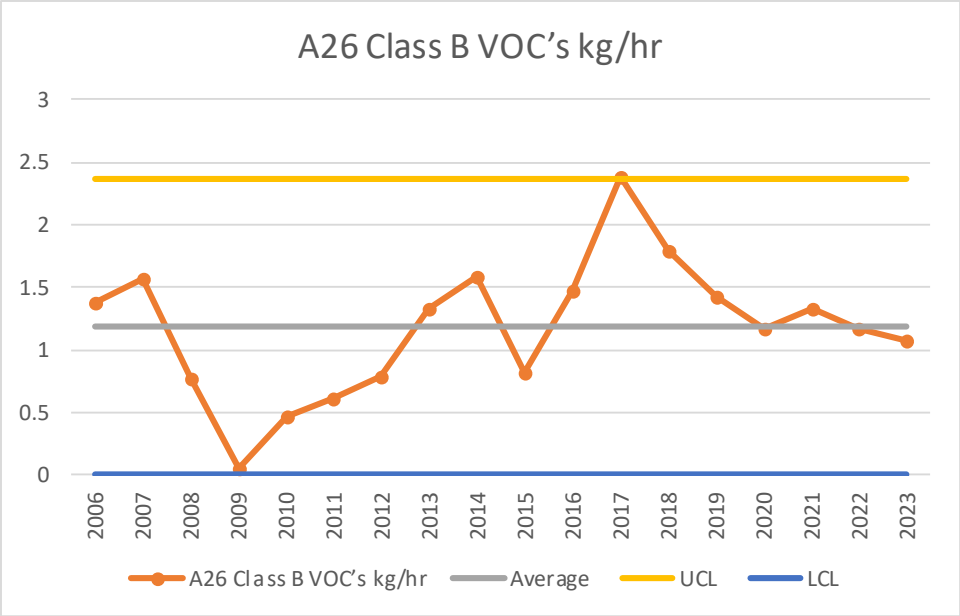
Results in control.



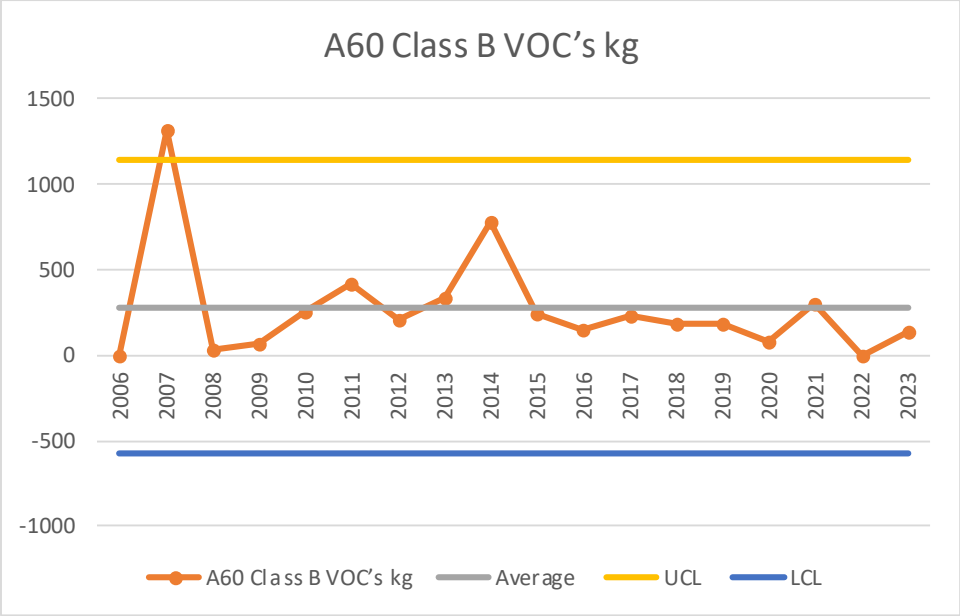
Results in control and within permit limit (200mg/m3).



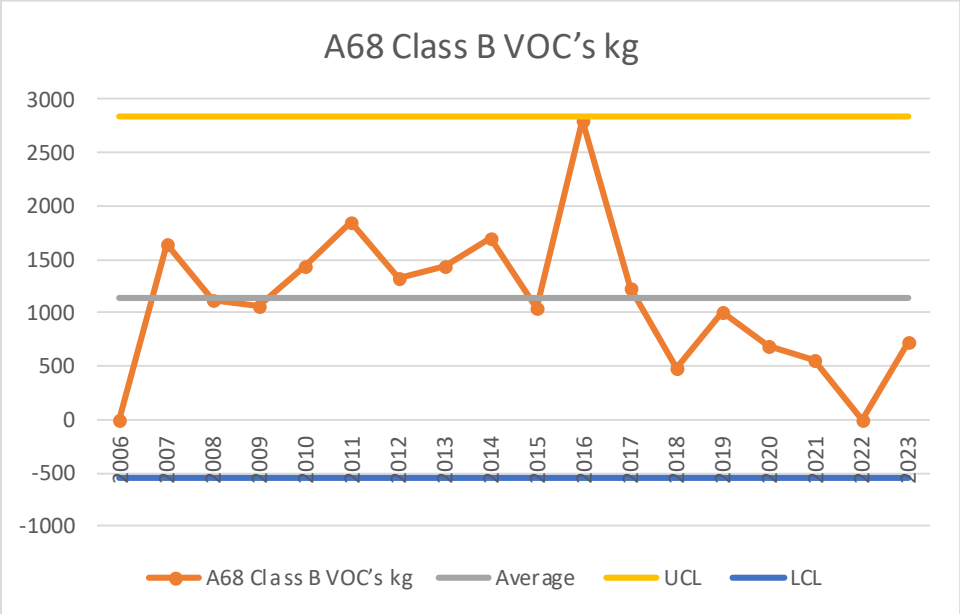
Results in control and within permit limit (200mg/m3).



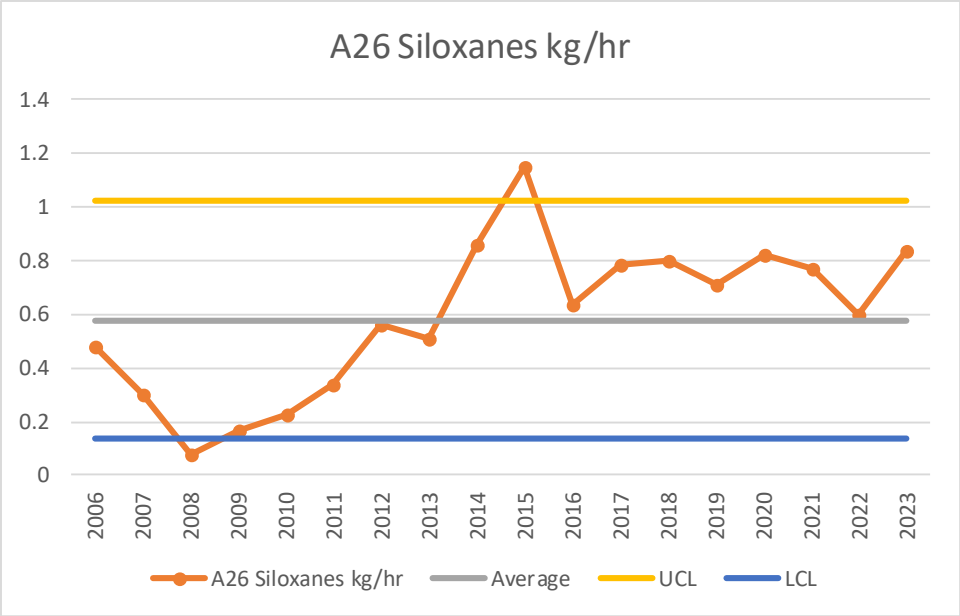
Results in control.



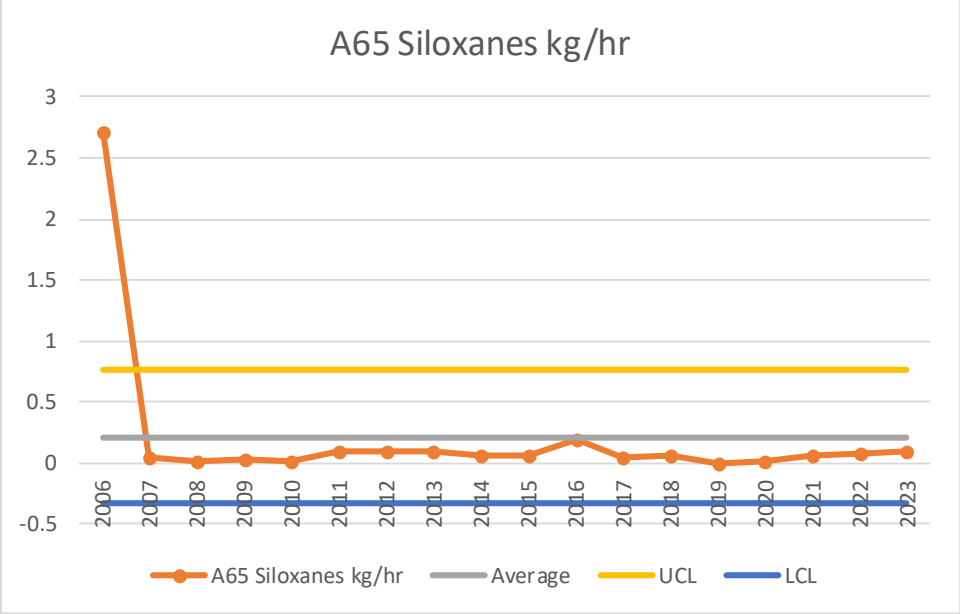
Results in control



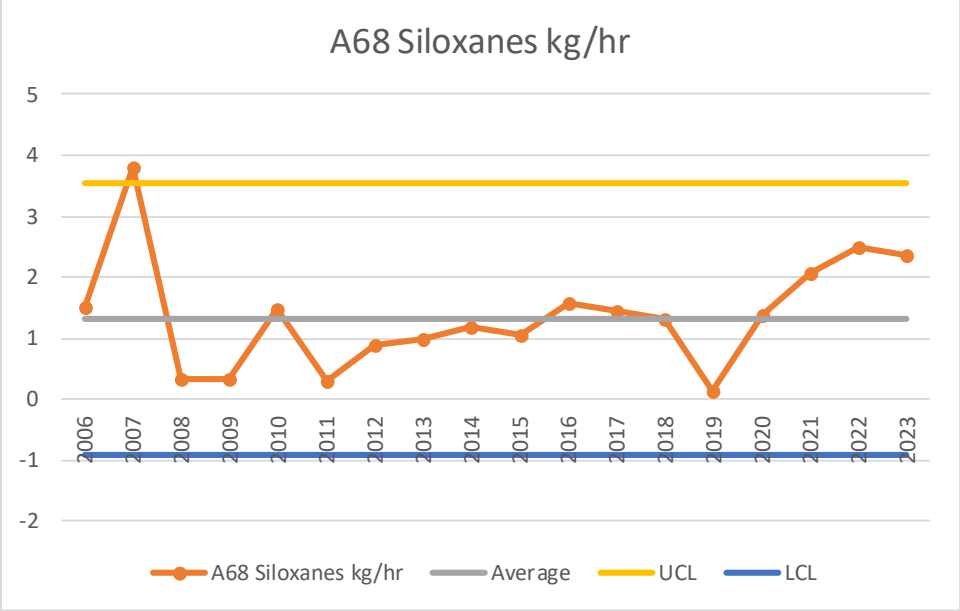
Results in control



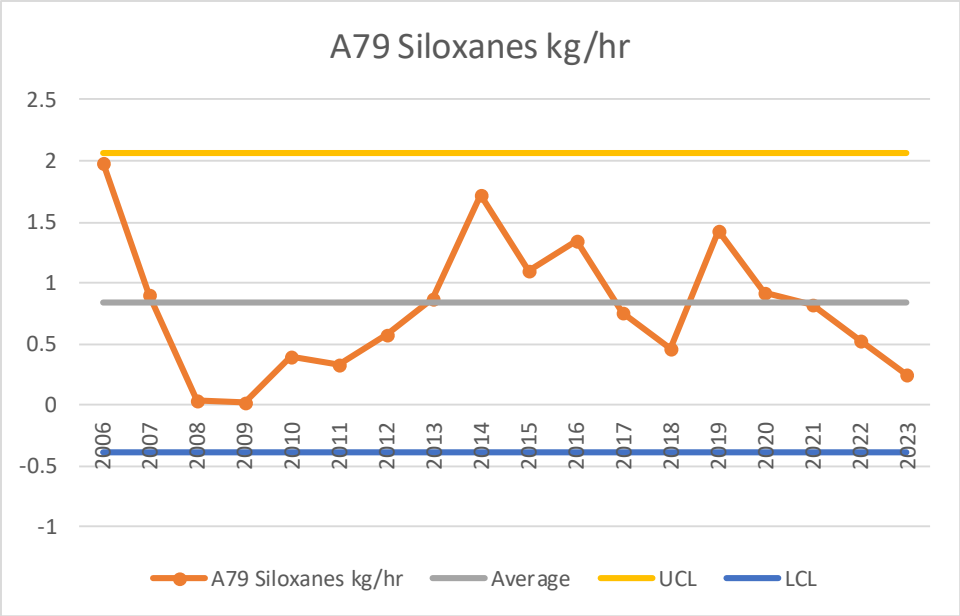
Results in control



Results in control



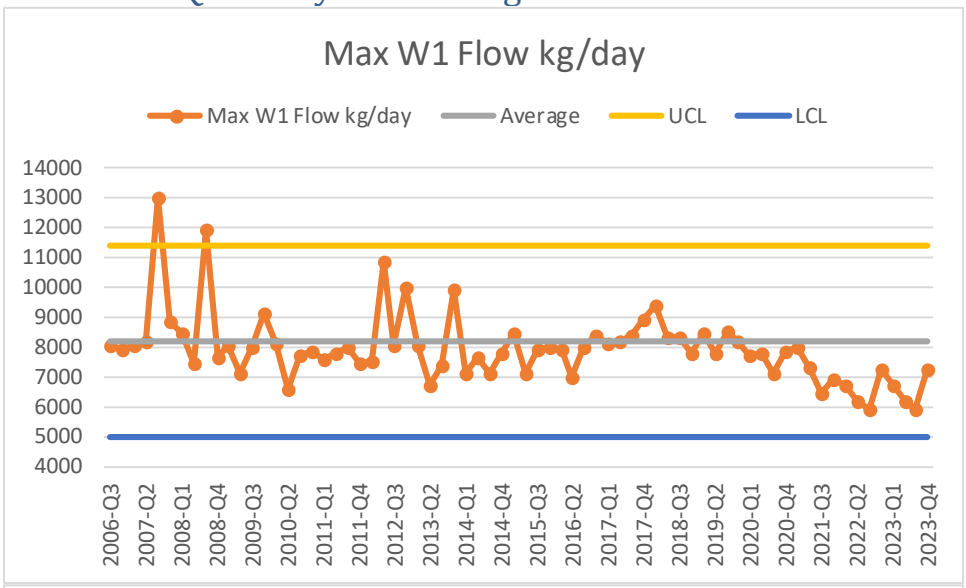
Results in control



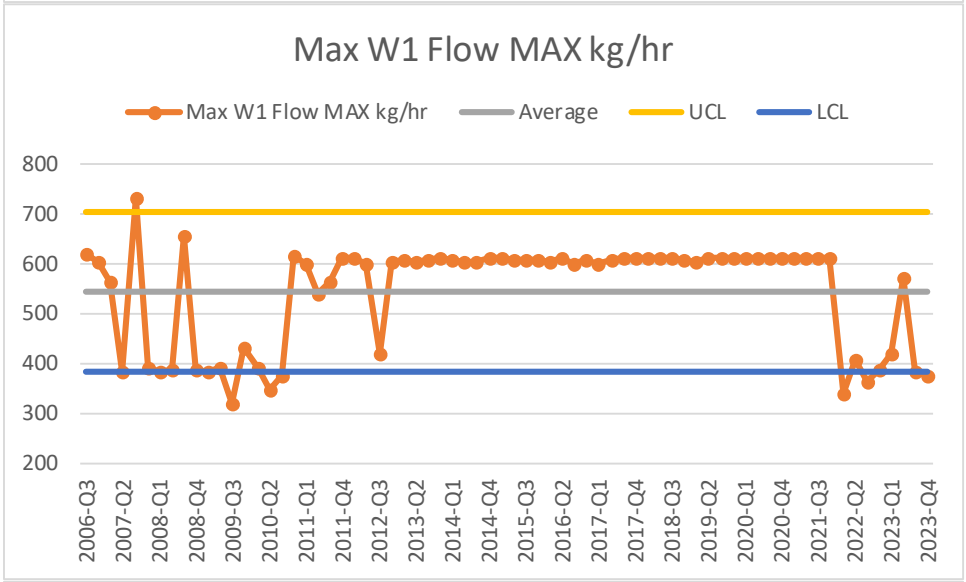
Results in control

Water monitoring

Trends for Quarterly monitoring:

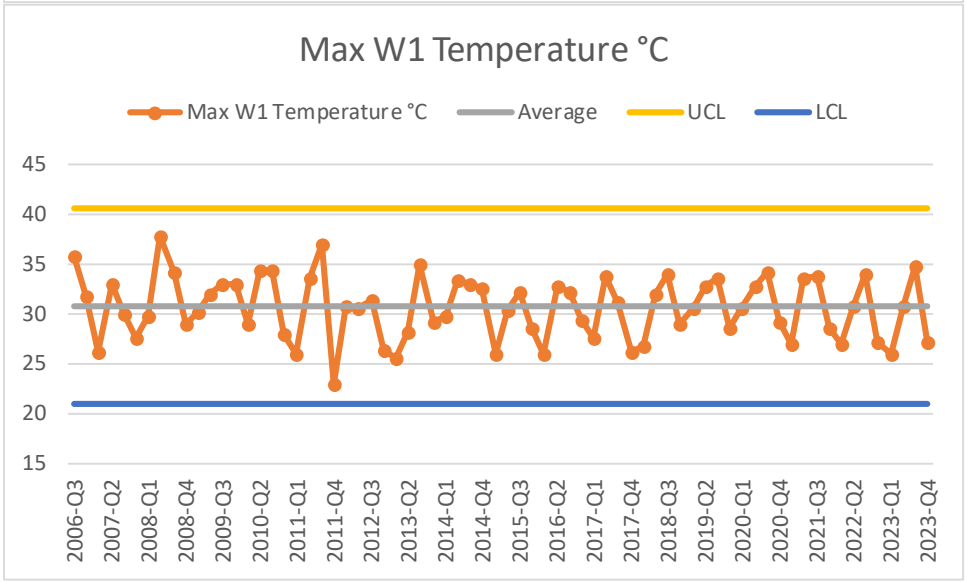


Results in control and within permit limit (11,000 m3/day)

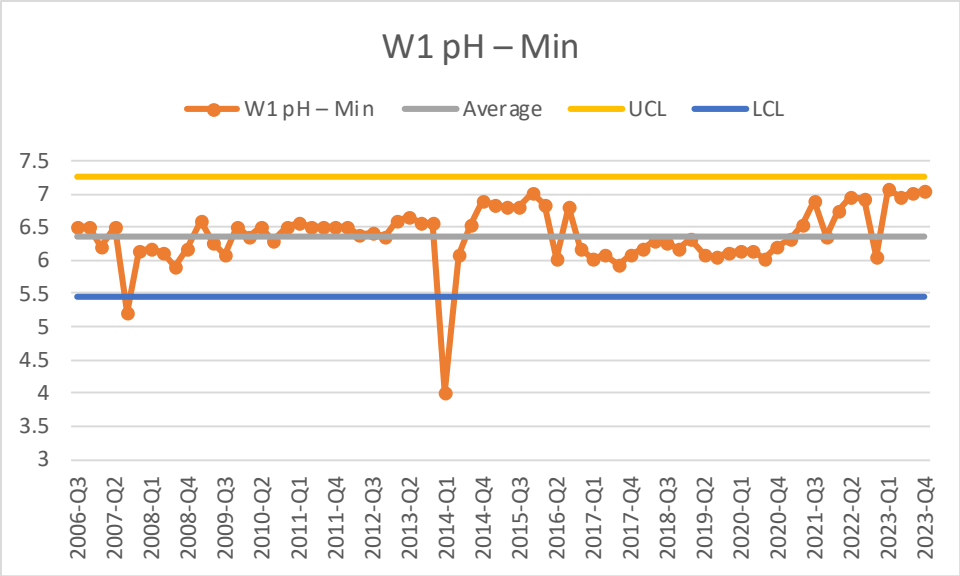


Results in control and within permit limit (625 m3/hr)

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

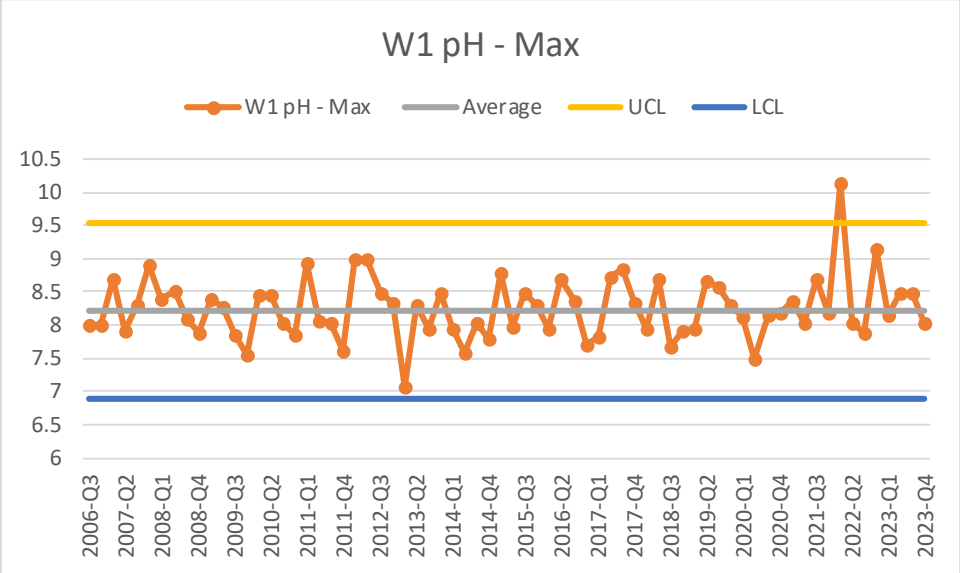


Results in control and within permit limit (40°C)

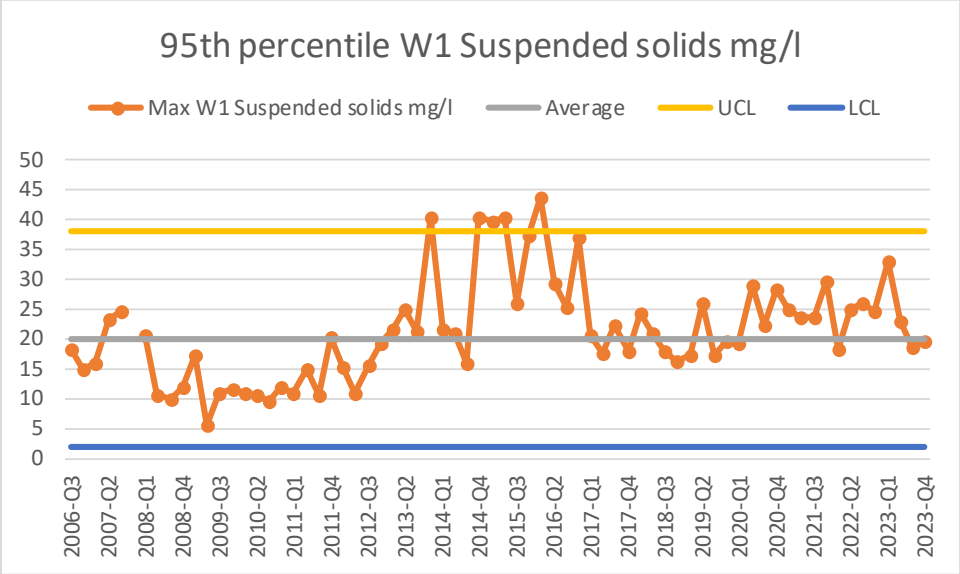


Results in control and within permit limit (>6)

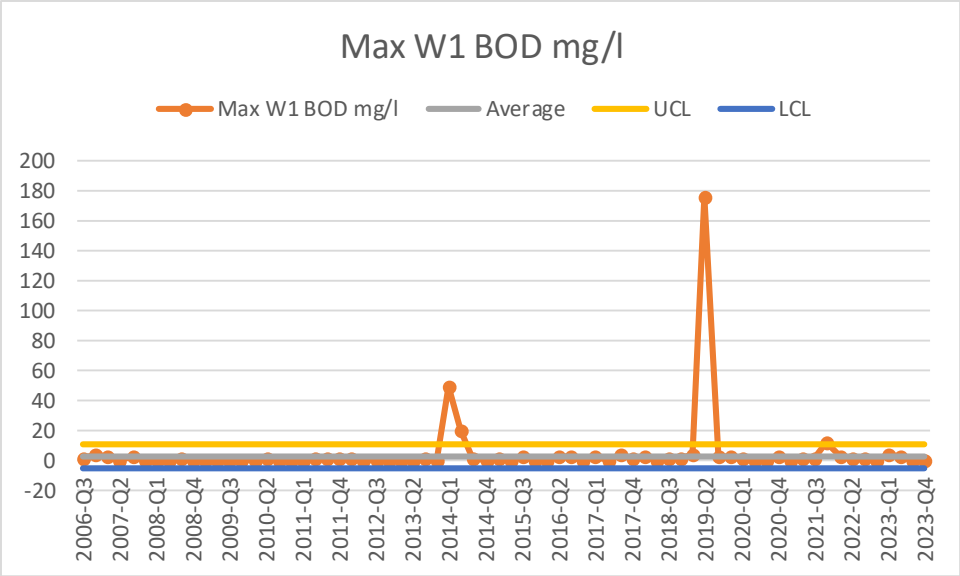
You can see the effect of the increase in pH to improve copper removal really well in this chart.



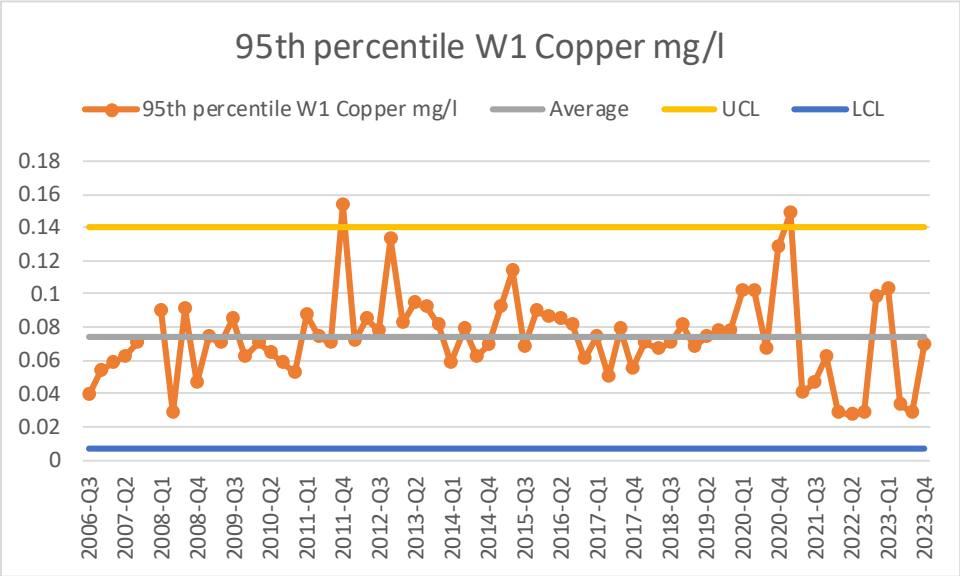
Q1 permit breach reported. Other results in control and within permit limit (<9)



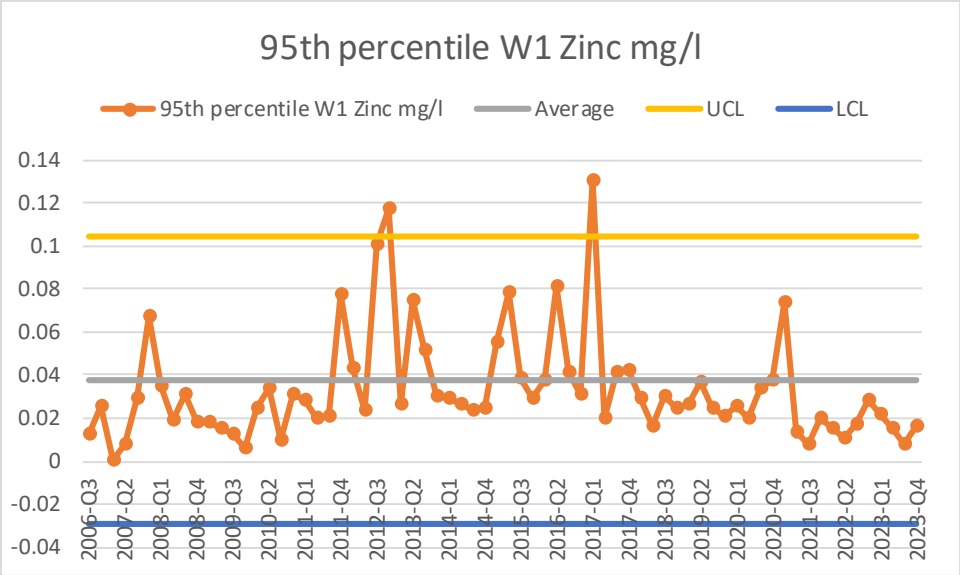
Results in control and within permit limit (30 mg/l)



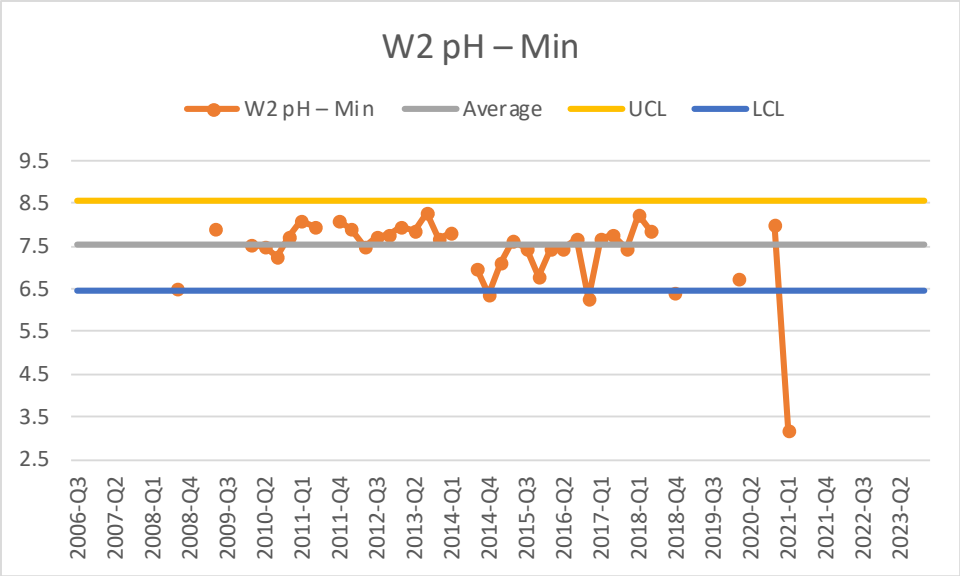
Results in control and within permit limit (20 mg/l)



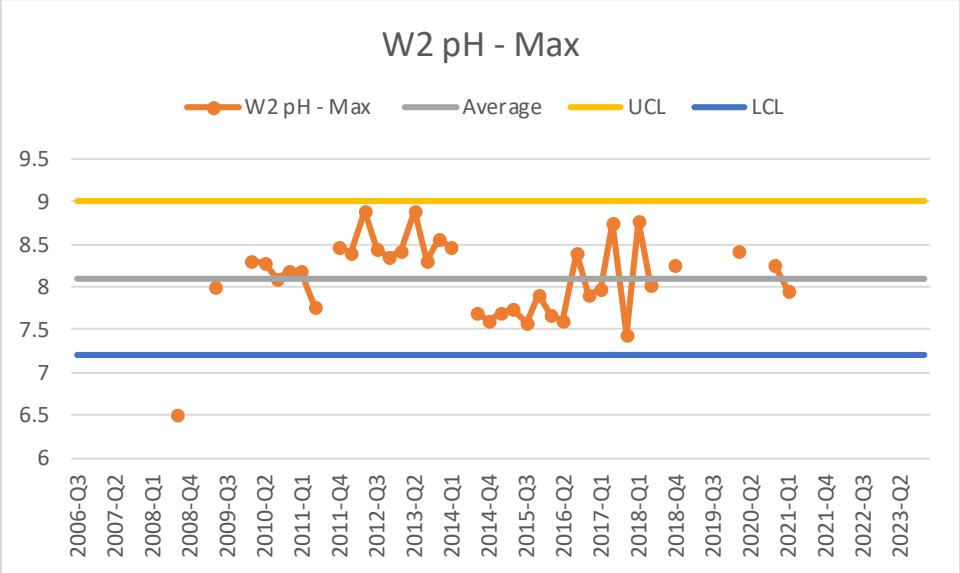
Q1 2023 result was just above limit due to ongoing SWWT issues which started in Q4-2022. This problem was resolved by 15th January and copper was low for the rest of the quarter.



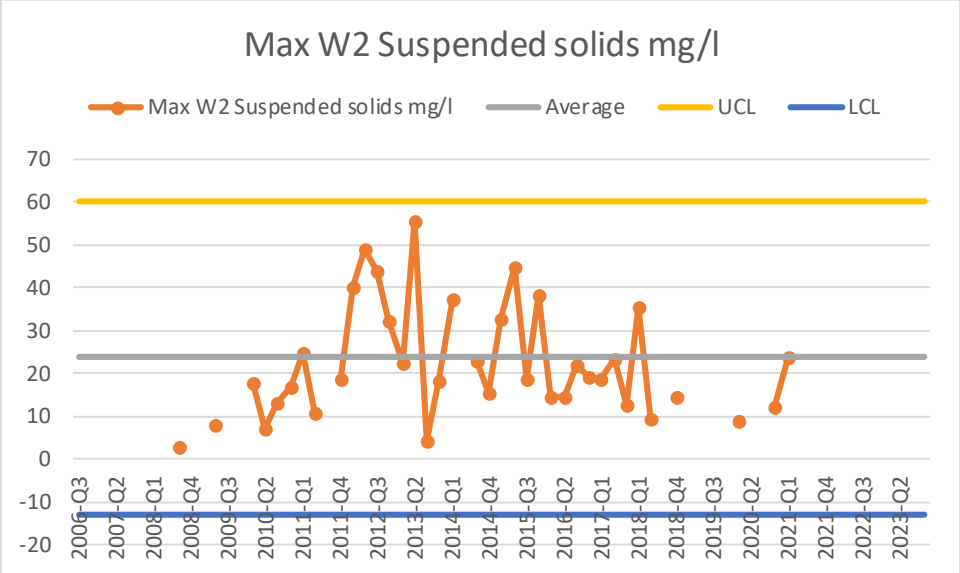
Results in control and within permit limit (0.5 mg/l)



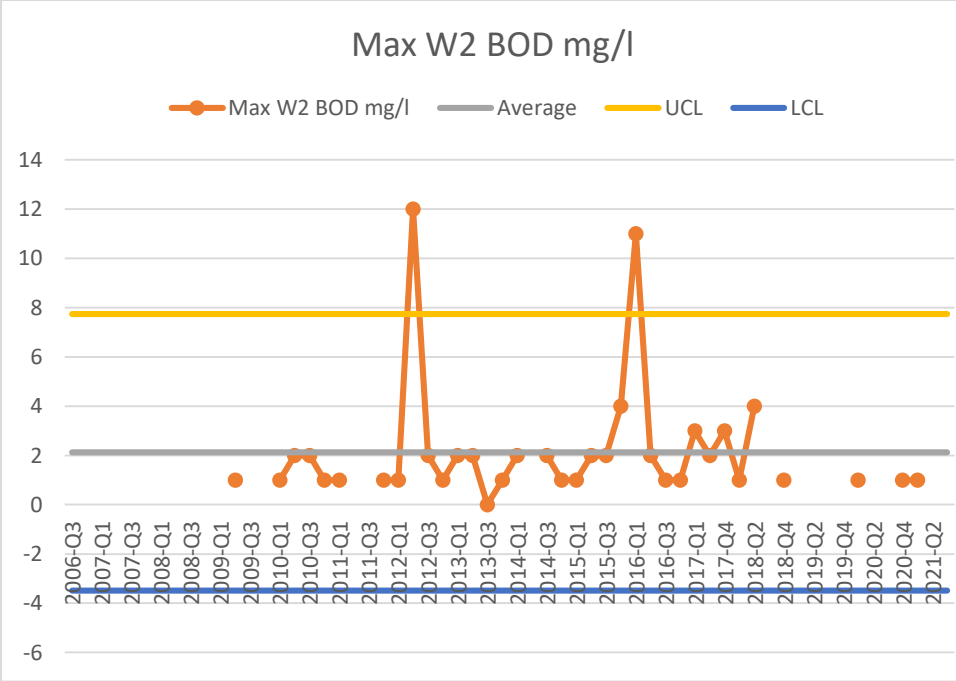
No storm water released to river in 2023



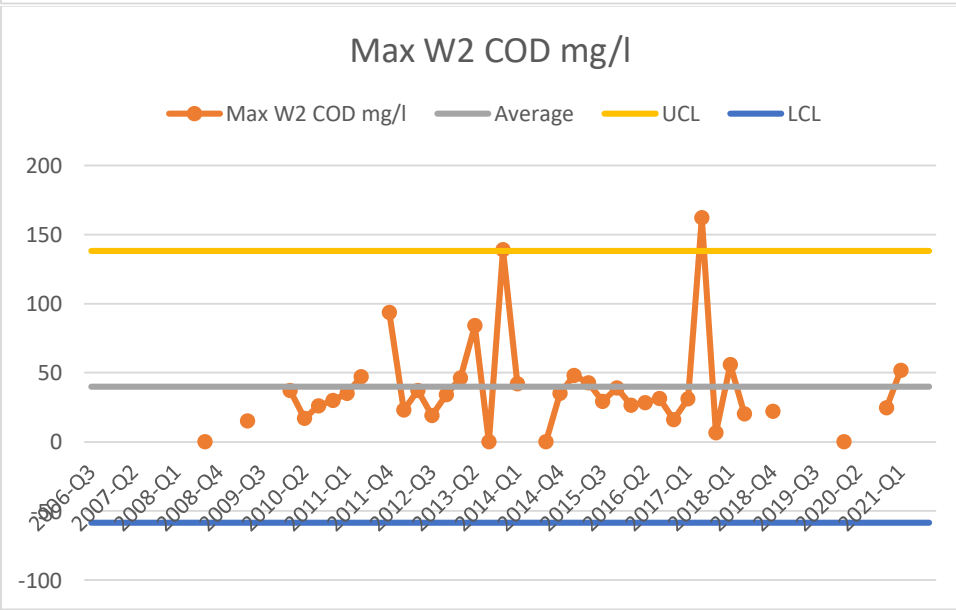
No storm water released to river in 2023



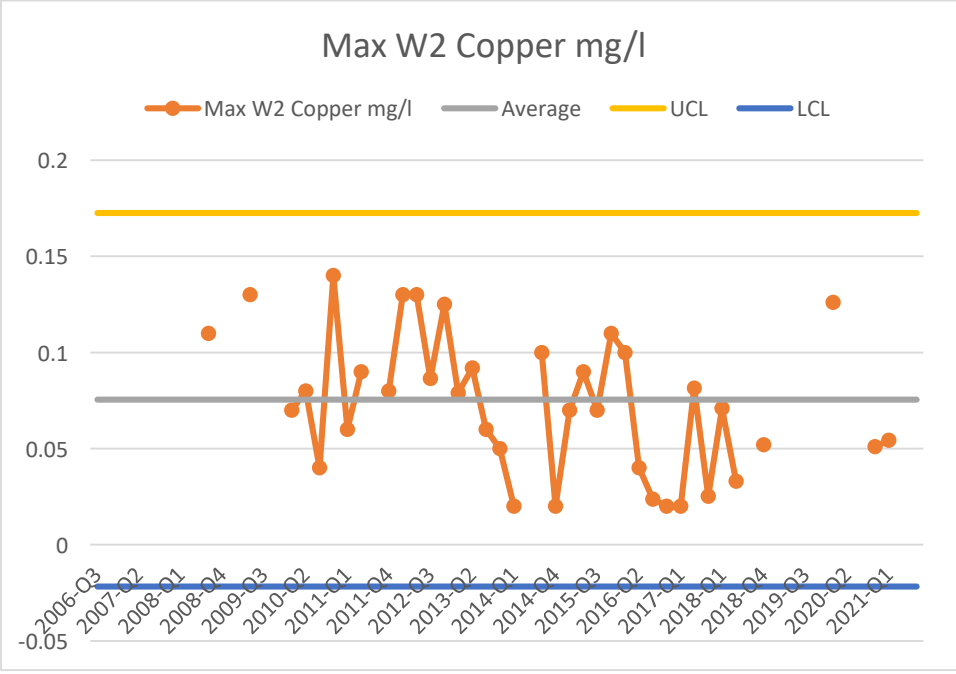
No storm water released to river in 2023



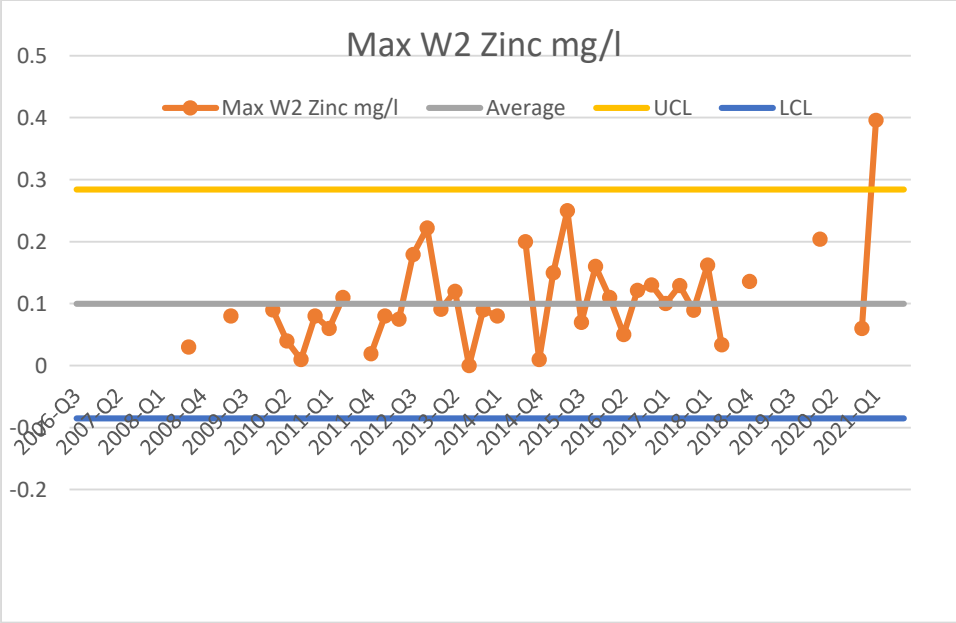
No storm water released to river in 2023



No storm water released to river in 2023



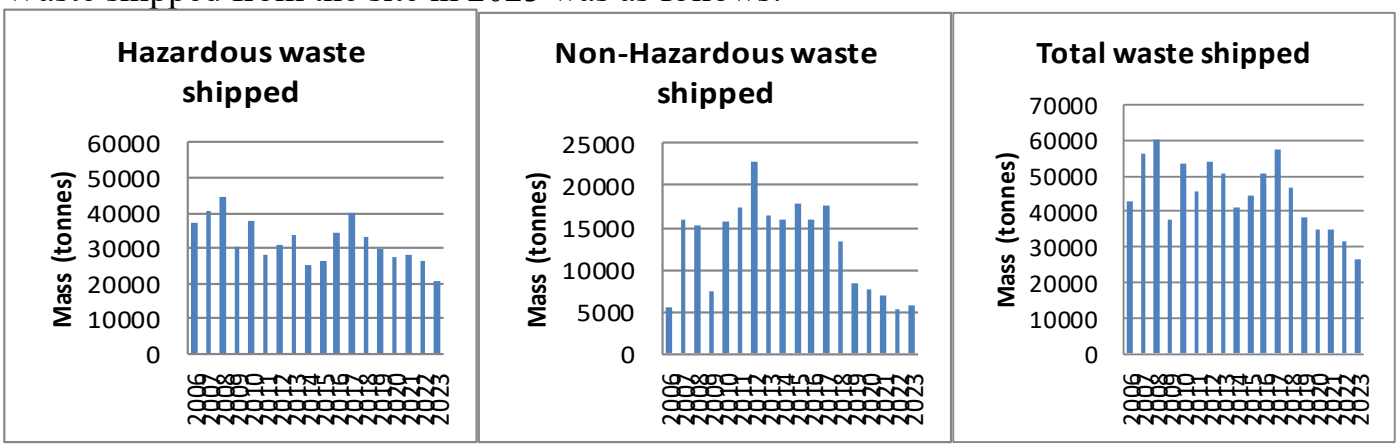
No storm water released to river in 2023



No storm water released to river in 2023

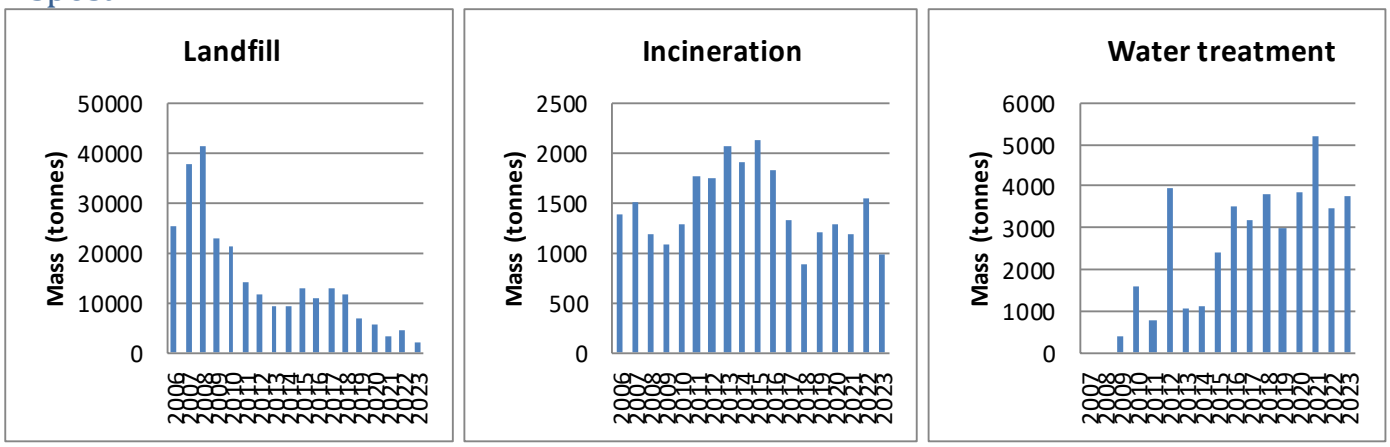
Waste

Waste shipped from the site in 2023 was as follows:

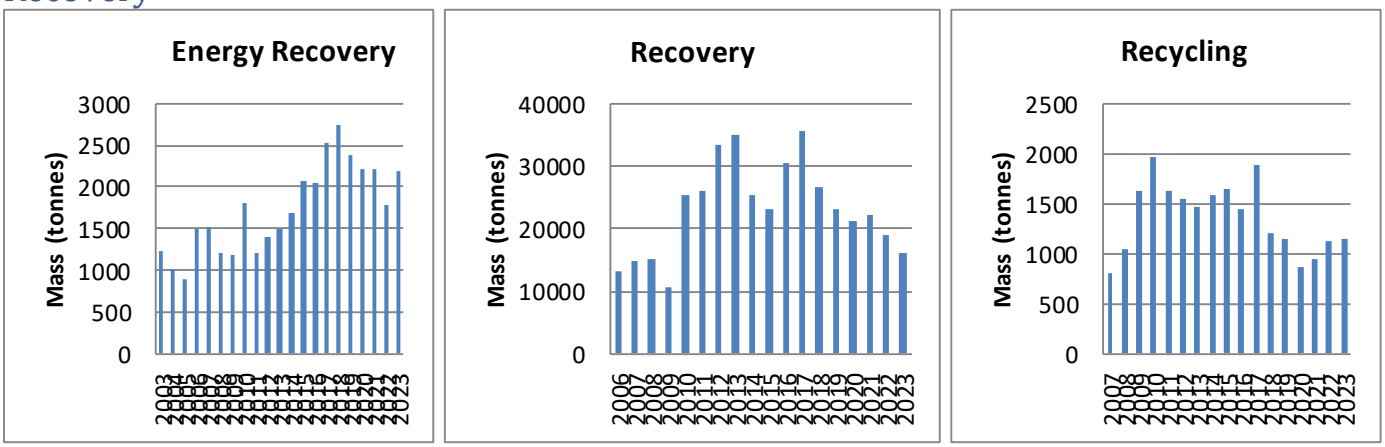


Waste shipments were slightly lower in 2023 over 2022 in line with slightly lower production.

Disposal



Recovery



- Landfill was down in 2023, but was up in 2022 due to the Etank cleanout
- Recovery was slightly lower this year due to holding some inventory at year end.
- Recycling saw a small increase from last year, but was more in line with previous years

Complaints

There were 3 complaints to the Barry Industrial complex helpline in 2023

- Noise complaint in September, a high pitched noise. An investigation was carried out but nothing was found.
- Complaint received in November regarding flooding in 2 gardens in a street just off Cardiff Road, backing onto the marshland between Dow Silicones UK Ltd and the houses. This was investigated and the drainage at the Cadoxton Ponds was found to be working correctly. This area is very low lying and highlighted on the flood map so is likely to be due to the water table being high at the time.
- Odour complaint in November regarding an intermittent smell of gas. On investigation no smell was apparent and no leaks have been identified.