

	Q3 Landfill Groundwater Sampling Results 2020 Dow Silicones UK Ltd Barry	Quarter 3 2020
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Q3-2020 Landfill Groundwater Sampling Results

The impact of bulk storage of materials on the landfill and its performance was monitored in quarter 3 of 2020 and the results shown in this report.

The quarterly sampling plan satisfies both SPMP (Site Protection and Monitoring Programme) and Landfill licence requirements (ref URS design of a site monitoring programme, 44382681, July 2006 and Dow Silicones UK landfill CMS review, 49310733, October 2008).

This report provides sample results for boreholes and surface water bodies. They have been assessed for copper and Trimethylsilanol (TMS) concentrations.

- The boreholes are LF1, LF4, LF6, LF7, E1s, E1m, E1d, E2s, E2d, E4s, E4d, 210, 312, 412, A2d, LF10S, LF10M, LF10D, LF11S, LF11M, LF11D, LF12S, LF12D, LF13S, LF13M, LF13D, LF14S, LF14M, LF14D, CP1S, CP1M, CP1D, CP1S, CP2M, CP2D
- The surface water bodies are Cadoxton pond (North), Cadoxton pond (South), Freshwater pond, Cadoxton River SW2, Cadoxton River SW3 and the Timber Pond.

The graphs illustrated have been prepared from borehole and surface water samples taken for Q3-2007 up till Q3-2020

The following boreholes were lost and are no longer sampled – but the historical data is still in this report for reference. Alternative boreholes were added in 2016 to provide additional data because of the unavailability of these ones: E2S, E2D, E4S, E4D, LF1, LF4, LF6

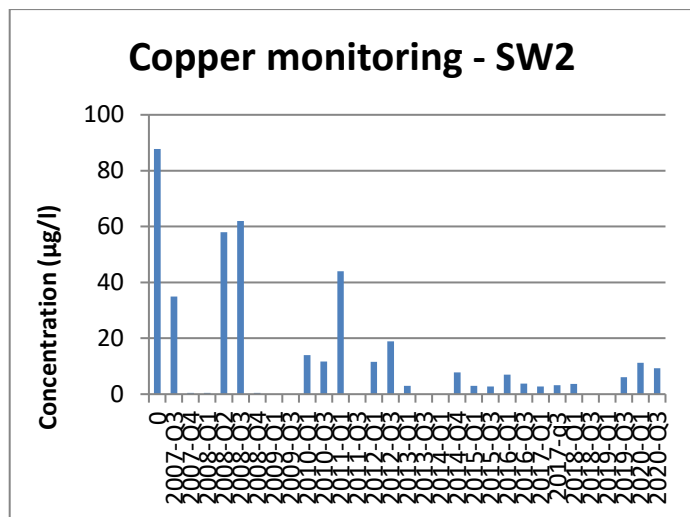
Some of the boreholes were not sampled during Q3 2020 due to being inaccessible due to being unable to draw a sample or having been lost during the capping work on the landfill. These were: LF11S, LF12S, LF13S, LF13M, LF13D. These boreholes show no results on the charts.

	Q3 Landfill Groundwater Sampling Results 2020 Dow Silicones UK Ltd Barry	Quarter 3 2020
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Leachate graphs.

Copper

The detectable limit for Copper is 0.5 µg/l – any results below this will show on the graphs as 0

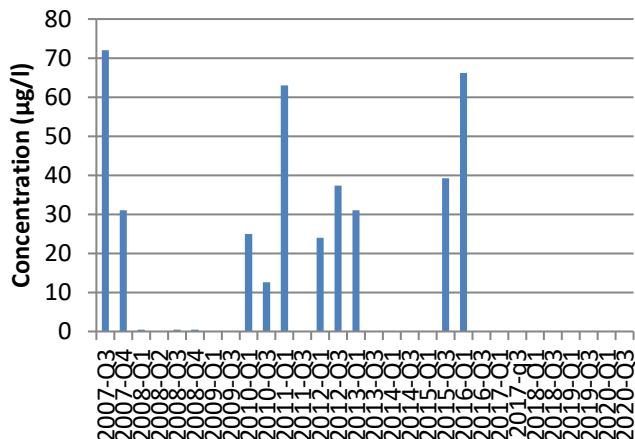




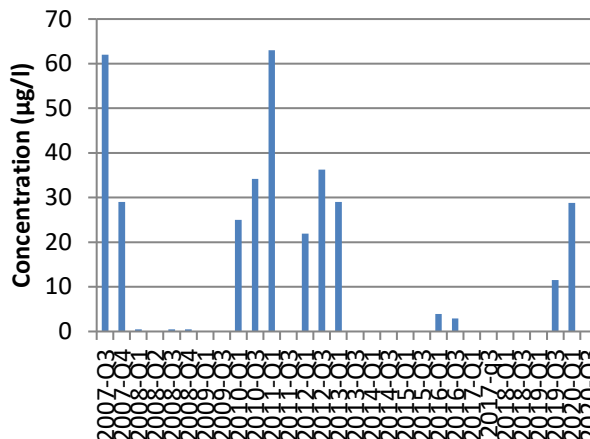
Q3 Landfill Groundwater Sampling Results 2020
Dow Silicones UK Ltd
Barry

Quarter 3 2020

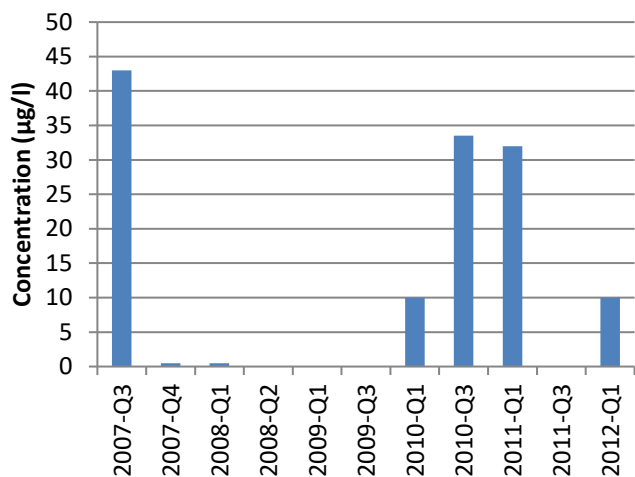
Copper monitoring - E1M



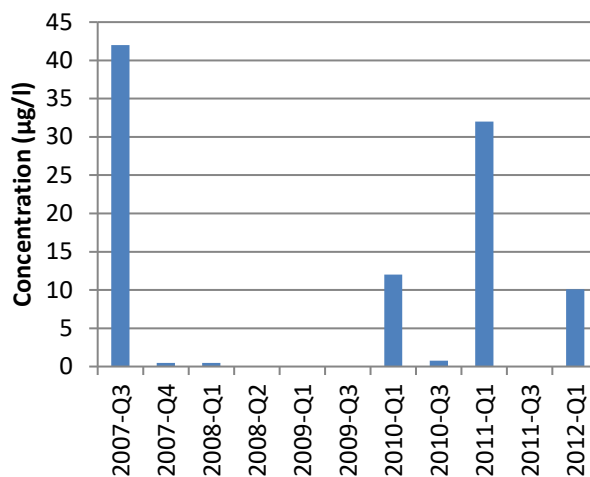
Copper monitoring - E1D



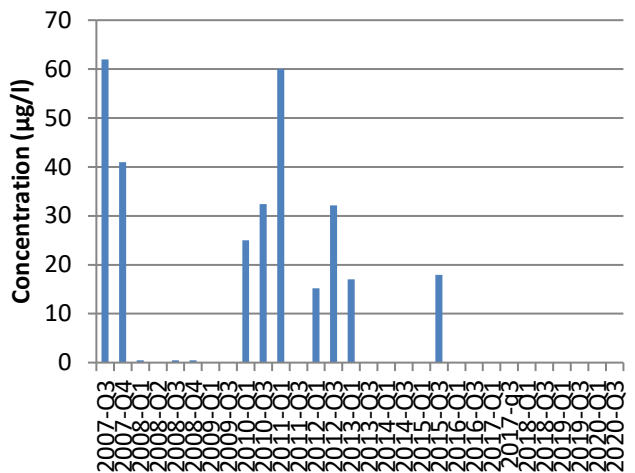
Copper monitoring - E2S



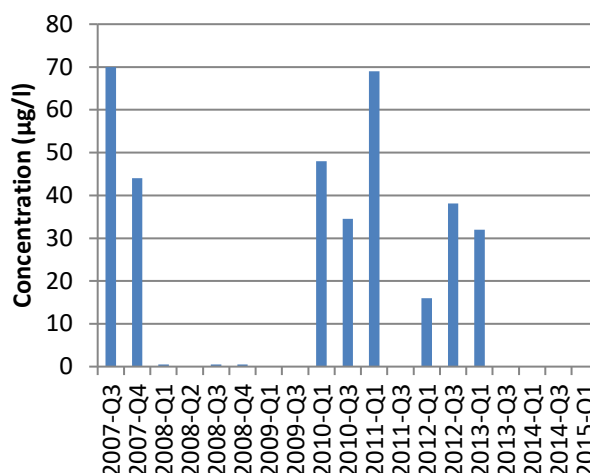
Copper monitoring - E2D



Copper monitoring - E1S



Copper monitoring - E4S

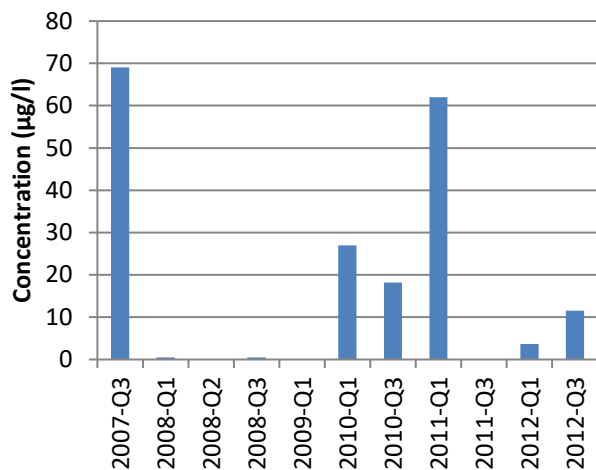




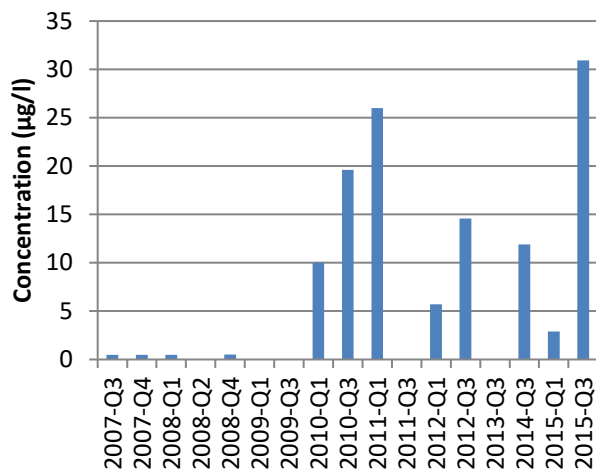
Q3 Landfill Groundwater Sampling Results 2020
Dow Silicones UK Ltd
Barry

Quarter 3 2020

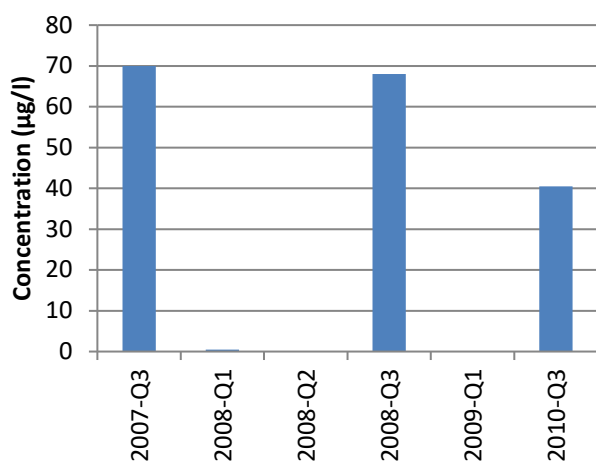
Copper monitoring - LF1



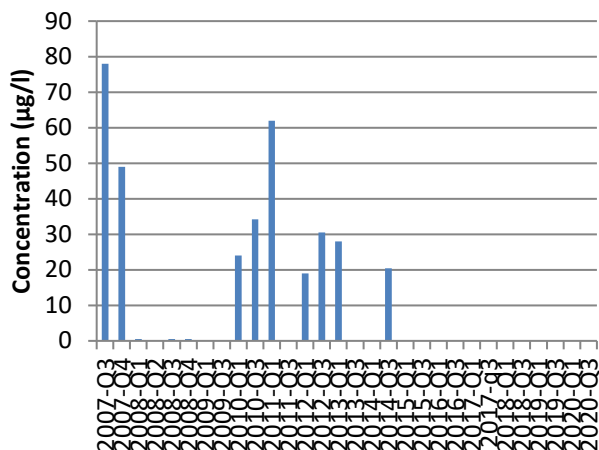
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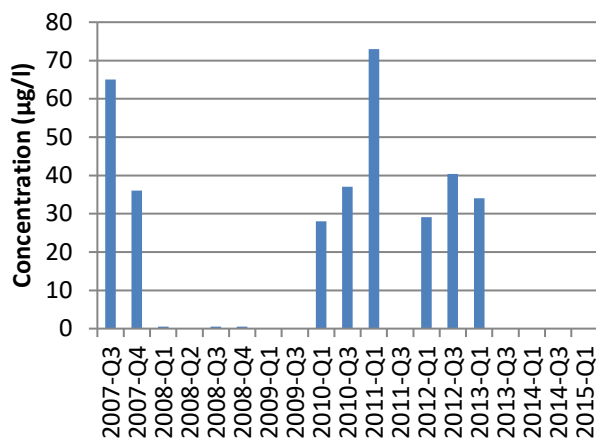
Copper monitoring - LF6



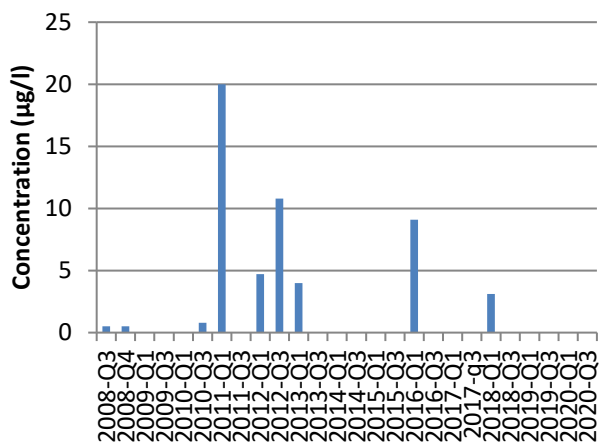
Copper monitoring - LF7



Copper monitoring - E4D



Copper monitoring - BH 210

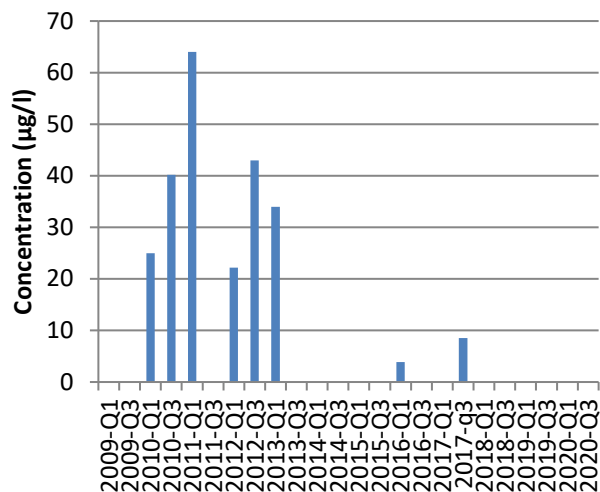




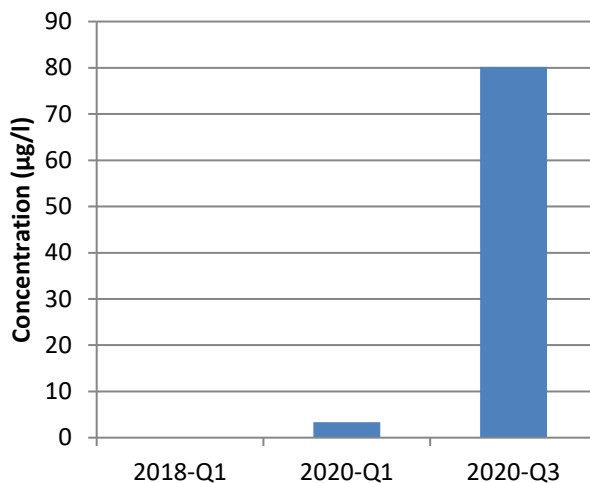
Q3 Landfill Groundwater Sampling Results 2020
Dow Silicones UK Ltd
Barry

Quarter 3 2020

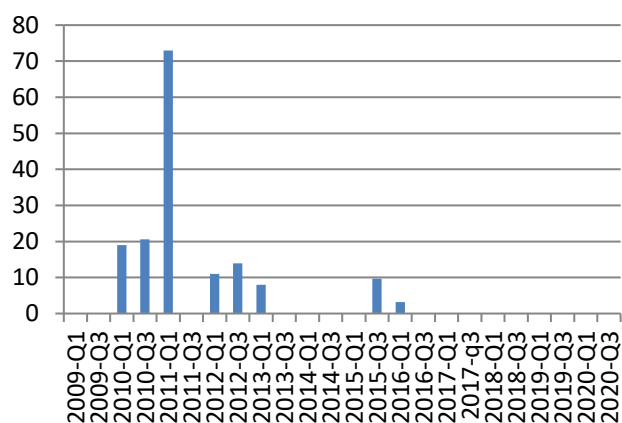
Copper monitoring - BH 412



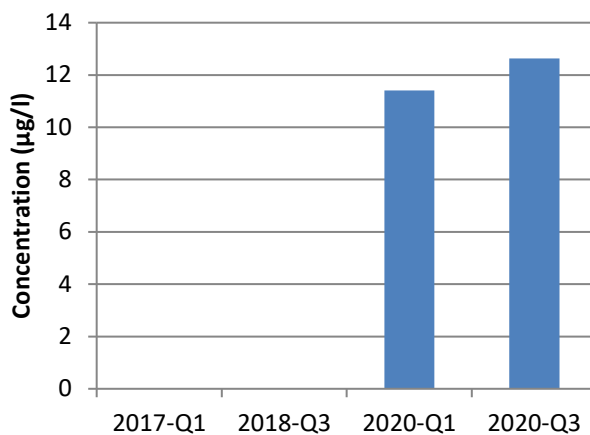
Copper monitoring - CP1S



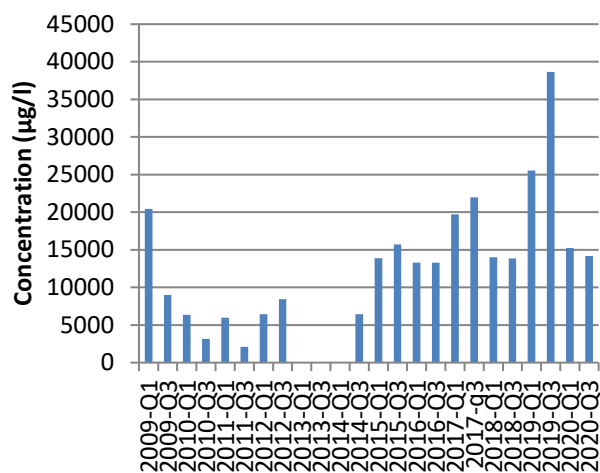
Copper monitoring - BH 312



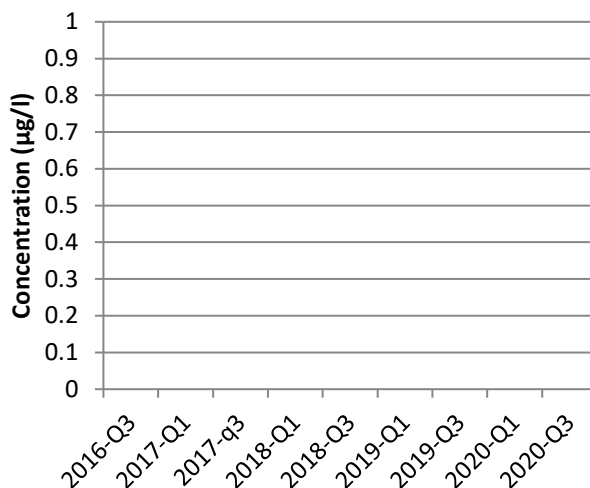
Copper monitoring - CP1M



Copper monitoring - A2D

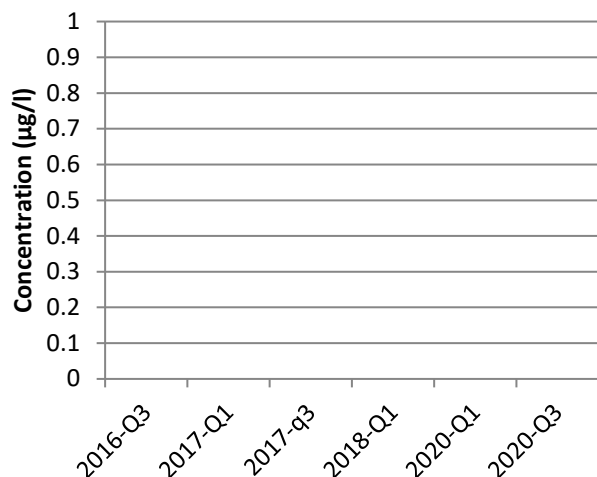


Copper monitoring - CP1D

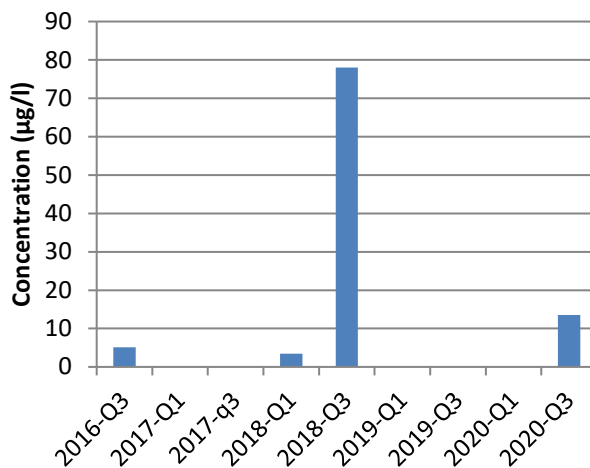




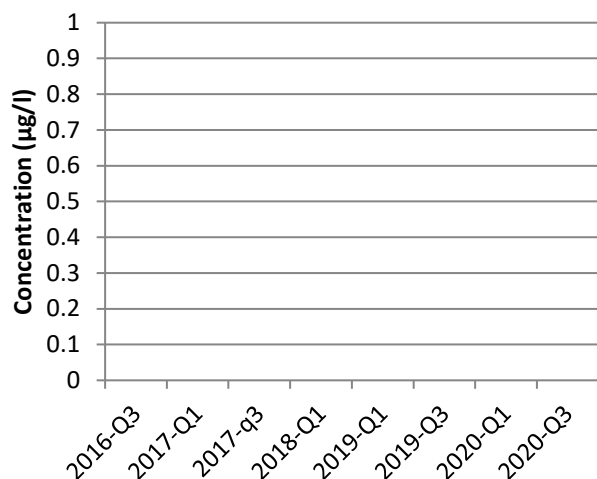
Copper monitoring - CP2S



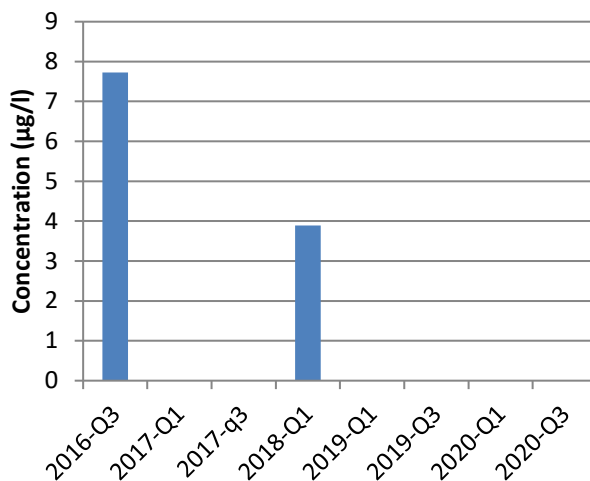
Copper monitoring - LF10S



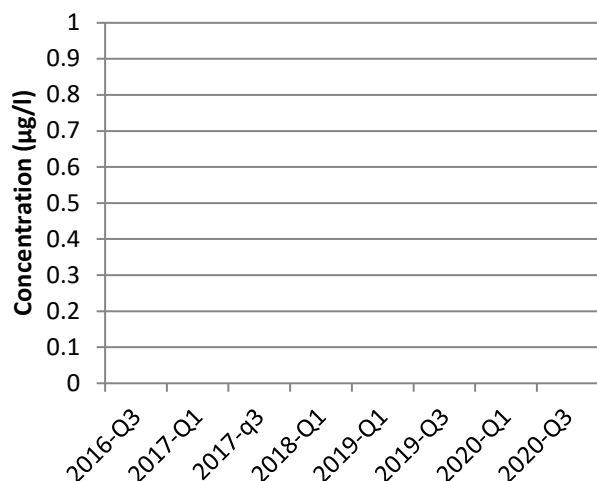
Copper monitoring - CP2M



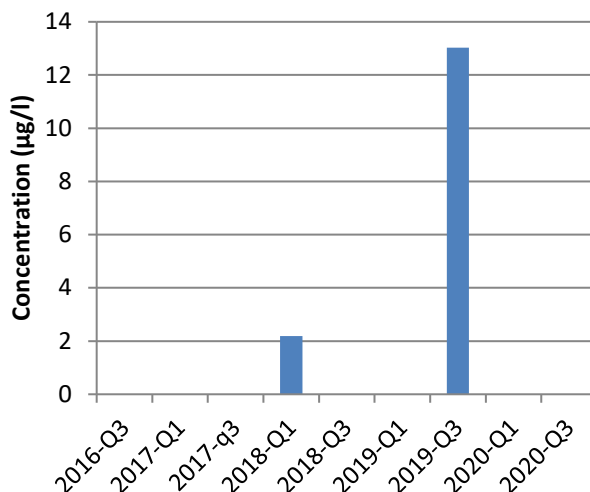
Copper monitoring - LF10M



Copper monitoring - CP2D



Copper monitoring - LF10D

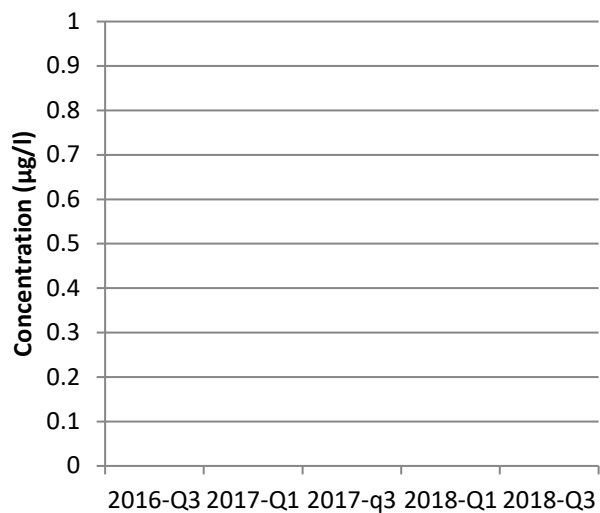




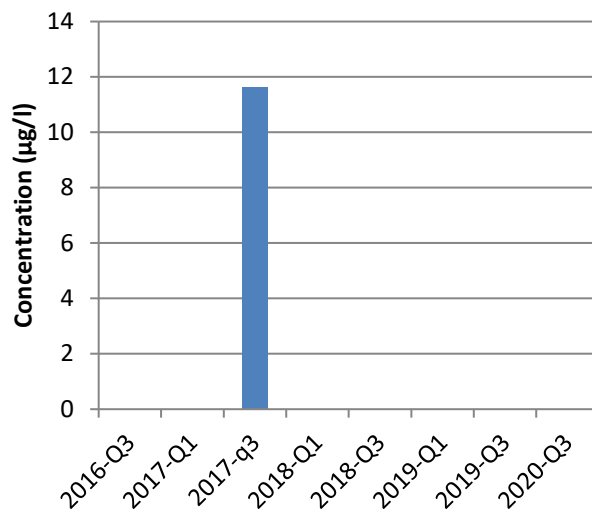
Q3 Landfill Groundwater Sampling Results 2020
Dow Silicones UK Ltd
Barry

Quarter 3 2020

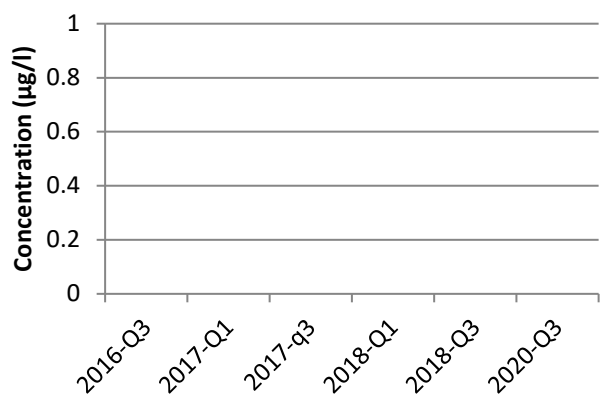
Copper monitoring - LF11S



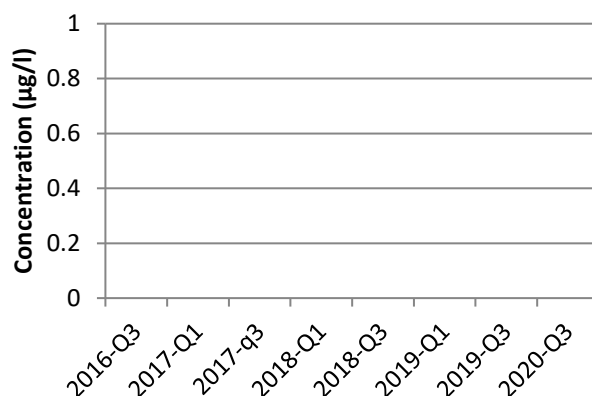
Copper monitoring - LF12M



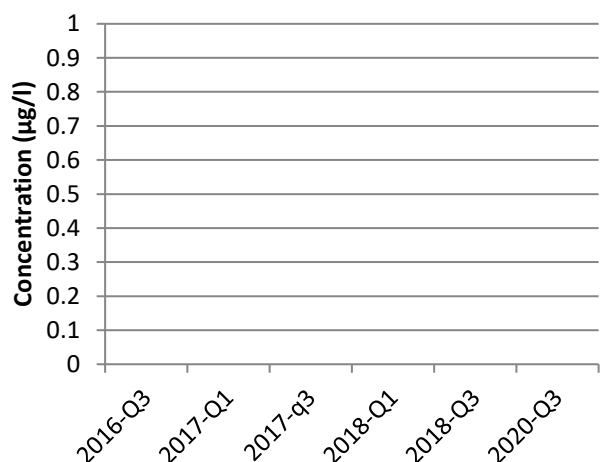
Copper monitoring - LF11M



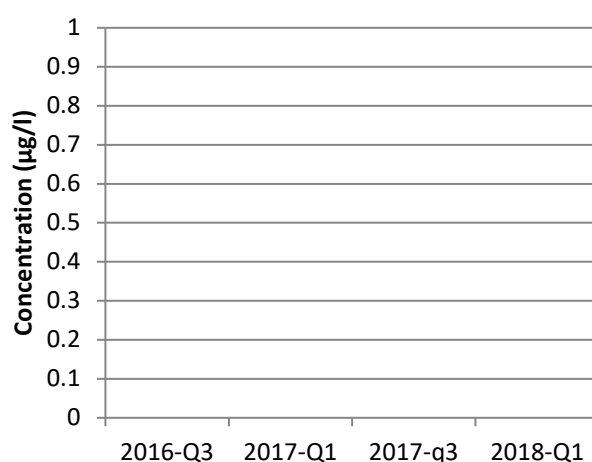
Copper monitoring - LF12D



Copper monitoring - LF11D

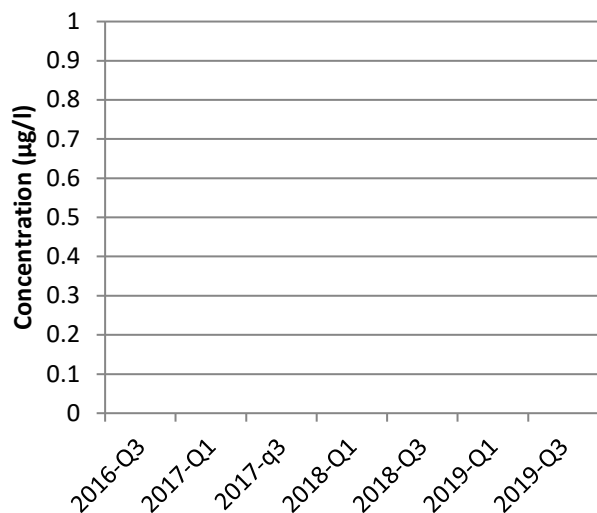


Copper monitoring - LF13S

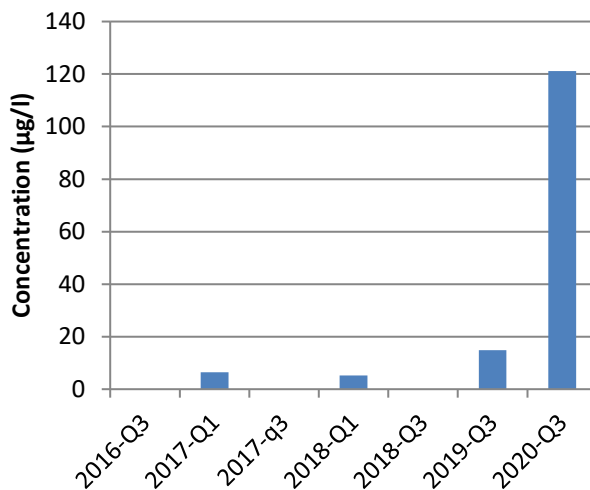




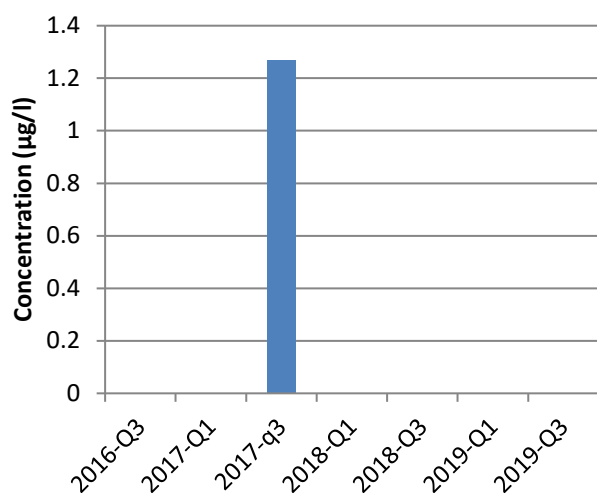
Copper monitoring - LF13M



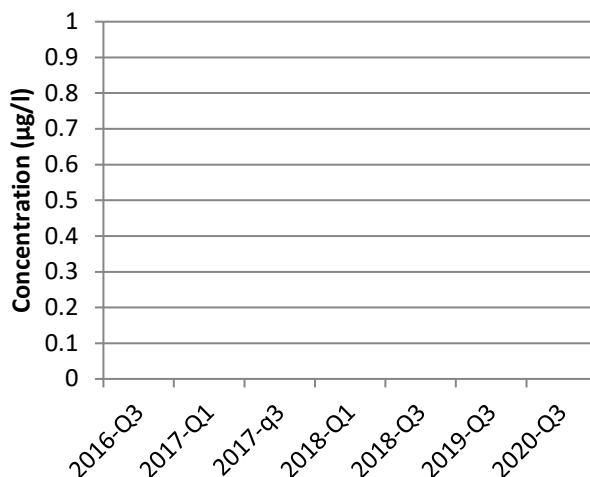
Copper monitoring - LF14M



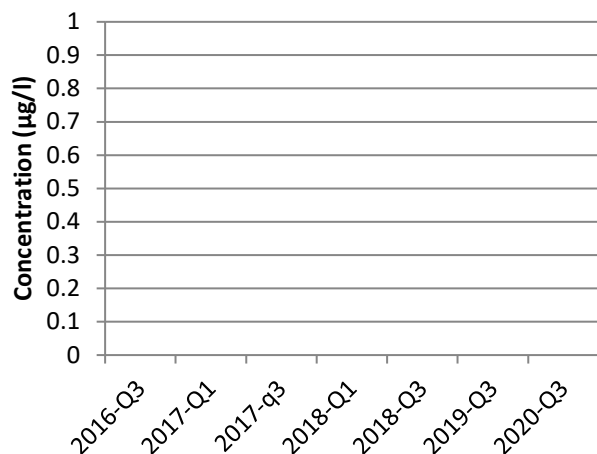
Copper monitoring - LF13D



Copper monitoring - LF14D



Copper monitoring - LF14S



Comments

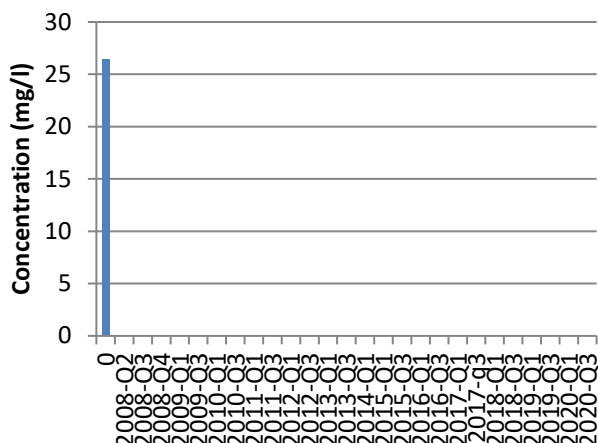
1. Most results from the sampling this quarter fall within the normal range of the sampling data.
2. LF14M showed elevated copper levels, this may be as a result of ground disturbance whilst the landfill cap and reseeded was completed.
3. CP1S show elevated copper levels, but there is none in either of the Cadoxton Ponds. There were issues with drawing a sample from this borehole, sample was taken from the flow cell, the result may be compromised due to this.
4. The only borehole which measured a significant value for copper was A2d. This borehole is situated in the middle of the site and therefore poses no risk to local sensitive receptors. The value is of similar magnitude to other reporting periods.

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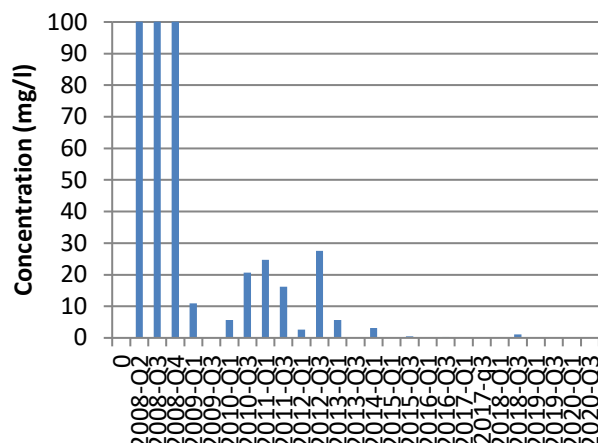
TMS

The detectable limit for Trimethylsilanol is 3 mg/l – any results below this will show on the graphs as 0

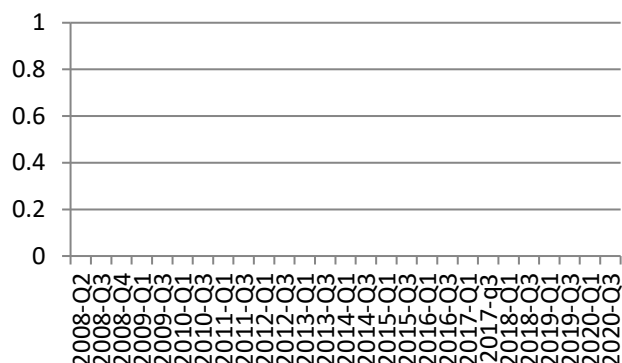
TMS monitoring - SW2



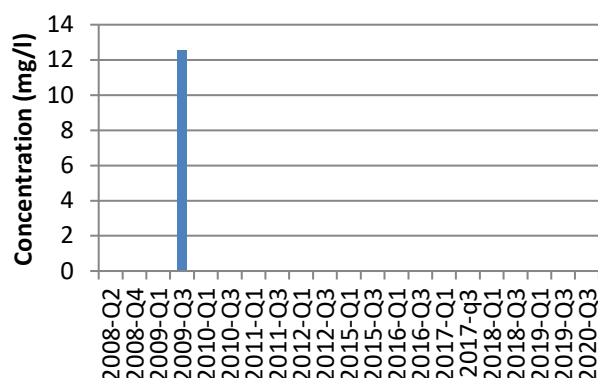
TMS monitoring - SW3



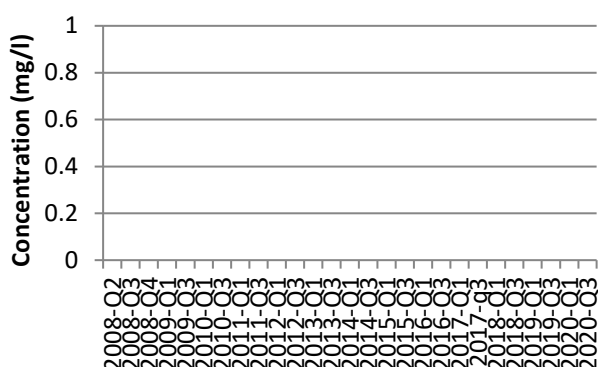
TMS monitoring - Freshwater Pond



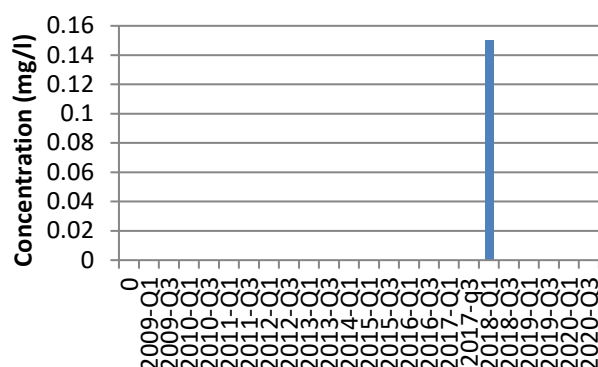
TMS monitoring - Timber Pond



TMS monitoring - Cadoxton Pond 1



TMS monitoring - Cadoxton Pond 2

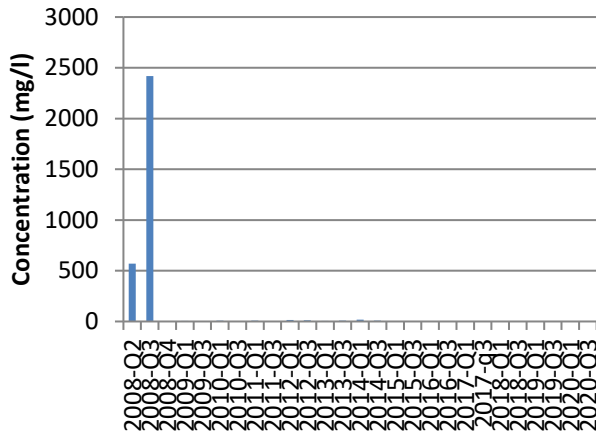




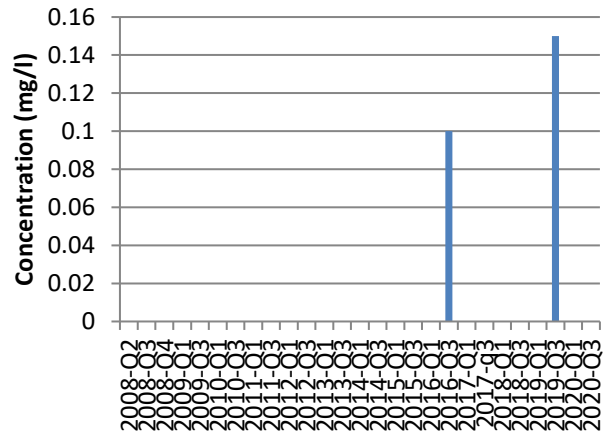
Q3 Landfill Groundwater Sampling Results 2020
Dow Silicones UK Ltd
Barry

Quarter 3 2020

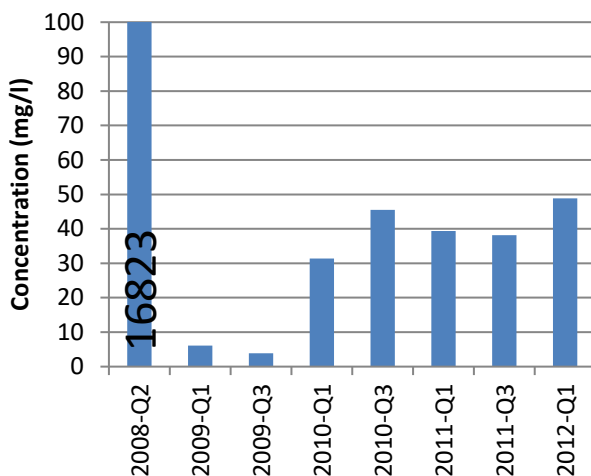
TMS monitoring - E1M



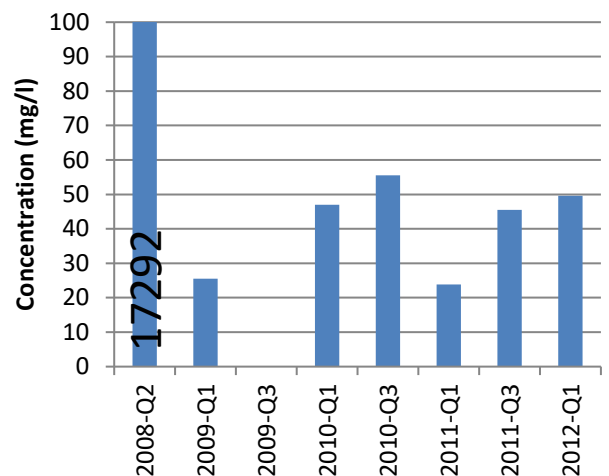
TMS monitoring - E1D



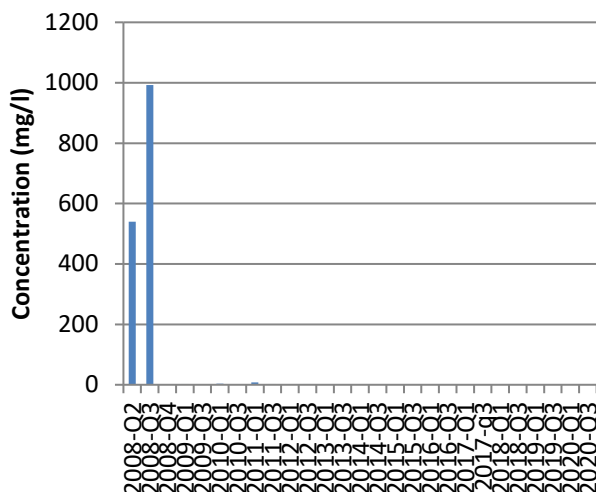
TMS monitoring - E2S



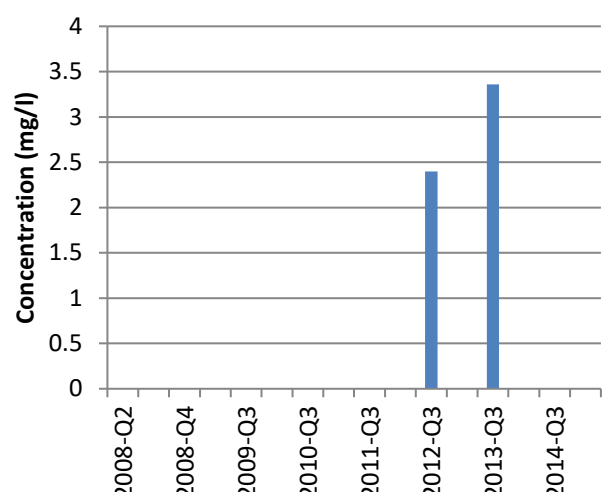
TMS monitoring - E2D



TMS monitoring - E1S



TMS monitoring - E4S

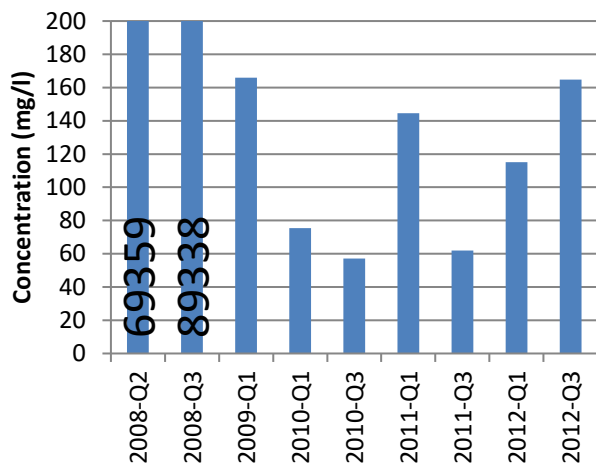




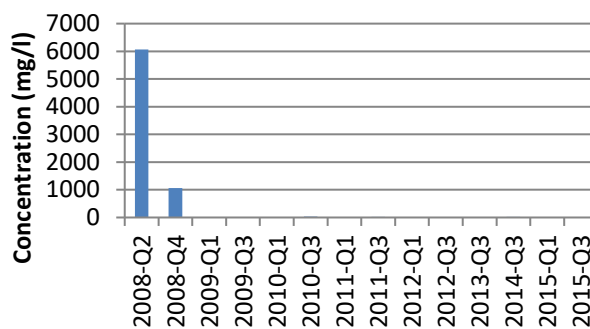
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Dow Silicones UK Ltd
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Quarter 3 2020

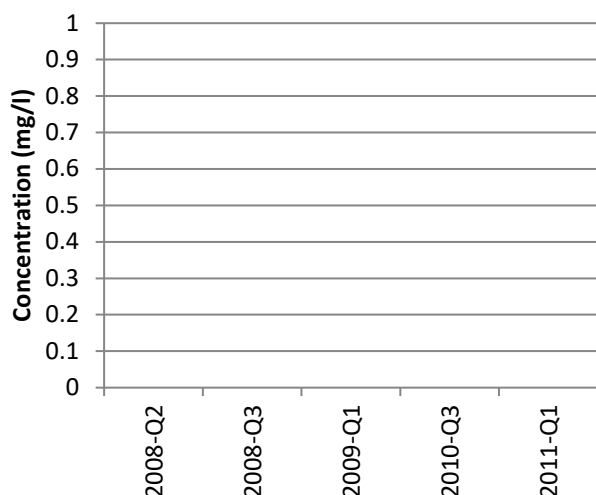
TMS monitoring - LF1



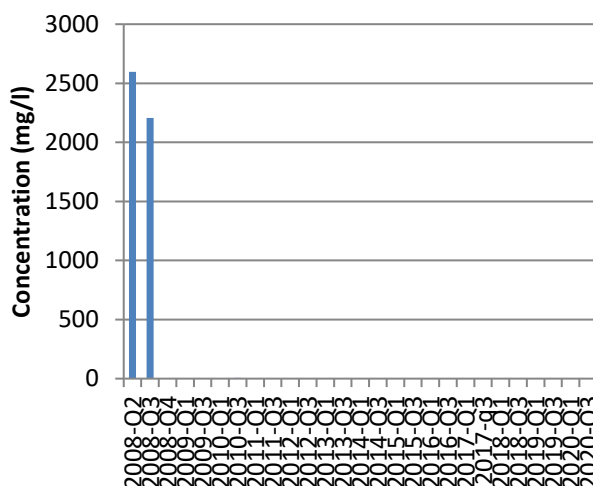
TMS monitoring - LF4



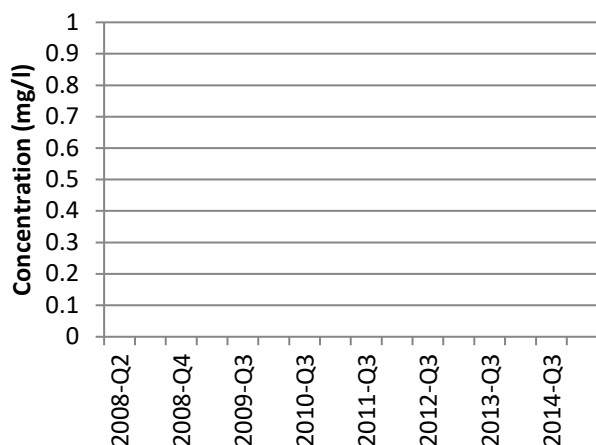
TMS monitoring - LF6



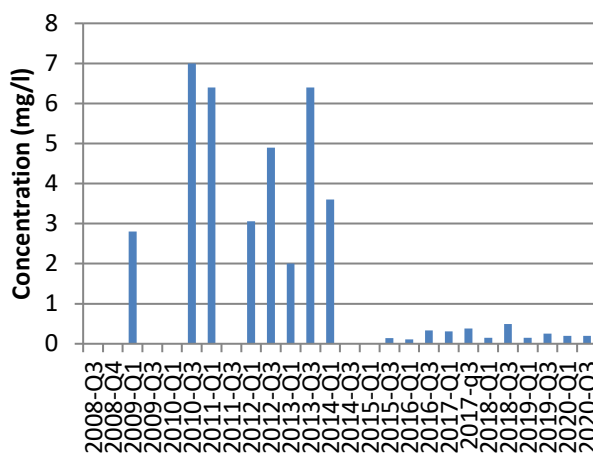
TMS monitoring - LF7



TMS monitoring - E4D



TMS monitoring - BH 210

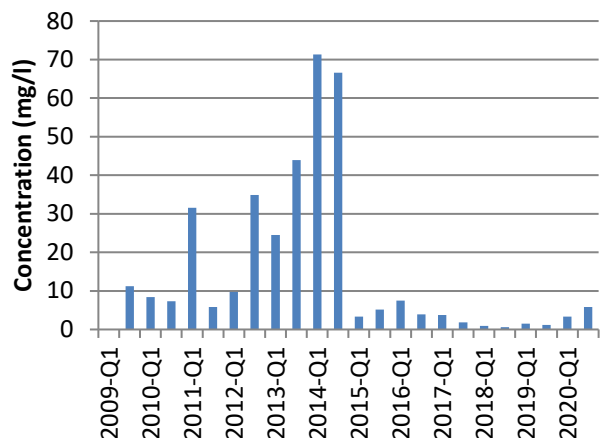




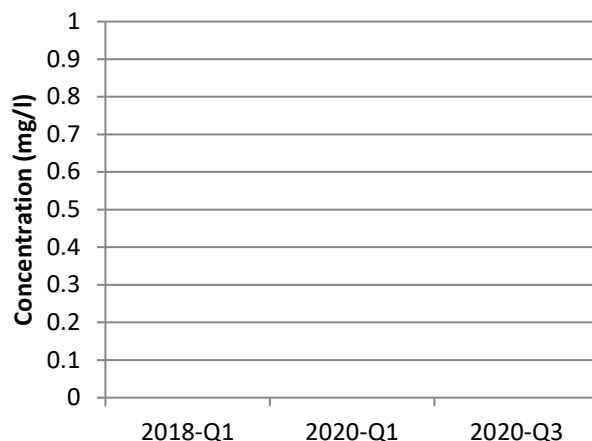
Q3 Landfill Groundwater Sampling Results 2020
Dow Silicones UK Ltd
Barry

Quarter 3 2020

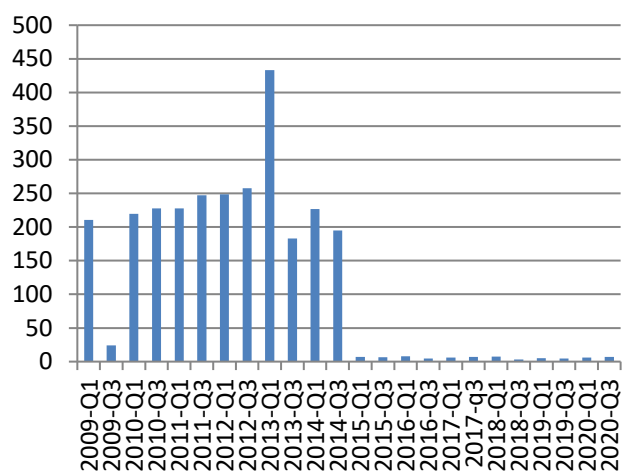
TMS monitoring - BH 412



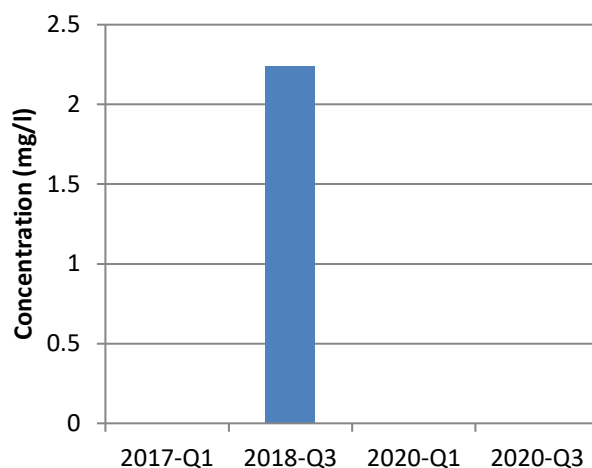
TMS monitoring - CP1S



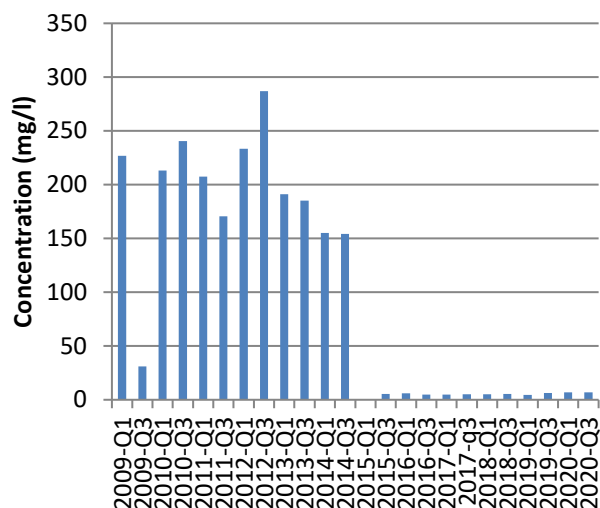
TMS monitoring - BH 312



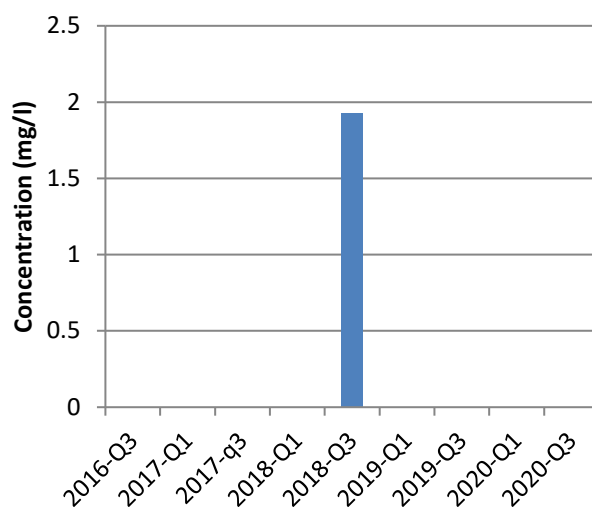
TMS monitoring - CP1M



TMS monitoring - A2D



TMS monitoring - CP1D

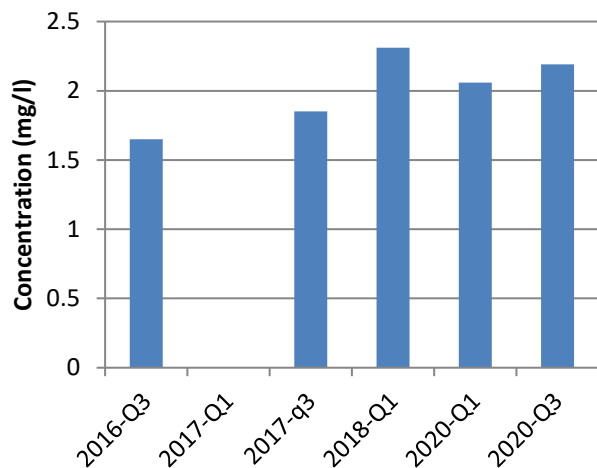




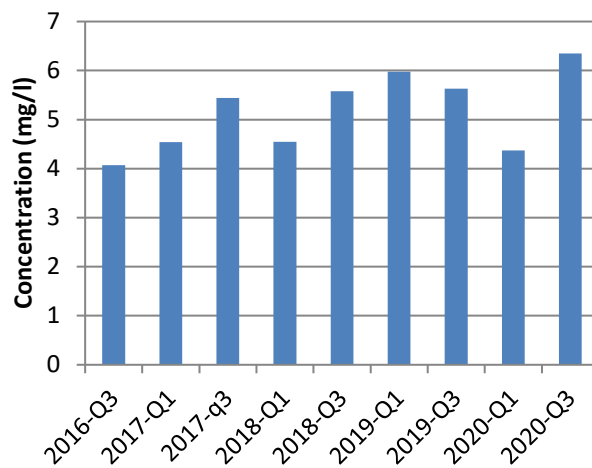
Q3 Landfill Groundwater Sampling Results 2020
Dow Silicones UK Ltd
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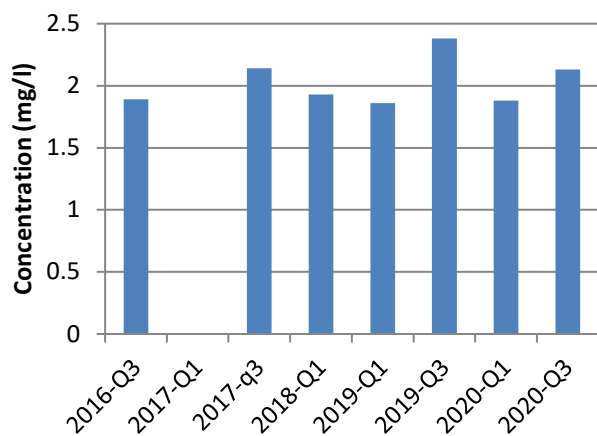
TMS monitoring - CP2S



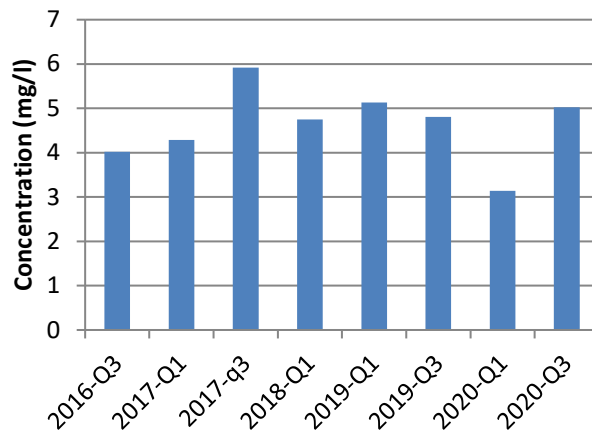
TMS monitoring - LF10S



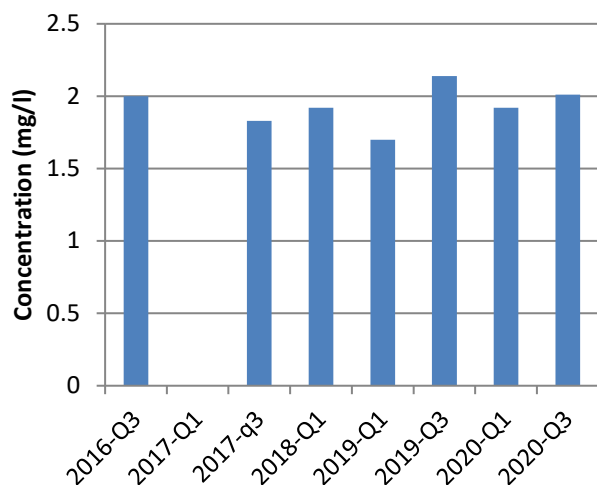
TMS monitoring - CP2M



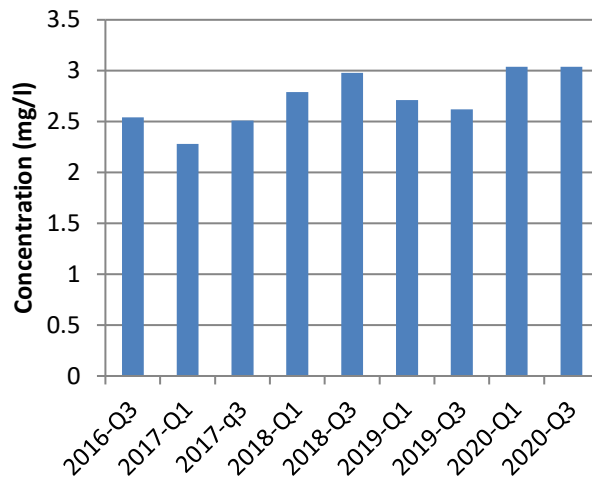
TMS monitoring - LF10M



TMS monitoring - CP2D

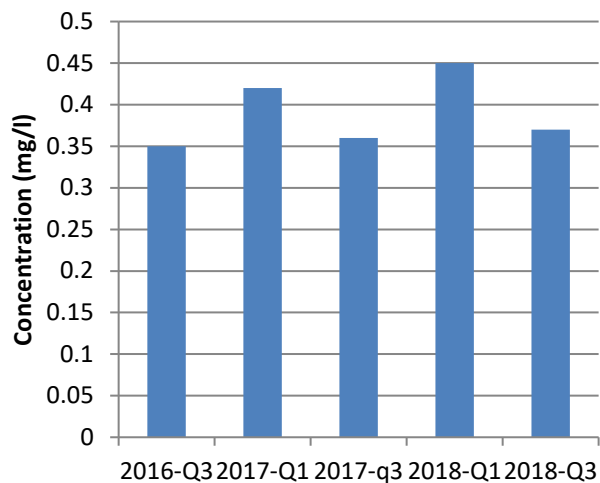


TMS monitoring - LF10D

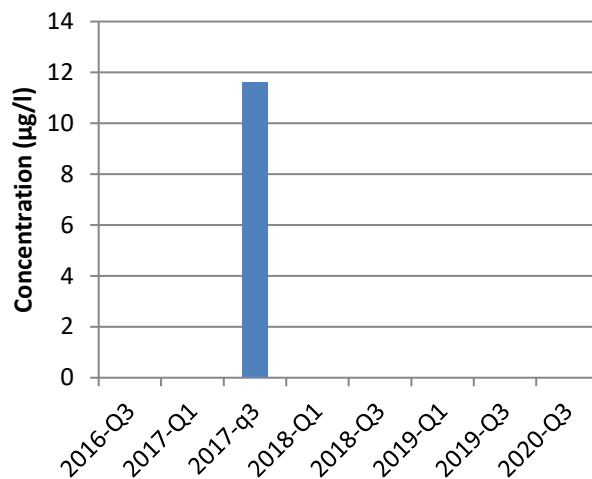




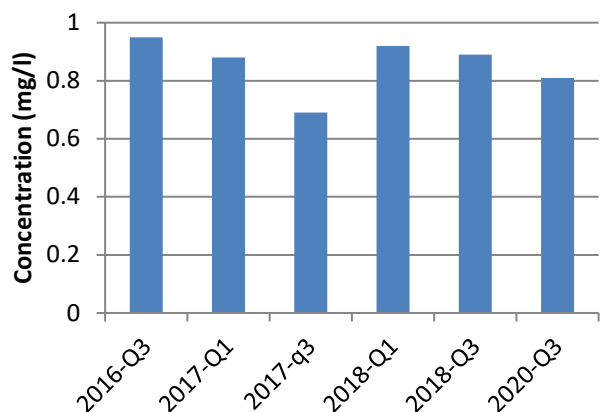
TMS monitoring - LF11S



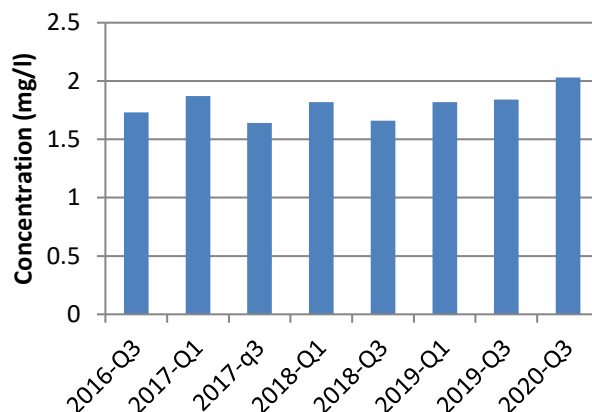
Copper monitoring - LF12M



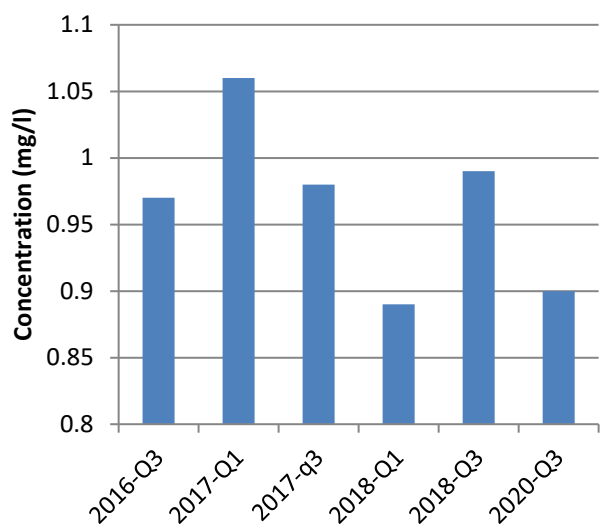
TMS monitoring - LF11M



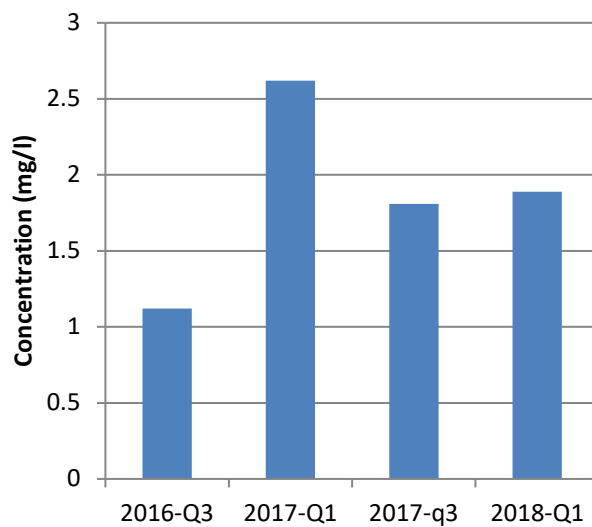
TMS monitoring - LF12D



TMS monitoring - LF11D



TMS monitoring - LF13S

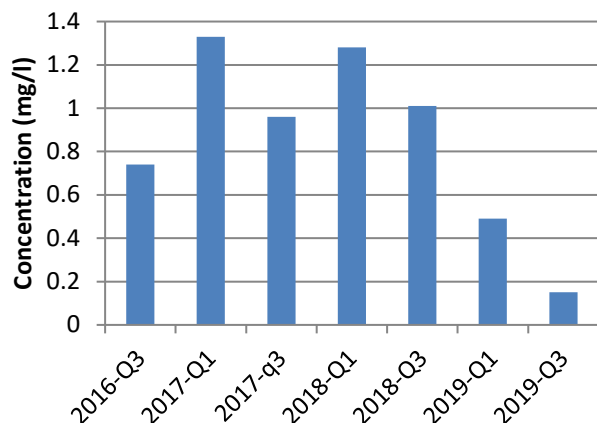




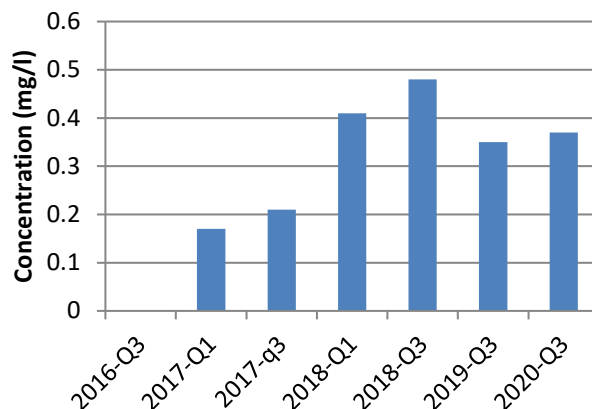
Q3 Landfill Groundwater Sampling Results 2020
Dow Silicones UK Ltd
Barry

Quarter 3 2020

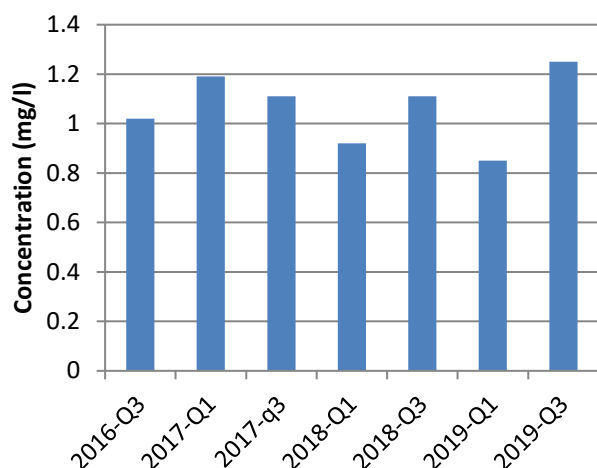
TMS monitoring - LF13M



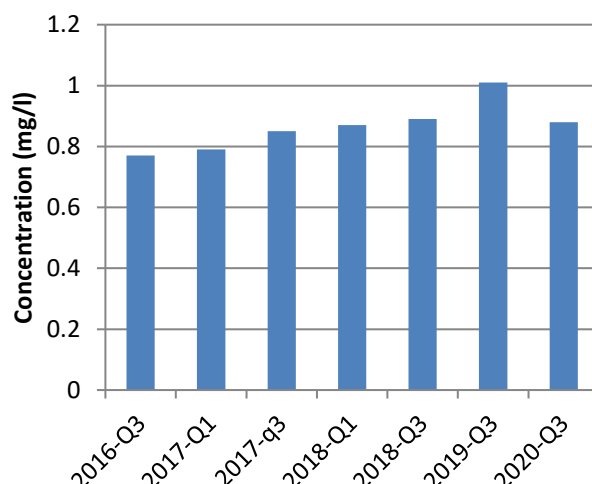
TMS monitoring - LF14M



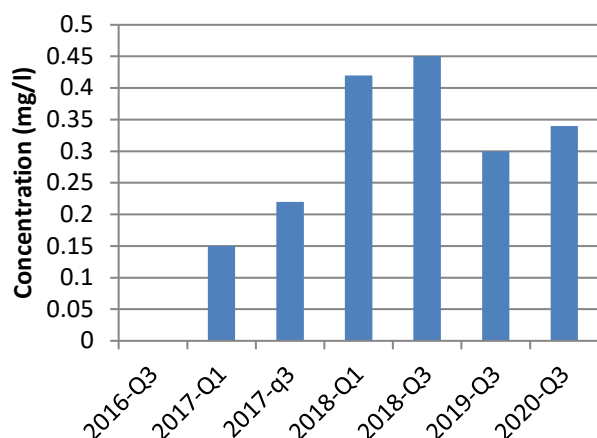
TMS monitoring - LF13D



TMS monitoring - LF14D



TMS monitoring - LF14S



Comments

1. No boreholes show significant TMS concentrations this quarter.
2. The results of sampling the boreholes shows the usual fluctuations.

The next report is to be completed for the next 6months.