Ambient Monitoring Report 2018

Permit EPR/BV5386IX
Variation EPR/BV5386IX/V004

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Ambient Monitoring Report 2018

Further to the ambient monitoring report provided for the period January to December 2017, below is an update for the period 1st January to 31st December 2018:-

Ambient Monitoring from 1st January 2015

Besides having two site monitors; as of 1st January 2015, the company commenced monitoring of ambient air at a human sensitive receptor which is situated at a local school.
It is performed in conjunction with another company who operate on the same estate thereby using shared resources.

Sensitive Receptor - Information and Results

Monitoring station Serial No. TNO 2899 is situated at Garnlydan School and did not have any single monthly result above 0.250 µg Pb/m^3 with the lowest result recorded in December 2018 at 0.031 µg/m^3 and the highest being 0.109 µg/m^3 in February 2018.
The trend of annual mean results has held fairly steady in 2018 with results of 0.054 µg being recorded in December 2017 and 0.053 µg in December 2018, however, the monitor was out of service in August 2018, when it was returned to the manufacturer for its annual service and re-calibration.

Site Monitors

Monthly results have shown that ambient lead in air levels taken from the two site monitors had some fluctuating results in 2018.

A brief update of results is as follows:-

1. Monitoring station Serial No.TNT1228 is situated to the north east of the site and had 3 monthly results in May, June and October 2018 which were above 0.250 µg pb/m^3.
   The highest monthly result recorded was 0.529 µg/m^3 in June 2018 whilst levels of 0.330 µg/m^3 were recorded in in May 2018 and 0.385 µg/m^3 in October 2018.

   The monitor was out of service in December 2018, when it was returned to the manufacturer for its annual service and re-calibration, therefore, the last recorded annual mean result in November 2018 is 0.2 µg/m^3 which is an increase from 0.11 µg/m^3 which was recorded in December 2017.

   It should be noted that the monitor was slightly delayed in being sent for service due to a pump failure experienced on the second site monitor, however, the two site monitors are removed at different times so as to ensure monitoring at one of the site location at all times. (See below)

2. Monitoring station Serial No.TNT1227 situated to the south west of the site also had 3 monthly results in February, May and June 2018 which were above 0.250 µg pb/m^3.
   The highest result recorded was 0.399 µg/m^3 in February 2018 whilst levels of 0.299 µg/m^3 were recorded in May 2018 and 0.262 µg/m^3 in June 2018.

   The monitor was out of service in January 2018, when it was returned to the manufacturer for its annual service and re-calibration, therefore, the last recorded annual mean result in December 2018 is 0.14 µg/m^3 which is an increase from 0.066 µg/m^3 which was recorded in December 2017.

Pump failure was also identified on the monitor in November 2018, therefore, the unit had to be returned to the manufacturer for repair under warranty.

Internal Incident Reporting

With regard to internal incident reports, the data base has been reviewed and one environmental incident report was raised in June 2018, when a member of the utilities department was found not to have performed his work in regard to the emptying of a Lead dust collection bin at the rear of the plant.

The work resulted in a small fugitive lead release but it is not considered enough to have affected both results.

Due to previous staff briefings issued, the person concerned was dismissed.

Also, a second observation was made in July 2018 when a lorry was seen being driven along the main road to the north of the site, in that its cover came loose and dust was seen to be blowing from it, albeit that it is unknown what it was carrying. A similar previous incident involving a skip lorry has also occurred.

Results will continue to form part of discussions with the site Compliance Officer from Natural Resources Wales at future site visits.

Site Employee Awareness

All appropriate staff are periodically reminded of the need to exercise due care when carrying out external work which has a potential to result in a fugitive Lead emission to air and has previously been the subject of formal toolbox talks whereby individuals are required to acknowledge specific Environmental, Health, Safety and Quality information with their signatures and dates being recorded.

It is likely to be repeated periodically with all existing staff, however, it also applies to new staff and forms part of the new starter induction training programme.

Sampling Arrangements

With regard to sampling arrangements, the company still use the services of Environmental Compliance Ltd (ECL), who are contracted to download monthly ambient monitoring data as well as providing basic maintenance. ECL also make appropriate arrangements for Lead analysis and the provision of monthly reports.

In August 2018, ECL were requested to ensure the ambient monitor filter holders were cleaned during filter changing, therefore, the holders are now blown using a can of compressed air to ensure there is no dust remaining on the holders following each filter removal.

Calibration and Strategy Review

As discussed above, the ambient air sampler at the school, as well as both site samplers, were re-calibrated by the manufacturer, Turnkey Instruments Ltd (TIL).

All monitors were removed by ECL and sent back to TIL at separate times in order to keep disruption to a minimum.

The full ambient monitoring strategy review can be seen on pages 4 - 6 below.

Below are graphs which represent individual monthly ambient Lead results along with annual mean results taken at Garnlydan school in 2018:-

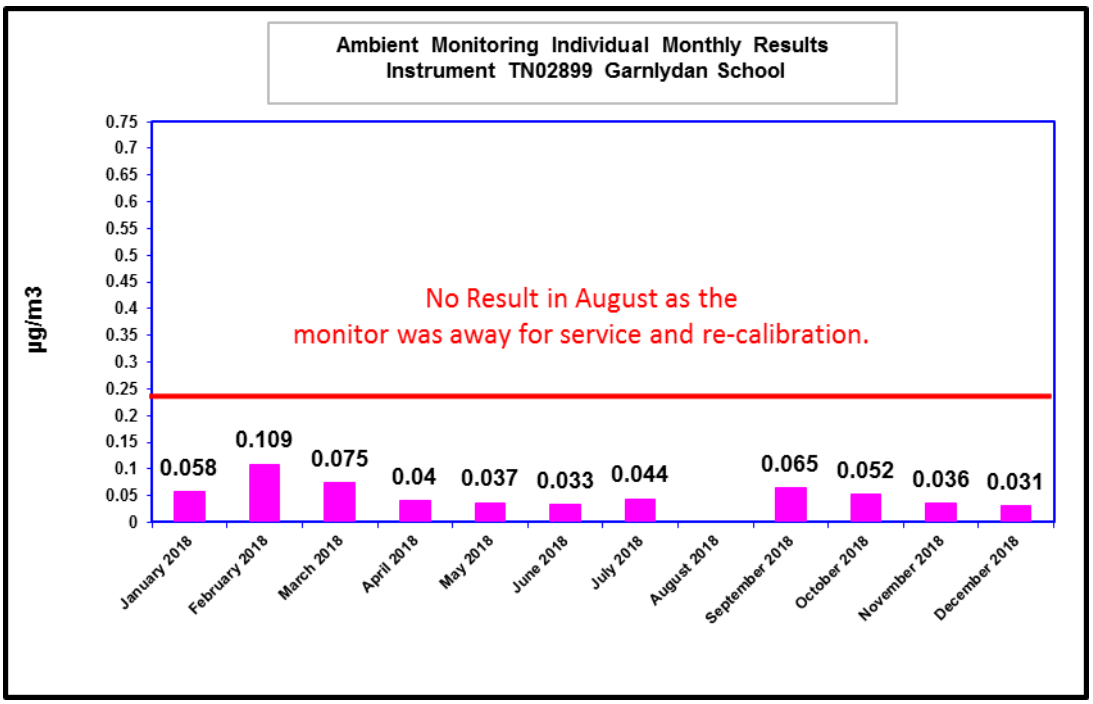


Figure 1 - Graph prepared from individual monthly results taken from the monitoring location at Garnlydan School for the period January to December 2018

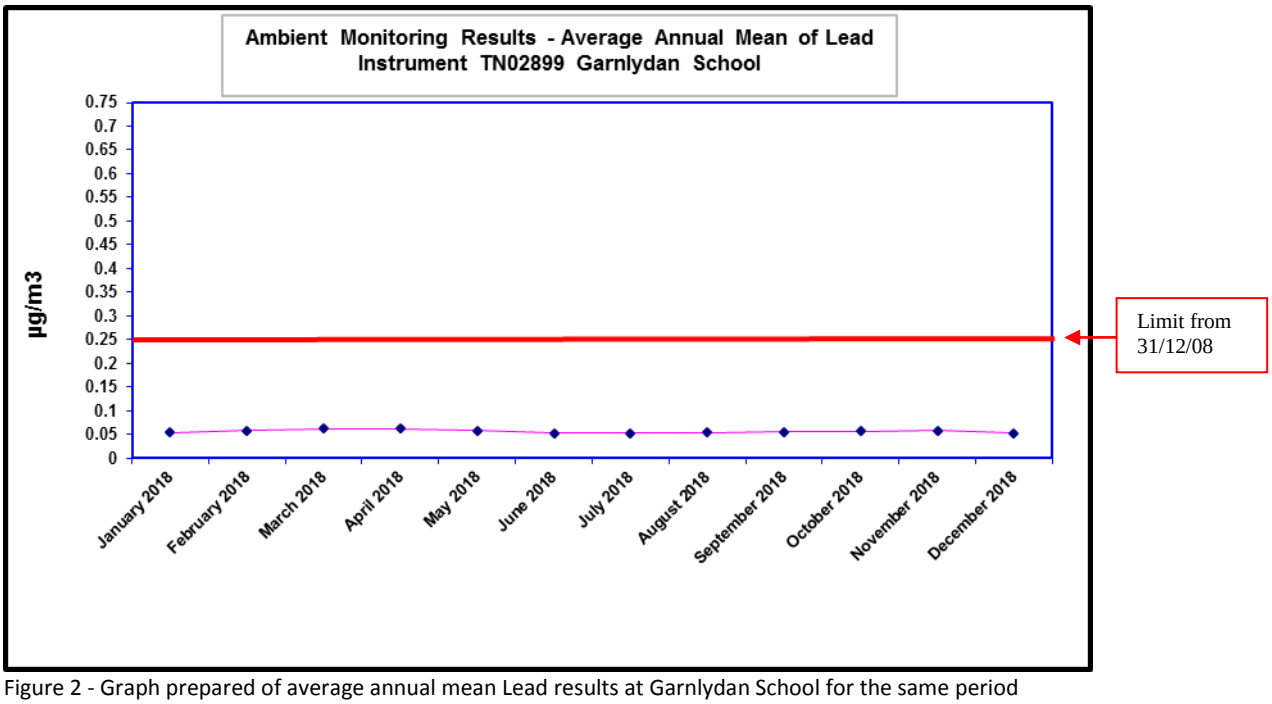


Figure 2 - Graph prepared of average annual mean Lead results at Garnlydan School for the same period as figure 1 abo

GS Yuasa Battery Manufacturing UK Ltd - Ambient Lead Monitoring Strategy

Background, Locations and Equipment

GS Yuasa Battery Manufacturing UK Ltd, currently have two site ambient monitoring locations situated to the north east and south west of the site.

Previously, the company has consulted with two companies, namely Turnkey Instruments Limited (TIL) who manufacture and service ambient air monitoring equipment and Environmental Compliance Limited (ECL) who are able to provide maintenance, filter changes and prepare monthly reports.

At a site meeting held on 9th September 2005, Topas samplers were discussed, and it was noted that the equipment was Mcerts approved and very much updated when compared with the previous ambient monitor used at the site. It also offered the option of installing a met station and of the two monitors later purchased; the north-east monitor was also fitted with a met station.

The Topas instrument can provide a continuous and simultaneous indication of PM1, PM2.5, PM10 and TSP mass fractions and has a filter holder that accepts a 25mm filter to collect dust particles that can be removed and subsequently analysed for dust and metals.

The monitoring location to the south west of the site was previously chosen taking into consideration a roadway leading to an adjacent unit which, at the time, was occupied by a road haulage and storage company although, at present, the unit is now occupied by a furniture manufacturing company.
The previous company very often allowed lorries to park near GS Yuasa's west perimeter fence, therefore, an area was selected to the south of the west gate thereby positioning it away from where vehicles were known to regularly park. Consideration was also given to the comments made at a meeting held with a previous Site Compliance Officer when the area was also agreed to be a satisfactory location in which to position it.

The north-east monitor was originally placed at the rear of factory No.2 at a distance approximately just over half the length of the site, however, following a site meeting with Natural Resources Wales, the location situated to the north east of the site was changed in November 2014 as the location had become overgrown with trees and shrubbery which was considered may affect the results.

Locations of External and Site Monitors

The main monitor is located at a local school at grid ref SO16622 12328 and the positions of the two site monitoring locations can be seen on the plan at page 7.

Roles and Responsibilities

The HSE Manager is responsible for maintenance and annual re-calibration of the two site ambient monitors as well as working in conjunction with another local company to arrange maintenance and re-calibration of the monitor located at the nearby school.
He is also responsible for filter collection and exchange, downloading of data at around the beginning of each month and for results data being recorded into a data-base which is capable of producing graphs to monitor site and external ambient Lead in air trends which are also discussed at internal Health, Safety and Environment local and Team Meetings.

Also, members of GS Yuasa's site management carry out periodic environmental compliance checks, which include the sites of the two ambient monitors.

Sample Collection, Data Download and Frequency of Sampling

Monthly sampling is performed as required under site permit EPR/BV5386IX, Variation EPR/BV5386IX/V004.

Samples from the external and site monitors are removed monthly by ECL and sent to a UKAS approved laboratory for Lead analysis to be performed. At the same time, ambient data is downloaded to computer from all monitors as well as meteorological data from the school and north east site met stations.

Any maintenance or servicing identified will be assessed and, where necessary, referred to ECL and/or TIL, as appropriate.

Monitor Calibrations

On an annual basis, the external, and site ambient monitors, will be removed at separate times by ECL and sent to TIL for servicing and re-calibration, following which, they will be re-fitted again by ECL.
Times of unavailability are recorded in an electronic log.

Operation and Maintenance Arrangements

As stated above, any maintenance required to the equipment is the responsibility of the HSE Manager and, where appropriate, will be referred to ECL/TIL for action.

ECL will ensure the following scope of work is adhered to: -

Sampling for particulate matter and Lead will be carried out to meet the requirements of Technical Guidance Note M8, Monitoring Ambient Air.

ECL will carry out the collection of filters on a monthly basis.
The collected filters will be placed in a clean petri dish and, in the case of site samples, will be sealed in the presence of GS Yuasa personnel and subsequently sent to RPS Laboratories, Manchester, who hold UKAS accreditation for the analysis of Lead collected on the filters.
A field blank will be undertaken for each survey carried out.
From August 2018; and prior to fitting new filters, the holders are blown using a container of compressed air to ensure no dust is present on them.

Ambient data from the two site monitors will be downloaded from both instruments which will then be re-set to commence data capture for the following period and, at the same time, the north-east site monitor will also have its met data downloaded.
The monitor at the school location will also follow the same procedure, as appropriate.
On completion of all work undertaken with the monitors, the flow rates will be measured to ensure the correct flow specification is being achieved.

Data will be submitted based on an analytical turnaround of 10 working days (two weeks) from receipt of samples at the sub-contract laboratory, normally within 3 weeks.

Particulate and Lead results will be forwarded to GS Yuasa for reporting purposes and results will be corrected using the collected site met data so as to represent the airborne concentration of particulate and Lead leaving the site.

Reporting

When received, results from the school monitor, will be checked in accordance with the Air Quality Objective for the annual mean of Lead (at present 0.25µg pb/m^3), and where a Lead sample is found to be higher than the Standard, GS Yuasa will inform Natural Resources Wales by email or telephone and afterwards by completing a schedule 5, notification form.

Where results are satisfactory, all other reporting will be carried out annually as required by the site permit.

Review

A full review of this strategy will be undertaken if there is any change that would affect it, or in any case every two years.

Review Date - 21st February 2019.

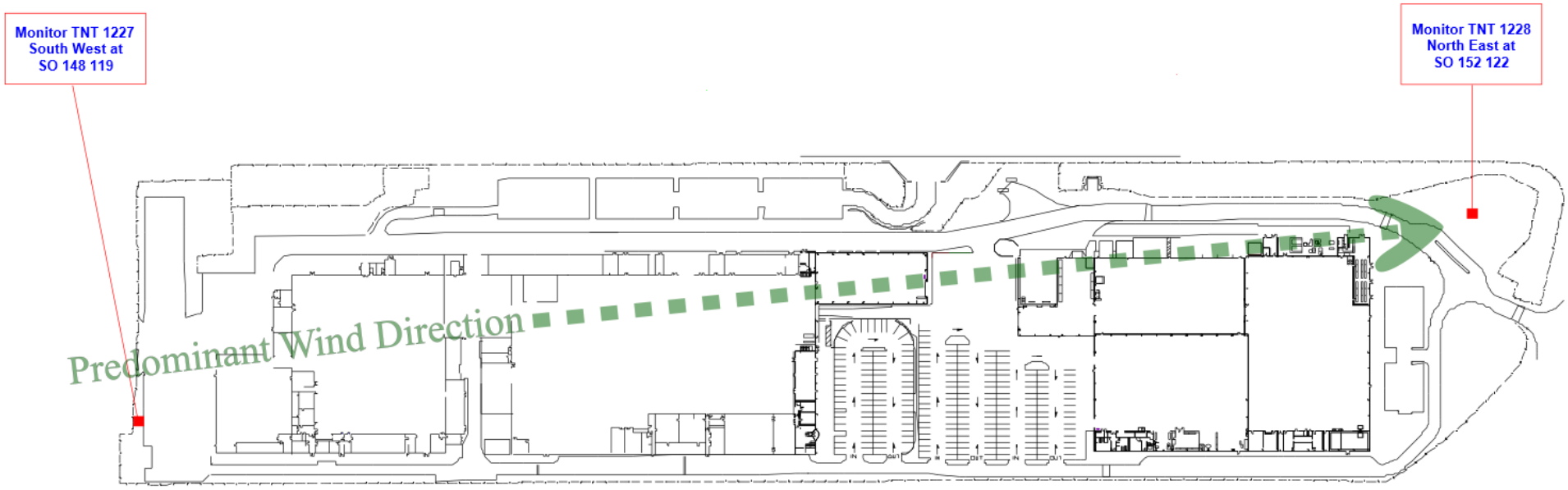


Figure 3 - Plan showing the Locations of site ambient monitors