



Ambient Monitoring Report 2021

Permit EPR/BV5386IX Variation EPR/BV5386IX/V006

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Ambient Monitoring Report 2020

Further to the ambient monitoring report provided for the period January to December 2020, below is an update for the period 1st January to 31st December 2021: -

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 $\mu\text{g Pb}/\text{m}^3$ with the highest being 0.059 $\mu\text{g}/\text{m}^3$ in July 2021 and the lowest result recorded in February 2021 at 0.027 $\mu\text{g}/\text{m}^3$.

The trend of annual mean results has held fairly steady in 2021 at 0.052 $\mu\text{g}/\text{m}^3$

In addition, the monitor was out of service between July and August 2020, when it was returned to the manufacturer for 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 2021.

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 1 individual monthly result above 0.250 $\mu\text{g Pb}/\text{m}^3$.
The highest monthly result recorded was 0.599 $\mu\text{g}/\text{m}^3$ in July 2021 and the lowest result was 0.017 $\mu\text{g}/\text{m}^3$ in February 2020. The monitor was out of service between January and February 2021, when it was at the manufacturers for annual service and re-calibration.
The highest recorded annual mean results were in May and September 2020 at 0.169 $\mu\text{g}/\text{m}^3$ and the lowest was 0.076 $\mu\text{g}/\text{m}^3$ in April 2021. At the end of December the annual mean result was 0.178 $\mu\text{g}/\text{m}^3$.
2. Monitoring station Serial No. TNT1227 is situated to the south west of the site and no individual monthly result was above 0.250 $\mu\text{g Pb}/\text{m}^3$.
The highest monthly result recorded was 0.216 $\mu\text{g}/\text{m}^3$ in April 2021 and the lowest result was 0.081 $\mu\text{g}/\text{m}^3$ in February 2021. The monitor was out of service between September to November, when it was at the manufacturers for annual service, calibration and repair. There was an issue with sourcing parts for the monitor before it was returned in working order.
The highest recorded annual mean result was in December 2021 at 0.122 $\mu\text{g}/\text{m}^3$ and the lowest was 0.066 $\mu\text{g}/\text{m}^3$ in February 2021.

Internal Incident Reporting

With regard to internal incident reports, the data base has been reviewed and there are no incidents which are considered to have an impact on ambient monitoring results.

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.

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 are 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 2021:-

Figure 1 - Graph prepared from individual monthly results taken from the monitoring location at Garnlydan School for the period January to December 2021. No result for August as monitor was away for service/calibration

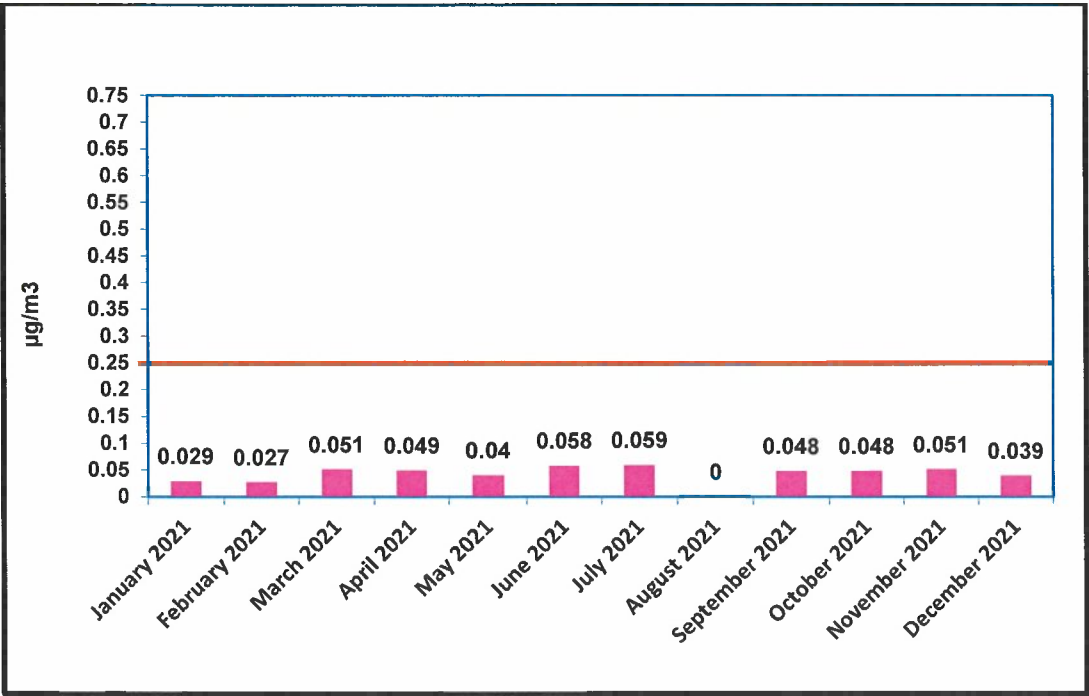
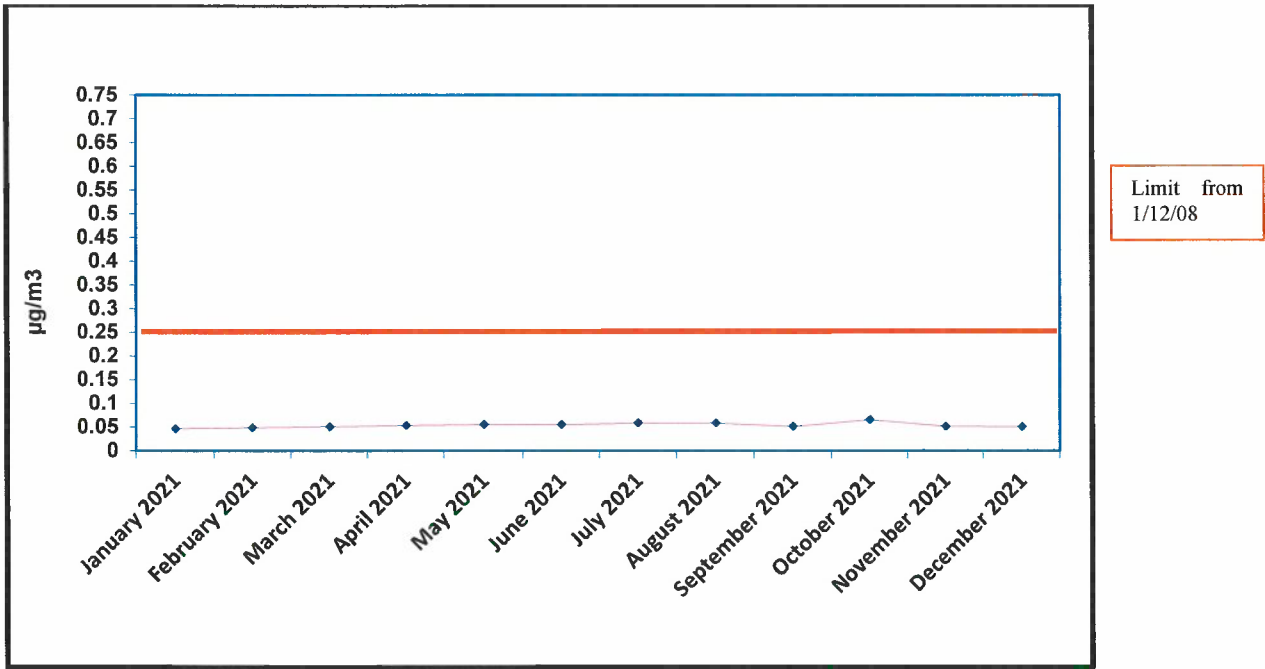


Figure 2 - Graph prepared of average annual mean Lead results at Garnlydan School for 2021



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 are identified on a site plan. (See page 7 below)

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/V006.

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 $0.25\mu\text{g pb/m}^3$), 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.

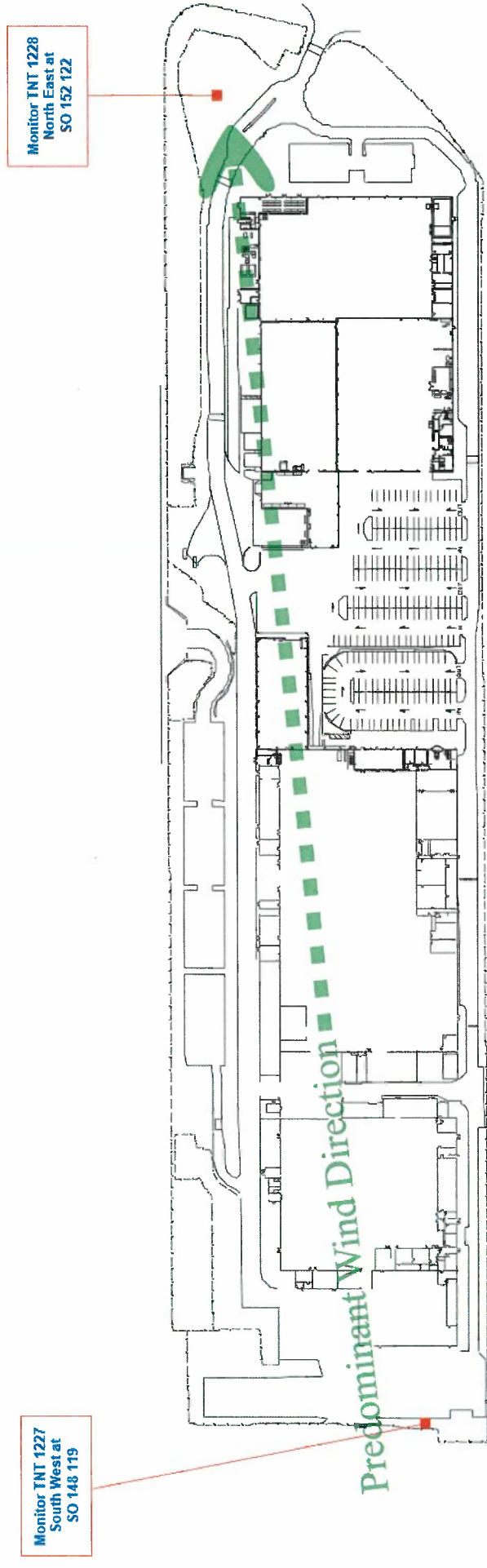


Figure 3 - Plan showing the Locations of site ambient monitors