Air Quality

Monitoring readings

20/02/2023

1-3 Ferdinand Place

Report summary

Please note the trigger limits set for this project as mentioned in the report are Dust 250 particles (µg/m^3)

The graphical data indicates that the levels recorded are below that

Initial due to the small nature of the site 1 no monitor was proposed to collect back round data, this decision was taking due to the small nature of the site and the site being on a small Cul De Sac restricting traffic flow to one lane, after collection of the data was established once demo/construction was due to start 2 no monitors was the intended process moving forward

INDUCTION

The site is located at 1-3 Ferdinand Place camden, As a result of neighbouring properties in close proximity, it becomes important to measure the Dust levels on the surrounding structures and its inhabitants that are caused by the construction activities.

Monitoring Dust

The dust units have been configured to record Particulate Matter (PM) size data continuously at given intervals (see installation details) with a flow rate of 1 litre per minute. The graph contains data of the PM10 µg/m^3 values, where µg/m^3 is the micrograms per cubic meter, which is a measure of particle size. The PM10 values depict the dust level in µg/m^3 over pre-set time period.

The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometres in diameter pose the greatest problems, because they can affect the lungs and heart. Larger particles are of less concern, although they can irritate the eyes, nose, and throat.

- **Fine particles (PM2.5).** Particles less than 2.5 micrometres in diameter are called "fine" particles. Sources of fine particles include all types of combustion, also motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. PM2.5 contains more toxic heavy metals and hazardous organic pollutants and can go directly to the lungs. It is more easily attached to bacteria and viruses in the environment, so the particles have greater impact on ecology and human health.
- **Coarse dust particles.** Particles between 2.5 and 10 micrometres in diameter are referred to as "coarse." Sources of coarse particles include crushing or grinding operations, and dust stirred up by vehicles traveling on roads.

How can particles affect your health?

Long-term exposure, is associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death.

Short-term exposure to particles (hours or days) can aggravate lung disease, cause asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposure is linked to heart attacks and arrhythmias. Healthy children and adults may experience temporary minor irritation when particle levels are elevated.

Reporting

The graphical data for each unit will be issued in PDF reports. The graphs will include trigger levels where applicable. A backup copy of all data is kept on the Galcross servers in our main office. If applicable, all data from the monitors will be uploaded to a dedicated Report, where it will be displayed in a graphical and numerical format. The data will be automatically or manually uploaded to our SQL database on a regular basis depending on the instruments used (see instrumentation). The web interface is then used to view the latest and historical data.

Alarming

If applicable and once there is a constant uninterrupted power supply, the monitors will be configured to send out an email alert in the event of a breach of the trigger level to the relevant parties on site.

Trigger Levels

Informing all on the alert list is the first action

The actions to be taken should then comprise a method review to see if the operation cannot realistically be modified under the 'best practicable means' principle. If this level is unavoidable using BPM the next action should include contacting a named person within neighbouring affected property to inform them of the activities and resulting risk and its likely duration.

Trigger levels are set as follow

Dust 250 particles (µg/m^3)

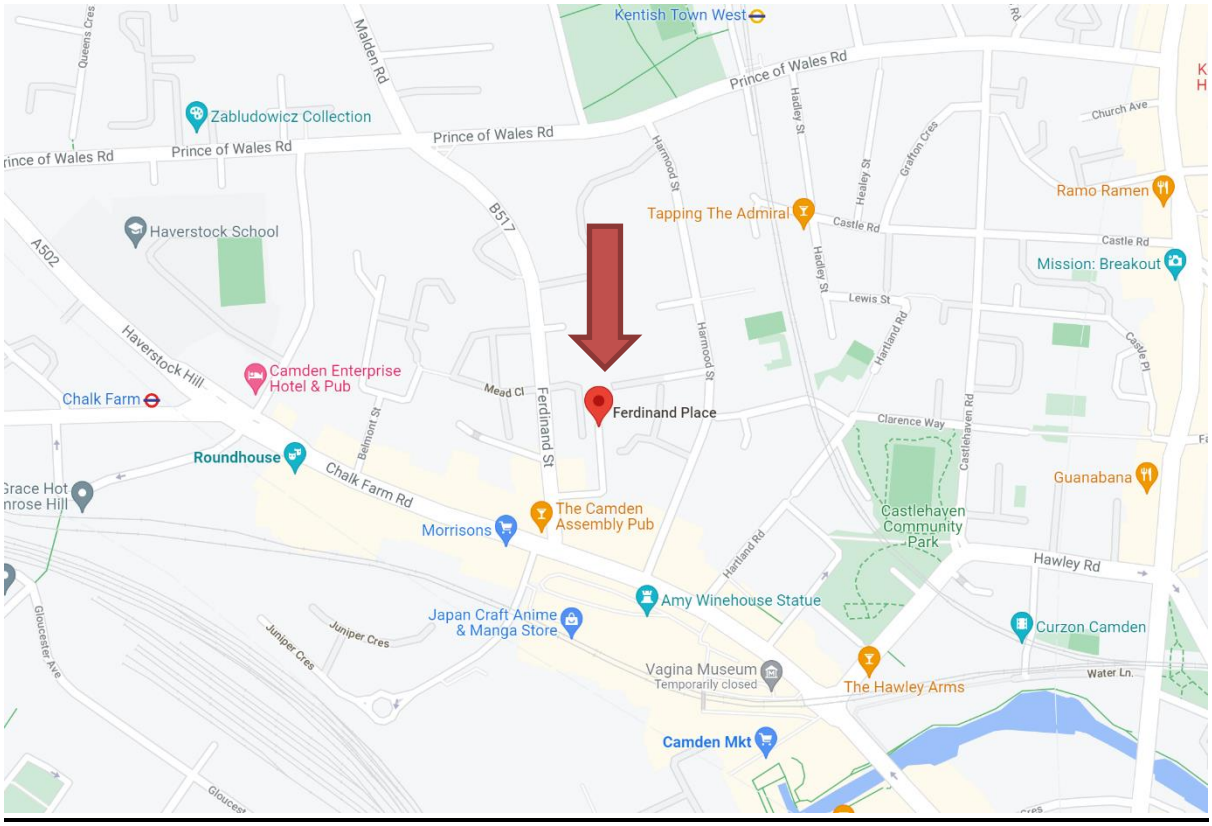
DUST


www.galcross.co.uk
Galcross Environmental services
Noise Dust Vibration

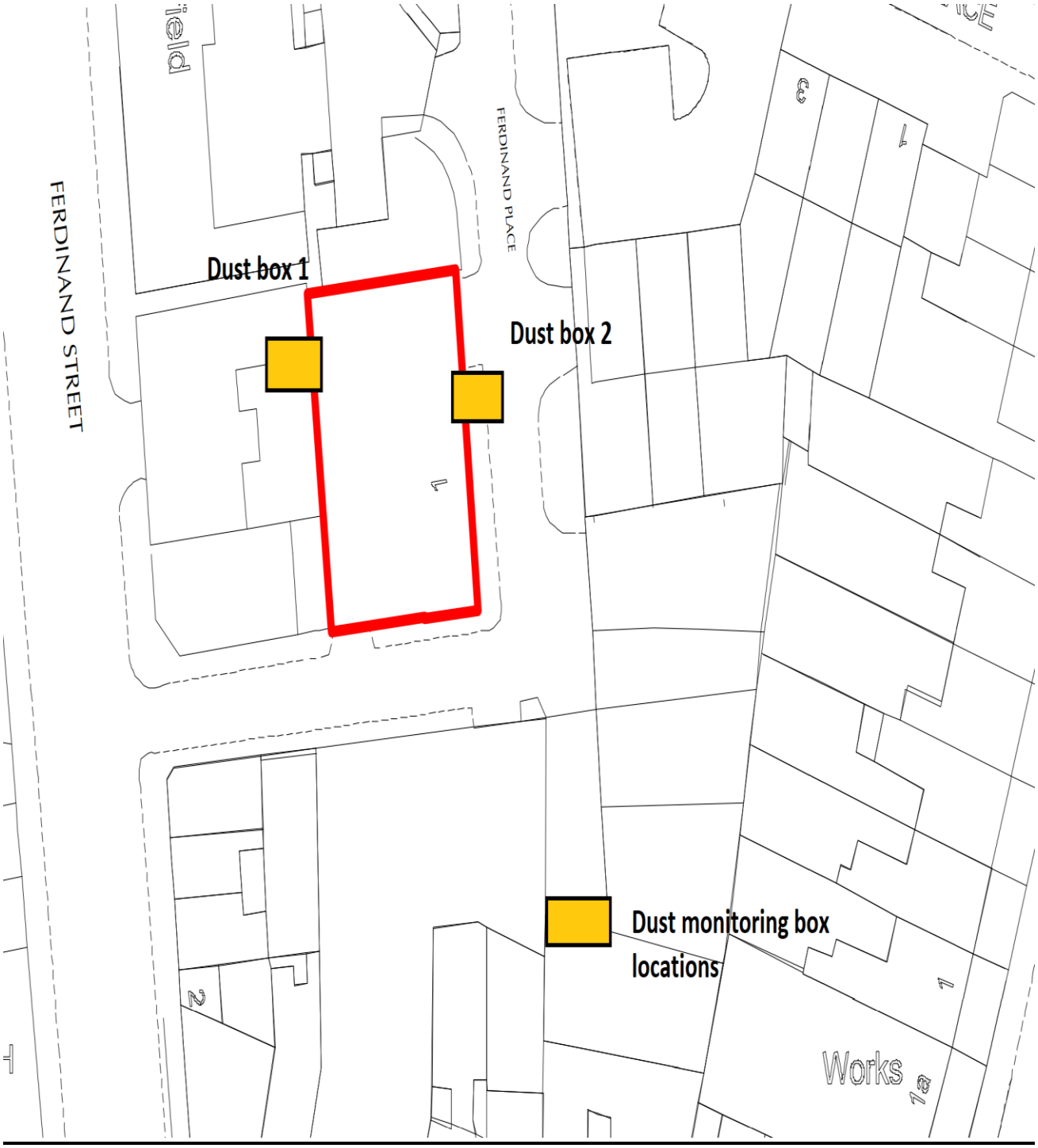
Air mite

A unique sampling system.
This system provides real time monitoring for dust (pm10, pm2.5) and gases (choose from NO2, NO, O3, SO2, H2S, CO and CO2 by NDIR or VOC's by pid.
The system can support up to 4 cells and CO2 or 3 cell with a VOC detector plus CO2.
Data logging. This unit can sample at any frequency down to one sample per second. Data can be obtained remotely or data log locally.
Connectivity Wired (Ethernet) or wireless attachment
Power powered options 90 to 240v AC or 7- 24v DC ask about external power options- back up battery provides 2hours of power
Weight less than 1.5kg
Power for the site in question is 110 constant power required

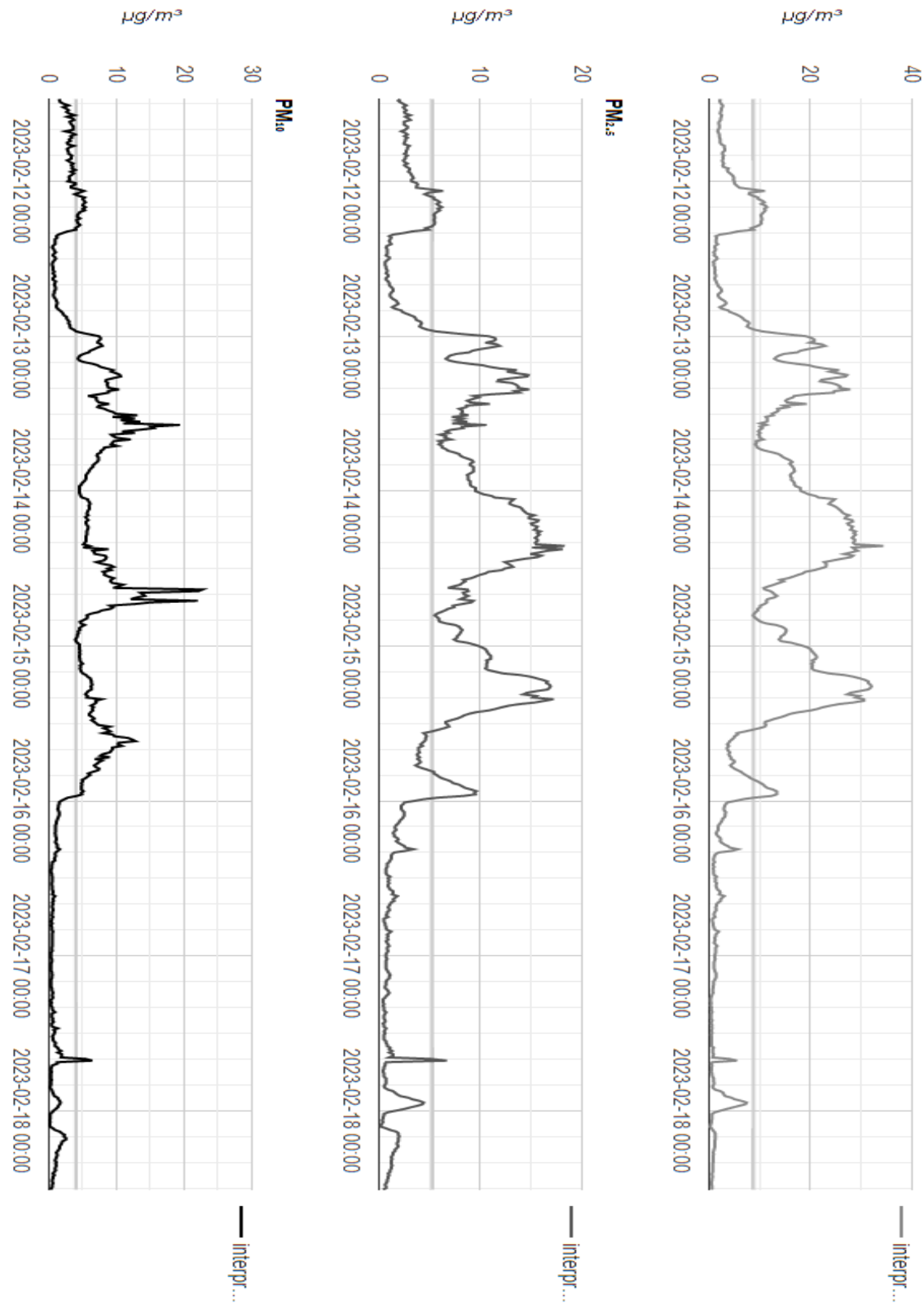
Site Location



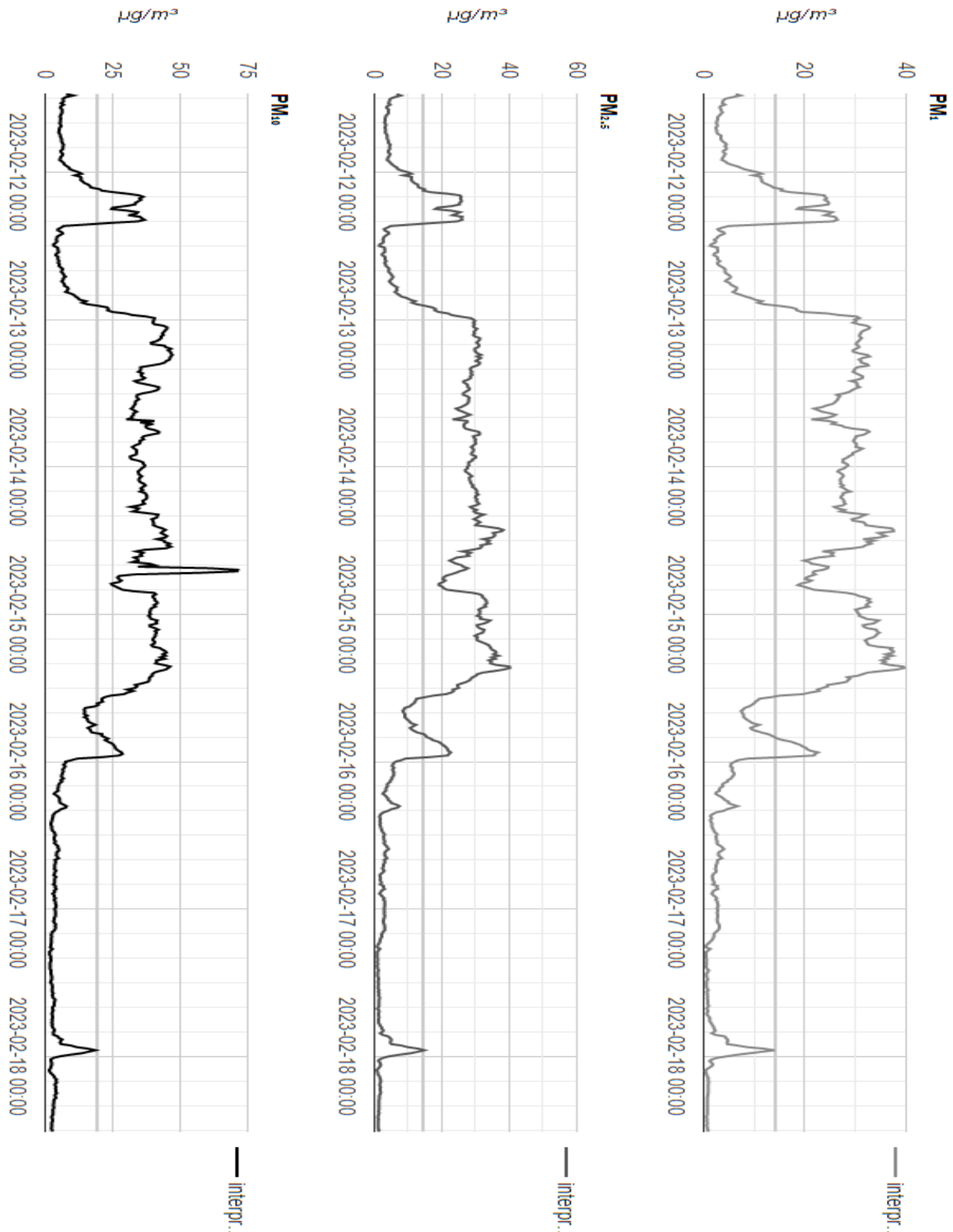
Dust monitor location



DUST BOX 1


PM1
µg/m³
40
20
0
2023-02-12 00:00
2023-02-13 00:00
2023-02-14 00:00
2023-02-15 00:00
2023-02-16 00:00
2023-02-17 00:00
2023-02-18 00:00
interpr...
PM2.5
µg/m³
20
10
0
2023-02-12 00:00
2023-02-13 00:00
2023-02-14 00:00
2023-02-15 00:00
2023-02-16 00:00
2023-02-17 00:00
2023-02-18 00:00
interpr...
PM10
µg/m³
30
20
10
0
2023-02-12 00:00
2023-02-13 00:00
2023-02-14 00:00
2023-02-15 00:00
2023-02-16 00:00
2023-02-17 00:00
2023-02-18 00:00
interpr...

Dust box 2


PM1
µg/m³
40
20
0
2023-02-12 00:00
2023-02-13 00:00
2023-02-14 00:00
2023-02-15 00:00
2023-02-16 00:00
2023-02-17 00:00
2023-02-18 00:00
interpr...
PM2.5
µg/m³
60
40
20
0
2023-02-12 00:00
2023-02-13 00:00
2023-02-14 00:00
2023-02-15 00:00
2023-02-16 00:00
2023-02-17 00:00
2023-02-18 00:00
interpr...
PM10
µg/m³
75
50
25
0
2023-02-12 00:00
2023-02-13 00:00
2023-02-14 00:00
2023-02-15 00:00
2023-02-16 00:00
2023-02-17 00:00
2023-02-18 00:00
interpr...

Summary

The second box was installed as per instruction 19/04/2022

The second box is picking up similar levels to the first box which is unsurprising due to the location of the site and general surrounding areas

The site being on a culd a sac with little to no daily traffic

The site being unoccupied

The readings are thus only collecting current dust levels and as per the extract shown below the readings are low, a lot lower then the 250 particles (µg/m^3) trigger limit