

Sli Na Manach Monitoring Data Summary – May 3rd to May 9th 2017



As part of the investigation into complaints of dust deposition, predominantly in the areas of the Sli Na Manach and Ard Aulin estates in Mungret (Limerick), the EPA installed an Osiris¹ particulate monitor at a residence in the Sli Na Manach estate. Monitoring at this location commenced at approximately 17:00 on April 26th 2017. The data from the period April 26th to May 2nd has been reported separately. This report presents the data from May 3rd to May 9th (data up to 17:15 on May 9th).

The Osiris analyser provides results for the following particulate fractions:

- Total suspended particulates (TSP);
- PM₁₀ (particles with a diameter of 10 microns or less);
- PM_{2.5} (particles with a diameter of 2.5 microns or less);
- PM₁ (particles with a diameter of 1 micron or less).

Statutory air quality limits are specified for both PM₁₀ and PM_{2.5}, for the purposes of the protection of human health, as follows:

- PM₁₀ – 24 hour average limit of 50 µg/m³;
- PM₁₀ – annual average limit of 40 µg/m³;
- PM_{2.5} – 24 hour average limit of 25 µg/m³.

The Osiris analyser is set up to take a reading every fifteen minutes. The table below aggregates the short-term values to generate a daily average for comparison with the statutory limit values. Figure 1 below also present a plot of the 15-minute results over the measurement period.

Analysis of the data in Table 1 indicates that the measured PM₁₀ and PM_{2.5} results are within the statutory limit values. The highest daily average PM₁₀ and PM_{2.5} results are approximately 50 % the statutory limit value. These results are considered to be low and indicative of good air quality.

Review of the data in Figure 1 does not indicate that there were any significant short-term episodes of elevated particulates, though there are variations in the measured levels of particulates over the course of the monitoring period, which would be expected and are typical of normal variations in particulate levels. There were isolated peak readings on May 7th (~ 19:00) and May 8th (~20:00). These peaks were of very short duration (one 15 minute average in each case), with the winds being from the direction of Irish Cement during the peak on May 7th, but not during the peak on May 8th.

Figure 2 provides information on the wind directions (measured at Shannon Airport) over the monitoring period. This indicates that there were periods where winds were coming towards Sli Na

¹ <http://www.turnkey-instruments.com/environment.php?id=8>

Manach from the direction of the Irish Cement facility. This relates mainly to the evening period of May 7th and the early morning of May 8th, with the particulate readings during this time being low, apart from the peak reading referenced in the previous paragraph.

The monitor remains in place and further data will be reported as it becomes available.

Table 1: Daily average values for particulate fractions

Date	Total Particles ($\mu\text{g}/\text{m}^3$)	PM₁₀ particles ($\mu\text{g}/\text{m}^3$)	PM_{2.5} particles ($\mu\text{g}/\text{m}^3$)	PM₁ particles ($\mu\text{g}/\text{m}^3$)
03/05/2017	14.68	9.57	3.98	0.70
04/05/2017	17.58	12.19	5.76	1.32
05/05/2017	21.78	14.69	6.53	1.04
06/05/2017	16.32	12.13	5.81	1.11
07/05/2017	13.21	8.93	3.35	0.71
08/05/2017	16.61	11.19	4.46	0.84
09/05/2017	26.55	21.53	12.30	2.06
Statutory Limit	-	40	25	-

Note: Data for 09/05/2017 is not a complete 24-hour period, only data up to 17:15 is included.

Figure 1: Plot of 15-minute values for period the period from 03/05/2017 to 09/05/2017

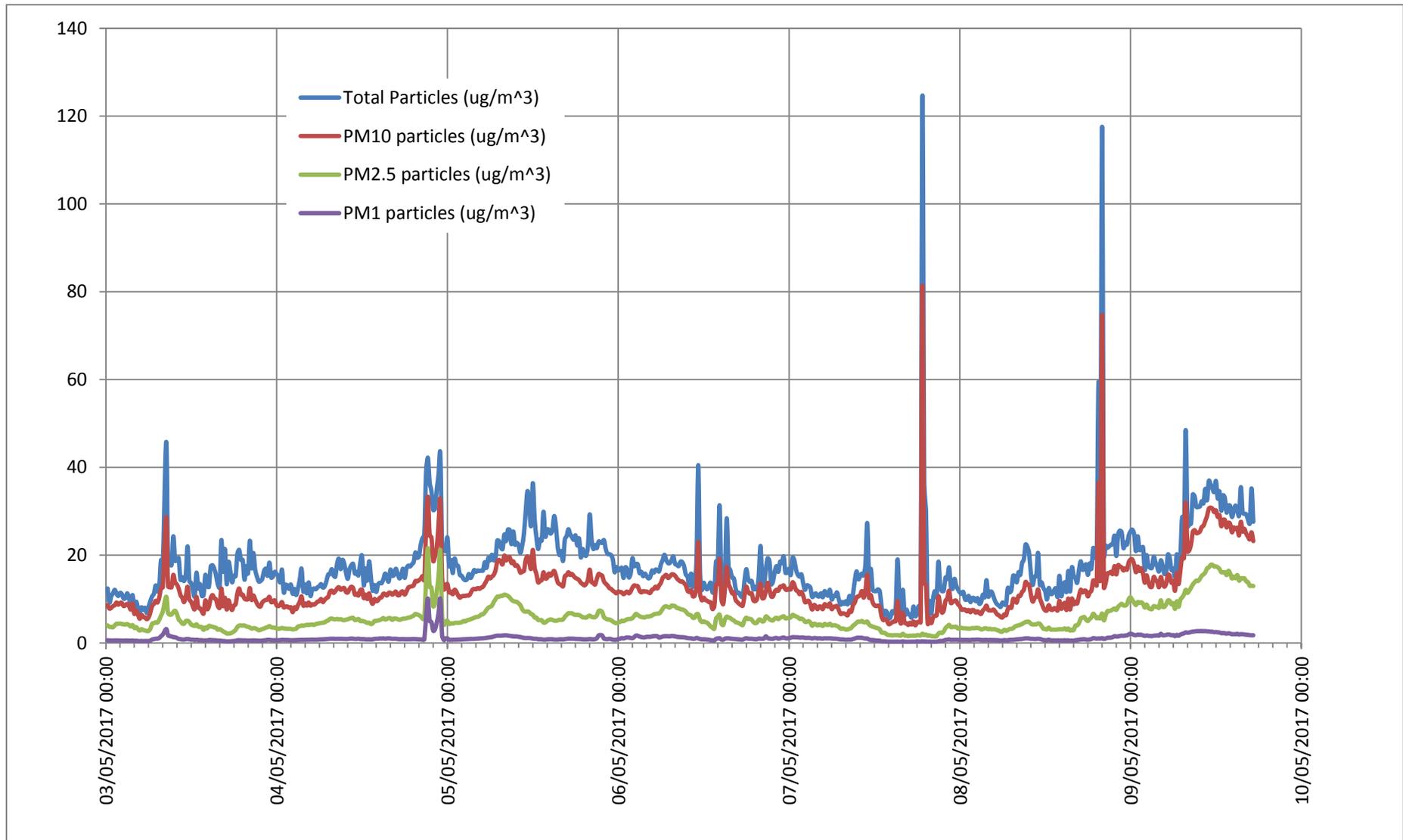


Figure 2: Hourly Wind Direction (Shannon Airport). The wind directions which would be expected to transport pollutants from the Irish Cement Plant to the Sli Na Manach Estate are between approximately 270 and 330 degrees (highlighted in green), which mainly occurred on May 7th and the early morning of May 8th.

