

## Sli Na Manach Monitoring Data Summary – April 26<sup>th</sup> to May 2<sup>nd</sup> 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 Osiris<sup>1</sup> particulate monitor at a residence in the Sli Na Manach estate. Monitoring at this location commenced at approximately 17:00 on April 26<sup>th</sup> 2017. Data was downloaded from the analyser on May 3<sup>rd</sup> 2017. This summary report provides data for the period from April 26<sup>th</sup> up to and including May 2<sup>nd</sup> 2017. The Osiris analyser provides results for the following particulate fractions:

- Total suspended particulates (TSP);
- PM<sub>10</sub> (particles with a diameter of 10 microns or less);
- PM<sub>2.5</sub> (particles with a diameter of 2.5 microns or less);
- PM<sub>1</sub> (particles with a diameter of 1 micron or less).

Statutory air quality limits are specified for both PM<sub>10</sub> and PM<sub>2.5</sub>, for the purposes of the protection of human health, as follows:

- PM<sub>10</sub> – 24 hour average limit of 50 µg/m<sup>3</sup>;
- PM<sub>10</sub> – annual average limit of 40 µg/m<sup>3</sup>;
- PM<sub>2.5</sub> – 24 hour average limit of 25 µg/m<sup>3</sup>.

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 PM<sub>10</sub> and PM<sub>2.5</sub> results are within the statutory limit values. All PM<sub>10</sub> results are less than 30 % of the statutory limit value while the measured PM<sub>2.5</sub> results are all less than 23 % of 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.

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 Manach from the direction of the Irish Cement facility. Review of the particulate data for the same periods do not indicate that emissions to atmosphere from the cement plant had any significant influence on the levels of particulates measured at Sli Na Manach.

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

The monitor remains in place and further data from this site will be reported on a weekly basis.

Table 1: Daily average values for particulate fractions

<b>Date</b>	<b>Total Particles (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>PM10 particles (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>PM2.5 particles (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>PM1 particles (<math>\mu\text{g}/\text{m}^3</math>)</b>
<b>26/04/2017</b>	14.4	9.2	2.4	0.4
<b>27/04/2017</b>	7.6	5.3	2.0	0.4
<b>28/04/2017</b>	7.9	5.3	1.7	0.3
<b>29/04/2017</b>	8.7	6.8	3.2	0.5
<b>30/04/2017</b>	12.2	10.1	5.5	1.0
<b>01/05/2017</b>	11.2	8.5	3.9	0.8
<b>02/05/2017</b>	15.3	11.9	5.6	0.8
<b>Statutory Limit</b>	-	40	25	-

Note: Data for 26/4/2017 is not a complete 24-hour period, only data from approximately 17:00 to 00:00.

Figure 1: Plot of 15-minute values for period the period from 26/04/2017 to 02/05/2017

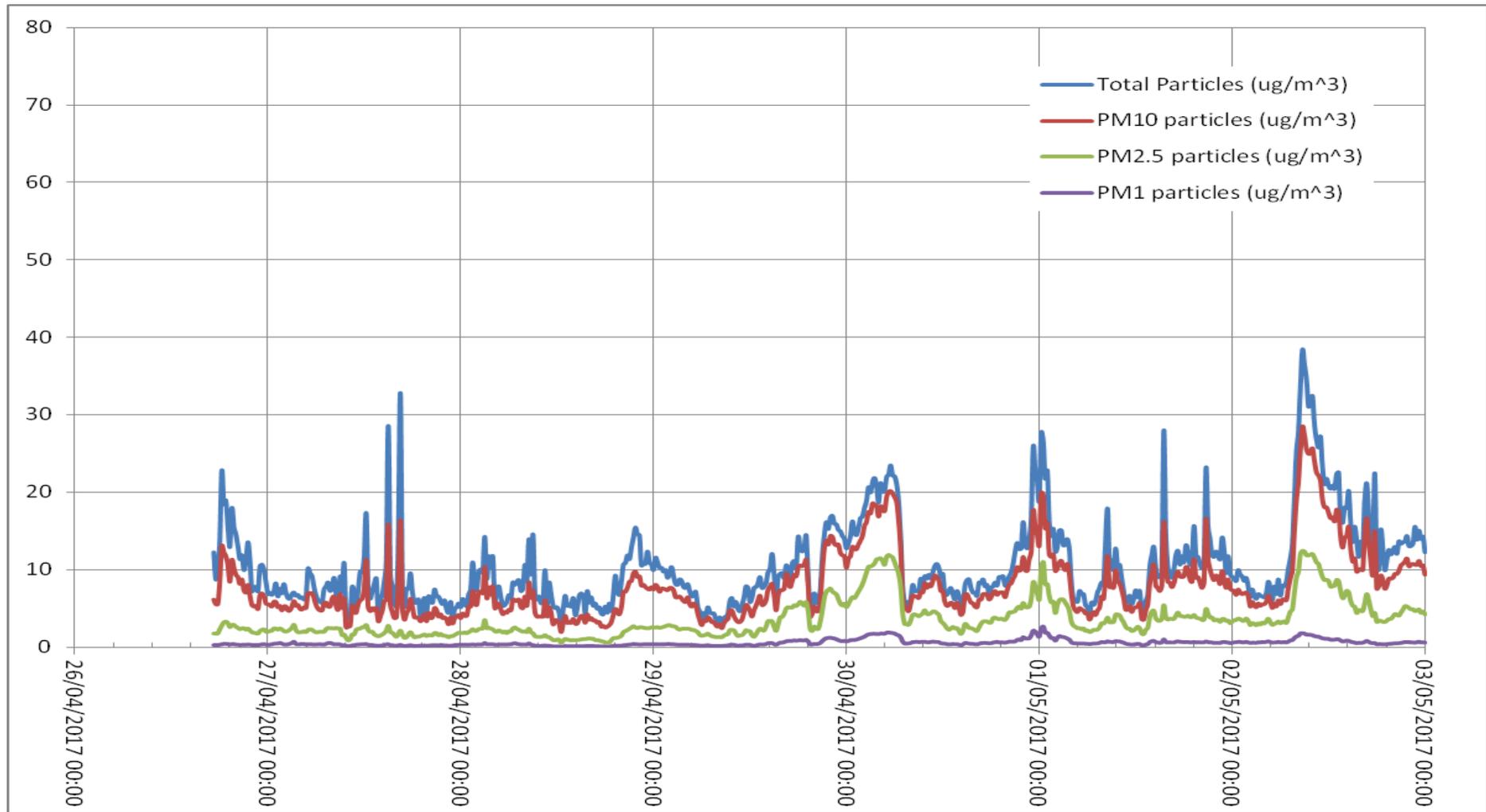


Figure 2: Hourly Wind Direction (Shannon Airport). The wind directions which would be expected to transport pollutants from the Irish Cement Plant to the Sli Na Manach Estate are between approximately 270 and 330 degrees (highlighted in green), which mainly occurred on April 26 and 27 and early in the morning of April 28<sup>th</sup>.

