ADDENDUM TO

EXAMINATION OF PM_{10} AND WIND MEASUREMENTS AT LEFEVRE PENINSULA PRIMARY SCHOOL

SEPTEMBER 2008

EPA South Australia

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Examination of PM_{10} and wind measurements at LeFevre Peninsula Primary School

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SUMMARY

The following graphs (Figures 1 to 19) are polar plots of percent PM_{10} particles and percent of wind observations from a given direction from data measured at the Environment Protection Authority's air monitoring station at LeFevre Peninsula Primary School. The graphs are similar to those in the original report but are based on data for a calendar month instead of longer periods of time. The graphs represent data from February 2007 to the end of August 2008.

As in the report, when the line representing percent particles is further from the centre than the line representing percent of wind from a given direction it is an indication, that PM_{10} particles are higher than average for the site. It can be seen from a visual inspection of the graphs that for the sector including the stockpiles and Port Adelaide waterfront development (171 to 185 degrees) higher than average PM_{10} readings occurred in:

- February, November, December 2007; and
- January, February 2008.

For the sector including other industry (11 to 90 degrees), higher than average readings occurred in:

- March, April, June, July, August, September,October 2007; and
- March, April, May, June, July, August 2008.

Dust management at the development has improved in recent times. From March to August 2008 the PM_{10} concentration from the direction of the stockpiles and development has been generally at or below average values for the site. Continued monitoring will determine if, as the weather warms and dries, this pattern continues.

MONTHLY POLAR PLOTS

The following graphs show percent PM_{10} and percent of wind at the LeFevre Peninsula Primary School monitoring site for the period February 2007 to August 2008 on a monthly basis.

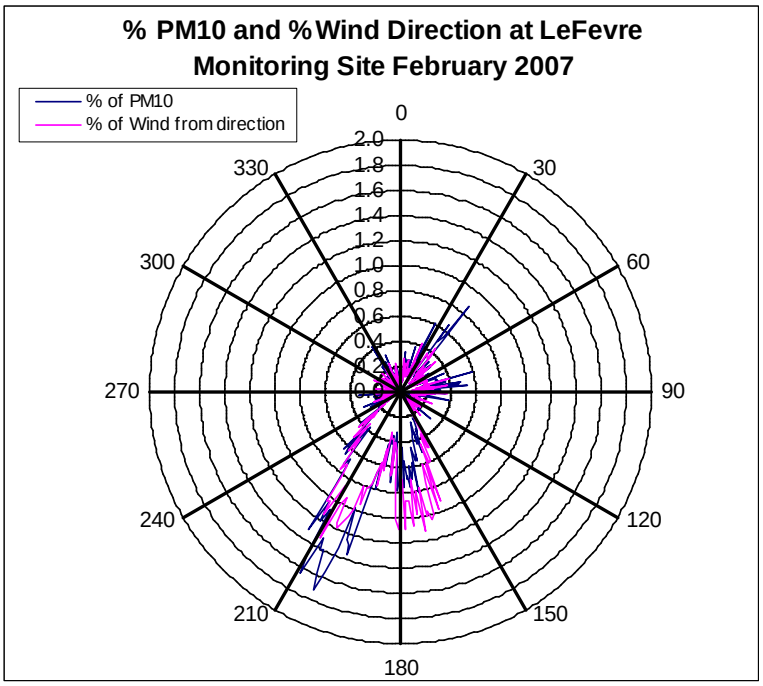

Figure 1 **Polar plot of percent PM_{10} and percent wind from a given direction for February 2007**

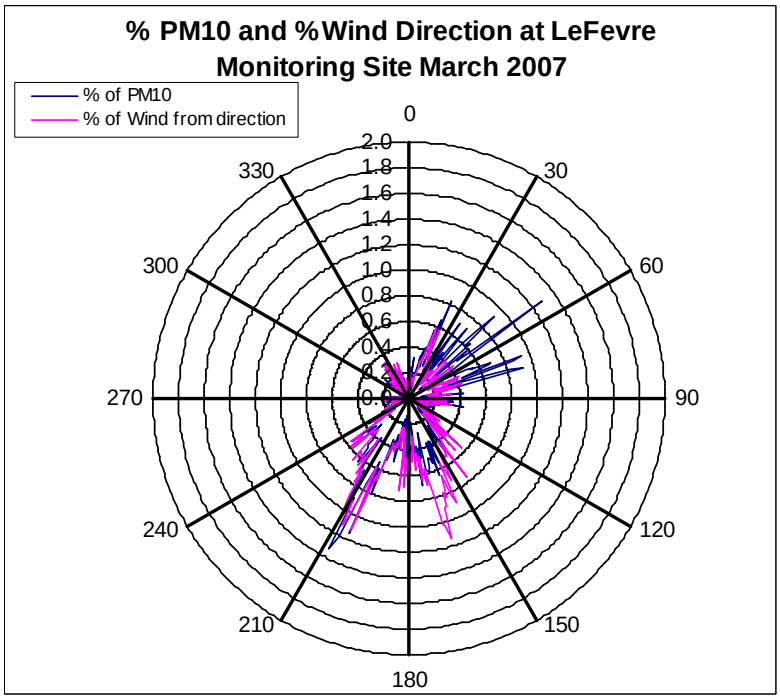

Figure 2 **Polar plot of percent PM_{10} and percent wind from a given direction for March 2007**

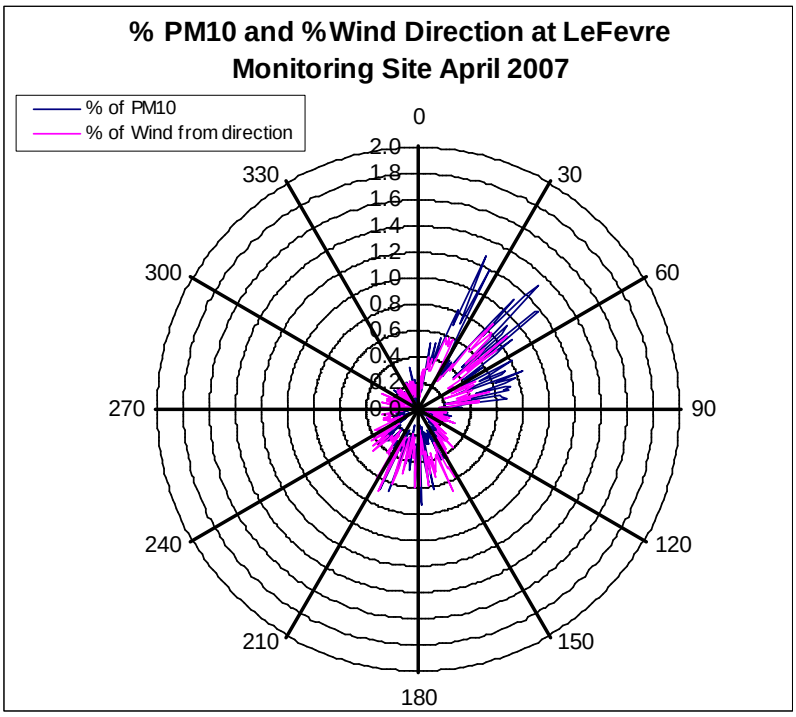

Figure 3 **Polar plot of percent PM_{10} and percent wind from a given direction for April 2007**

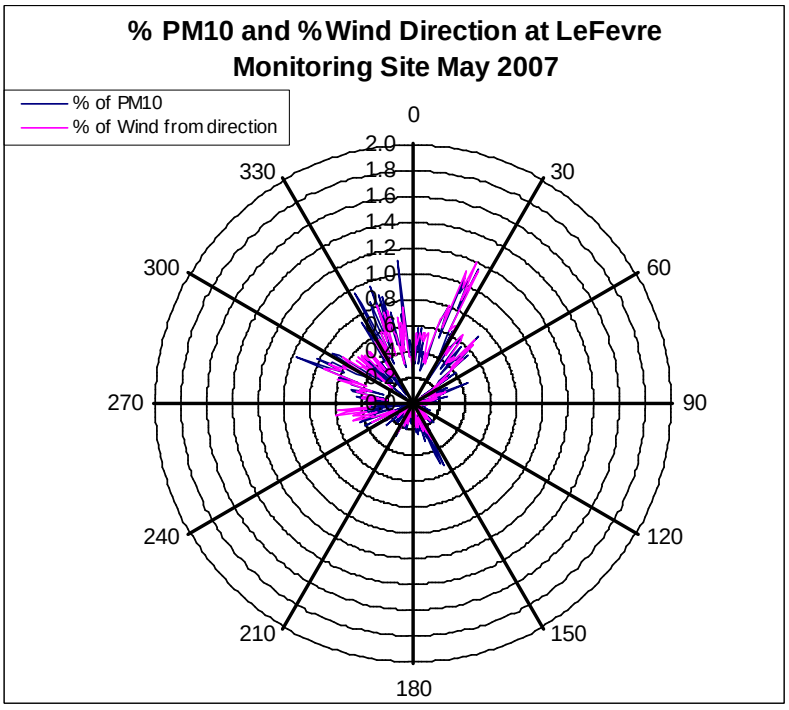

Figure 4 **Polar plot of percent PM_{10} and percent wind from a given direction for May 2007**

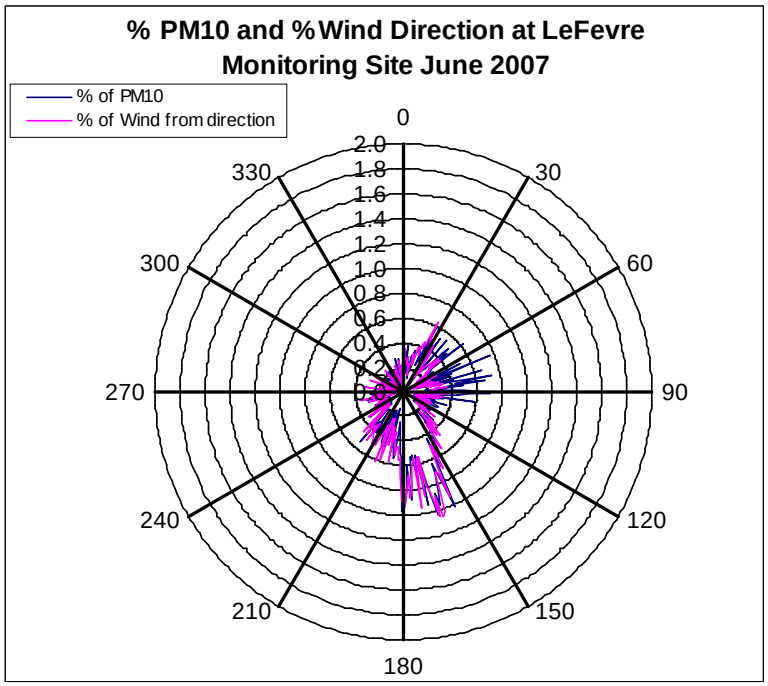

Figure 5 **Polar plot of percent PM_{10} and percent wind from a given direction for June 2007**

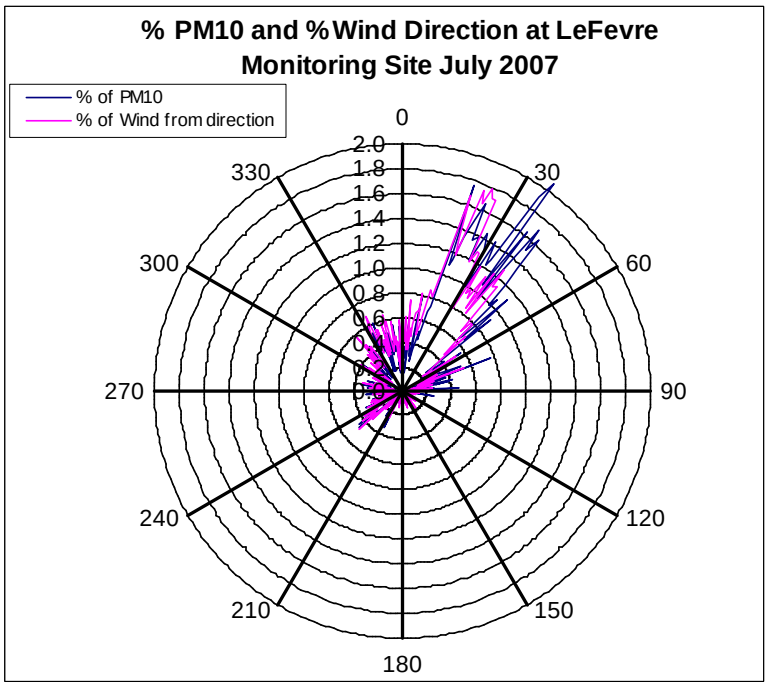

Figure 6 **Polar plot of percent PM_{10} and percent wind from a given direction for July 2007**

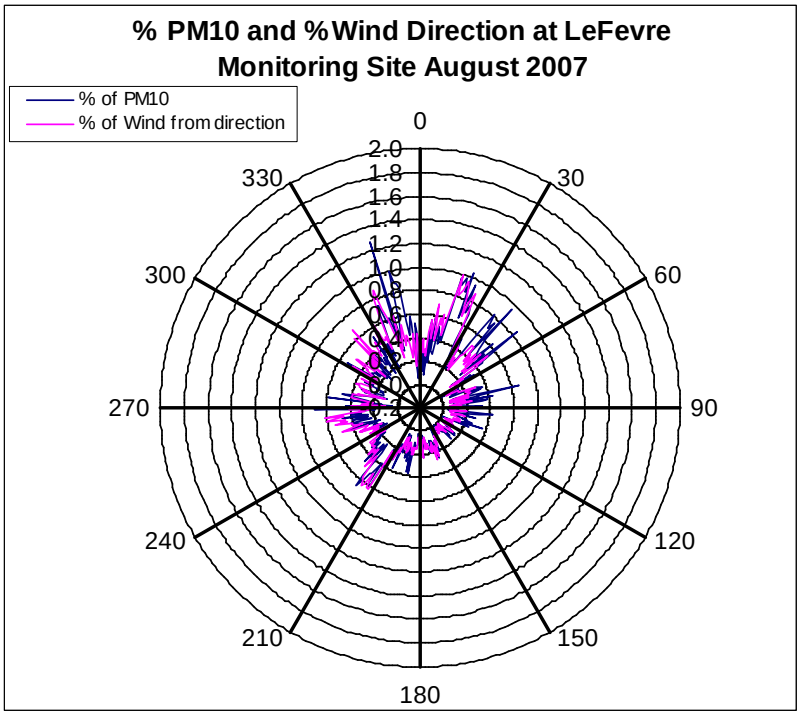

Figure 7 **Polar plot of percent PM_{10} and percent wind from a given direction for August 2007**

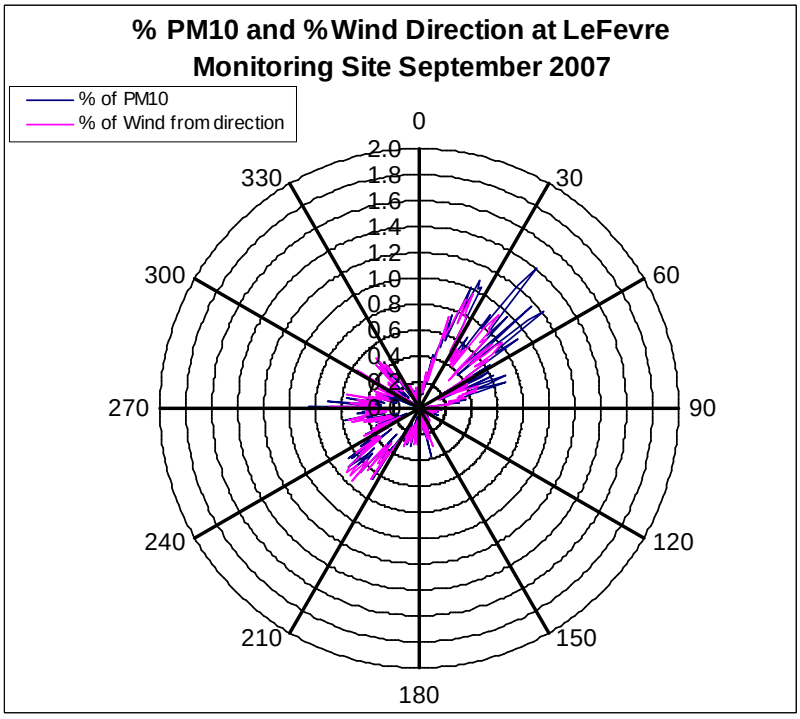

Figure 8 **Polar plot of percent PM_{10} and percent wind from a given direction for September 2007**

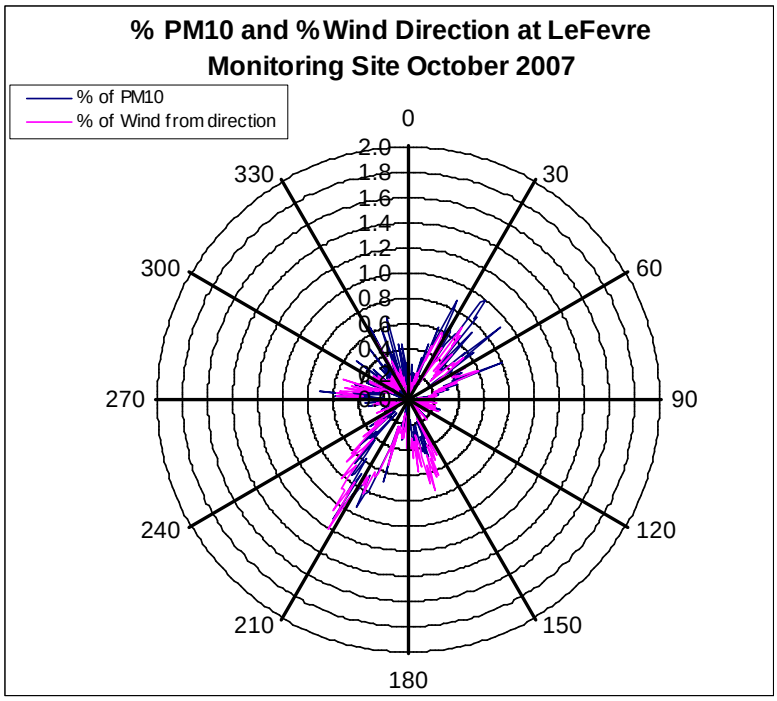

Figure 9 **Polar plot of percent PM_{10} and percent wind from a given direction for October 2007**

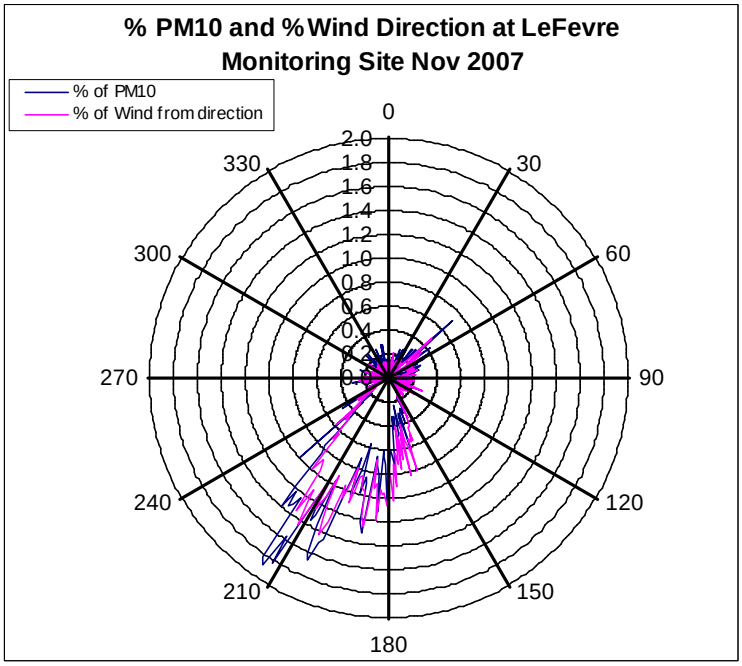

Figure 10 **Polar plot of percent PM_{10} and percent wind from a given direction for November 2007**

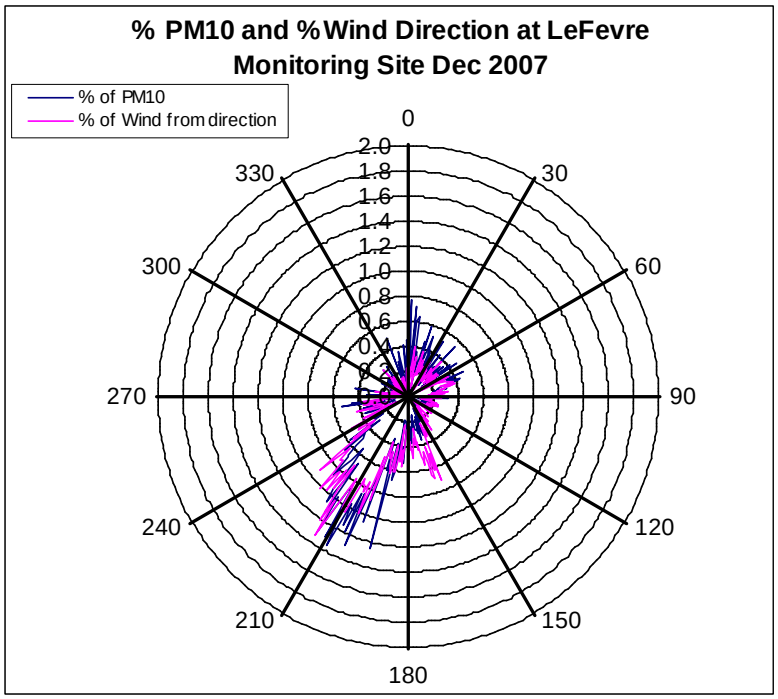

Figure 11 **Polar plot of percent PM_{10} and percent wind from a given direction for December 2007**

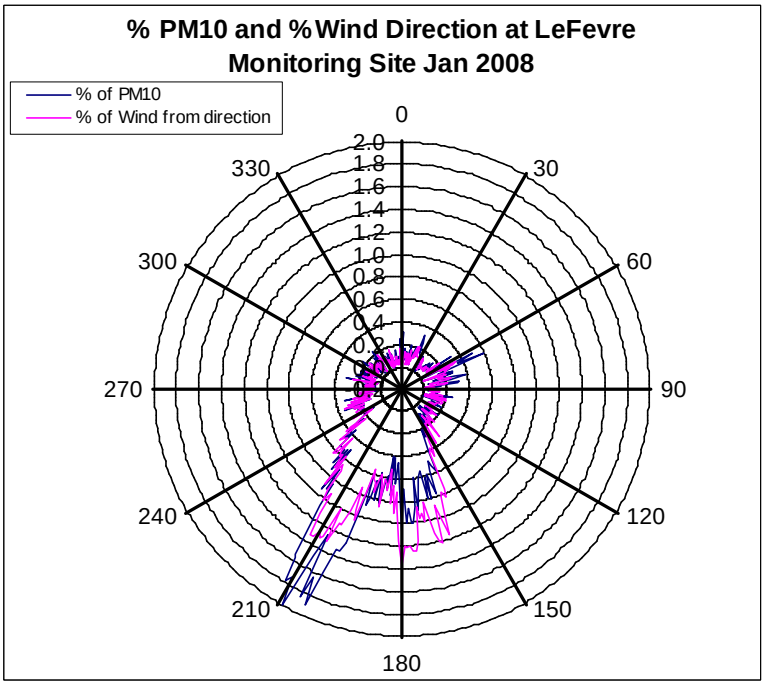

Figure 12 **Polar plot of percent PM_{10} and percent wind from a given direction for January 2008**

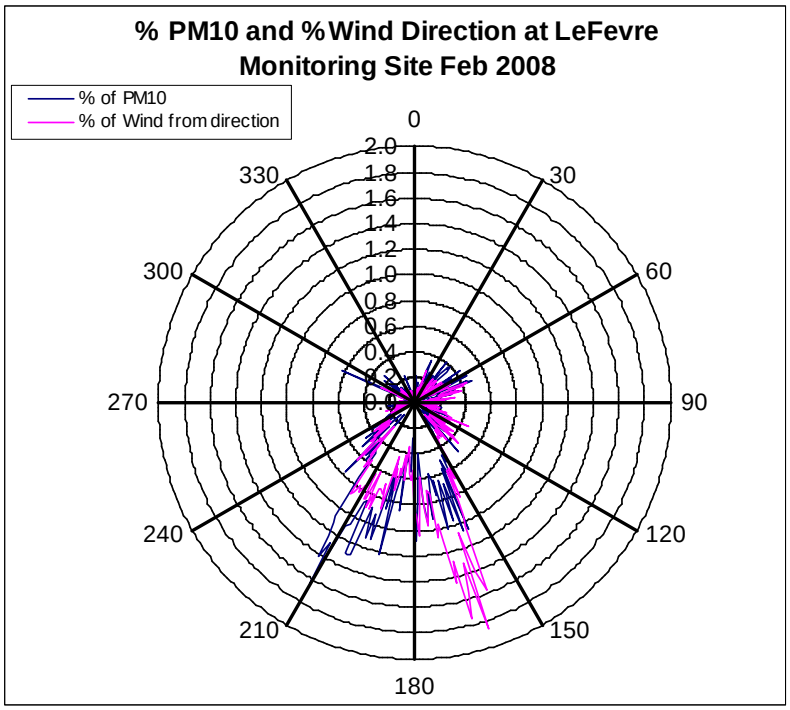

Figure 13 **Polar plot of percent PM_{10} and percent wind from a given direction for February 2008**

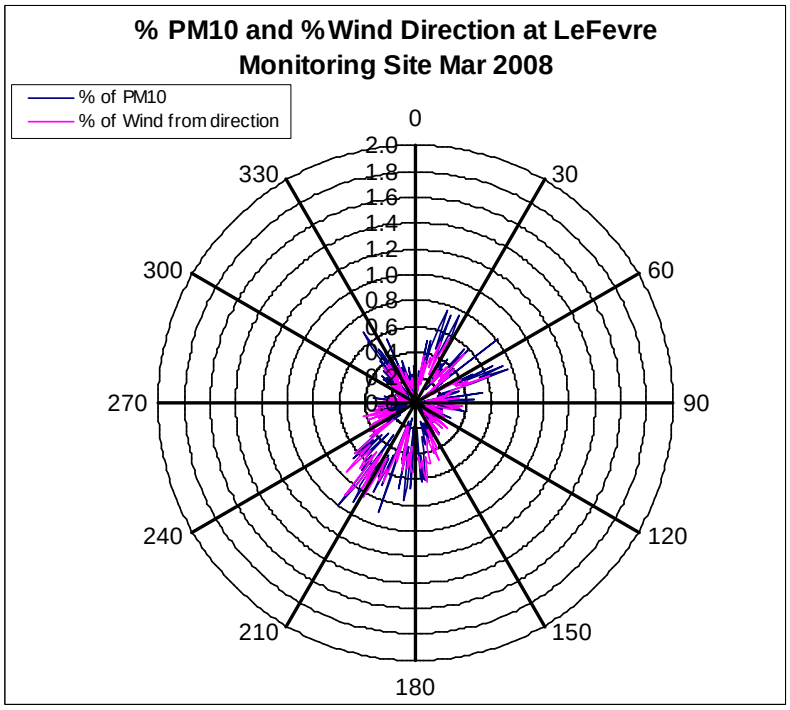

Figure 14 **Polar plot of percent PM_{10} and percent wind from a given direction for March 2008**

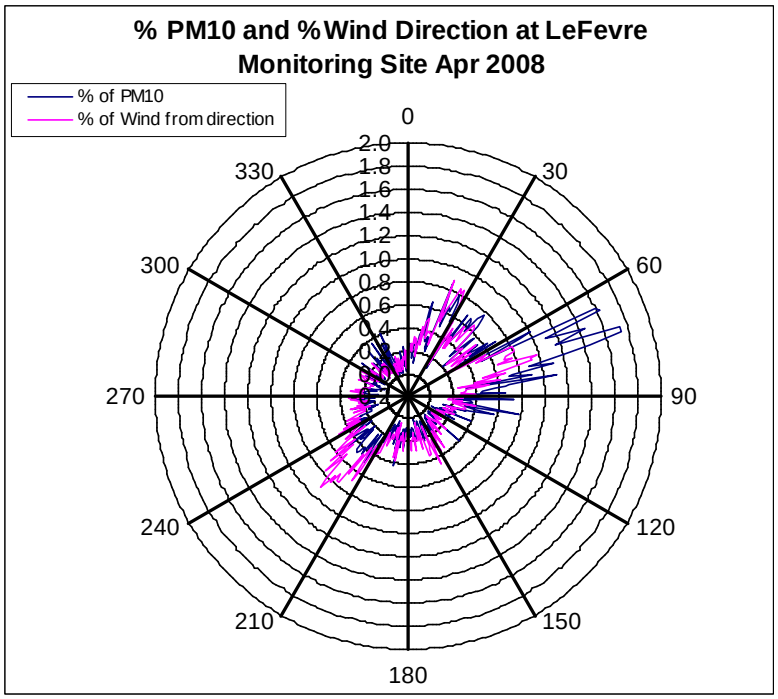

Figure 15 **Polar plot of percent PM_{10} and percent wind from a given direction for April 2008**

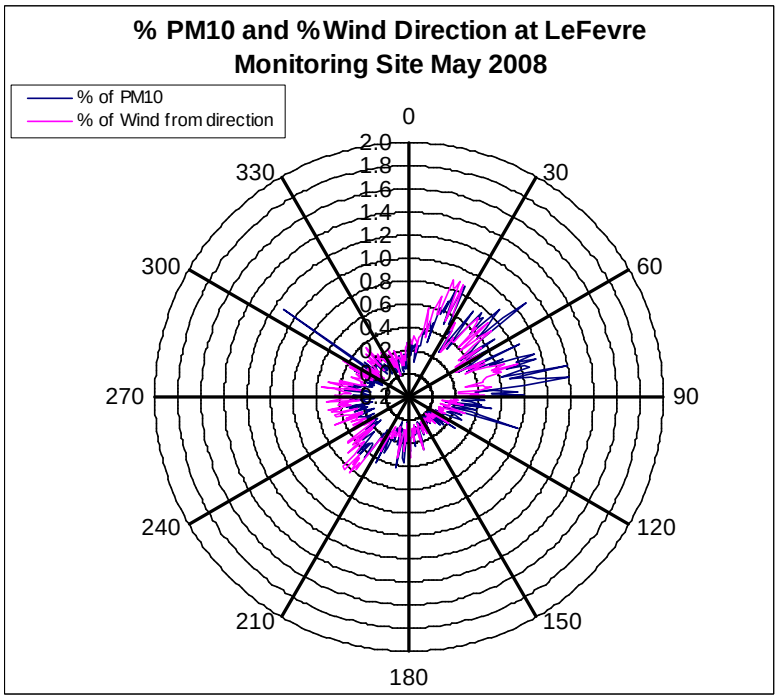

Figure 16 **Polar plot of percent PM_{10} and percent wind from a given direction for May 2008**

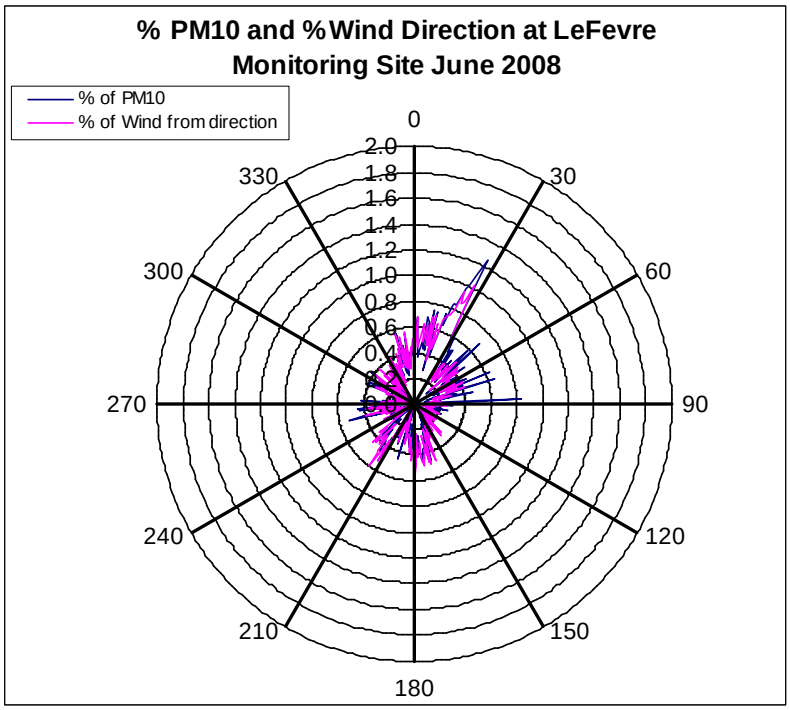

Figure 17 **Polar plot of percent PM_{10} and percent wind from a given direction for June 2008**

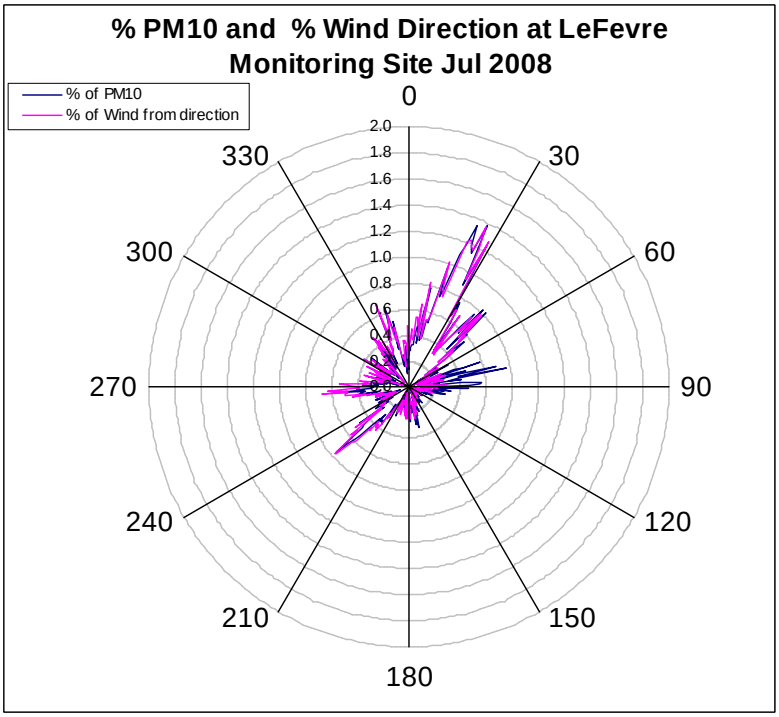

Figure 18 **Polar plot of percent PM_{10} and percent wind from a given direction for July 2008**

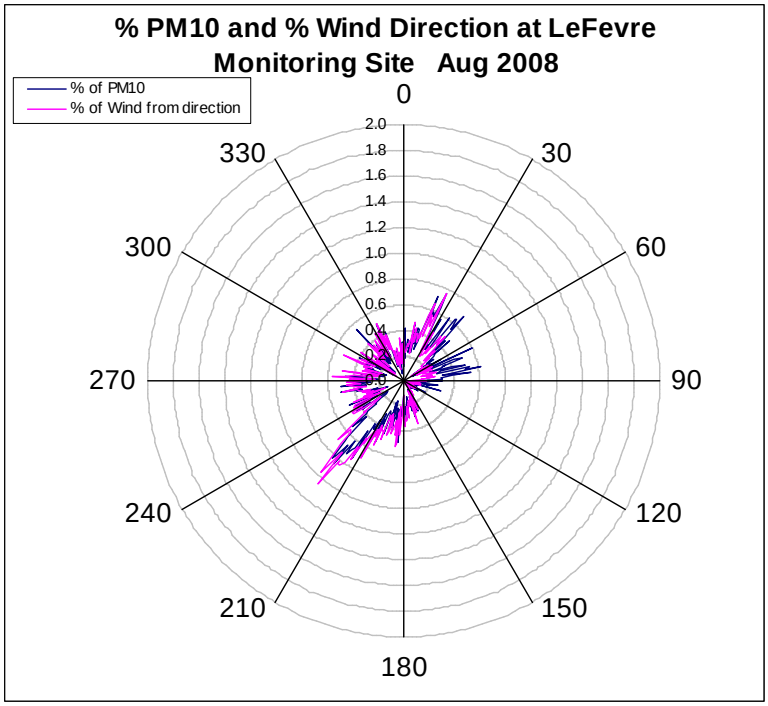

Figure 19 **Polar plot of percent PM_{10} and percent wind from a given direction for August 2008**

TIME PERIOD FOR DATA: FEBRUARY 2007 TO AUGUST 2008

Air Quality Standards and Guidelines:	As listed in National Environment Protection (Ambient air Quality) Measure and accompanying technical papers		
Sampling location:	LeFevre Peninsula Primary School		
Laboratory:	SA EPA Air Quality Laboratory, 310 Richmond Rd, Netley, SA 5037		
Sampling and analysis methods	PM_{10} TEOM	AS3580.9.8–2001	U_{95}= ±1.5 µg/m^3 for 1hr average
	Vaisala model WAS425 Ultrasonic Wind Sensors @ 10 m height	Wind speed*	±0.135m/s or ±3% of reading, whichever is greater
		Wind direction*	±2 degrees
		* Sensor manufacturer's specification	
Uncertainty of measurement:	The expanded uncertainties of measurements (U_{95}) quoted above are at a confidence level of 95% with a coverage factor of 2. The values shown do not include any estimate of the effects associated with the sampling location.		
Report prepared by:	Rob Mitchell, Manager Air Quality Laboratory		
File integrity:	The EPA Air Quality Laboratory holds National Association of Testing Authorities (NATA) accreditation which is a system for maintaining quality control. The laboratory is required to lock all validated air quality data that is transmitted electronically. We acknowledge that this will limit the functions that can be executed on the transmitted file, making it a data reference. For the recipient to manipulate data we recommend that data is copied into a separate workbook. This will ensure data integrity for both the recipient and laboratory.		

NOTES:

1 'Percent PM_{10}' is the percentage of PM_{10} particles for the month when wind is blowing from a given direction.

2 'Percent of wind from direction' is the percent of observations for the month that the wind is blowing from a given direction.

3 Directions are in one-degree increments.

4 Data used are data averaged over 10 minutes.

5 The graphs for July and August 2008 have been made with a new template, so formatting appears slightly different but calculations are the same for all graphs.