

## **Supporting Information**

# **ESTIMATION OF THE CONTRIBUTIONS OF BRAKE DUST, TYRE WEAR AND RESUSPENSION TO NON-EXHAUST TRAFFIC PARTICLES DERIVED FROM ATMOSPHERIC MEASUREMENTS**

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### **Intercomparison of Acid Digestion/ICPMS and XRF Analysis**

Ten Partisol samples and 20 MOUDI stage samples were analysed by XRF for Al and Fe, and subsequent by the acid digestion/ICPMS method.

The mean efficiency (E) expressed as:

$$E = \frac{\text{ICPMS}}{\text{XRF}} \times 100\%$$

was 45.2% for the Partisol samples and 39.2% for the MOUDI stage samples for aluminium.

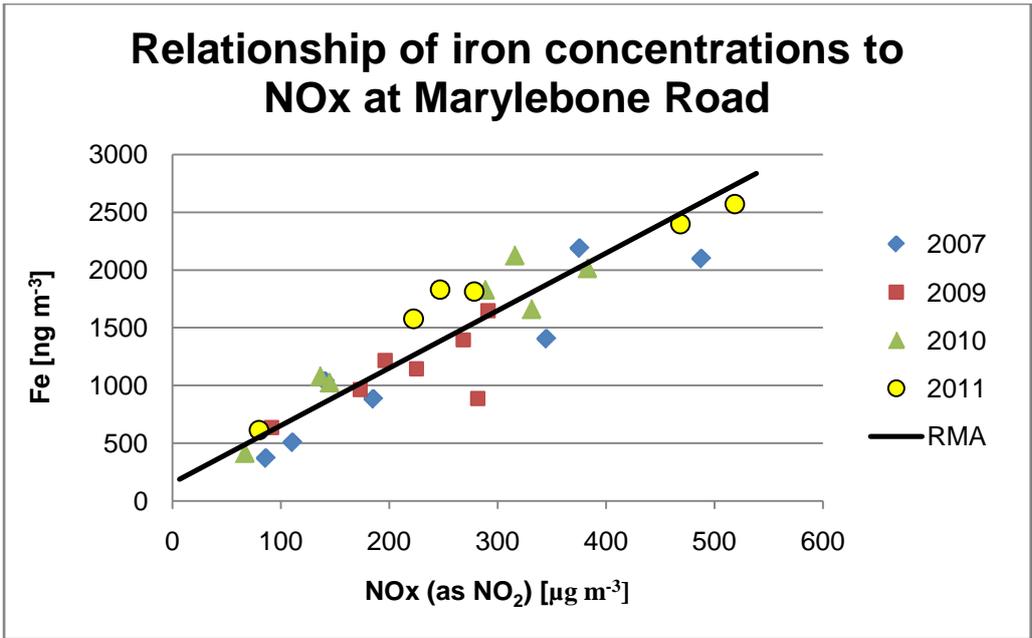
Replicate analysis of NIST SRM 1648a by the acid digestion/ICPMS method revealed a mean efficiency relative to the certified value of 40.3% which is highly consistent with the comparisons with XRF, assuming the latter to be 100% efficient. Based upon the efficiency measured by MOUDI stage samples, a factor of 2.6 was applied to the ICPMS data to give equivalence to the XRF.

**Table S1:** Locations of sites

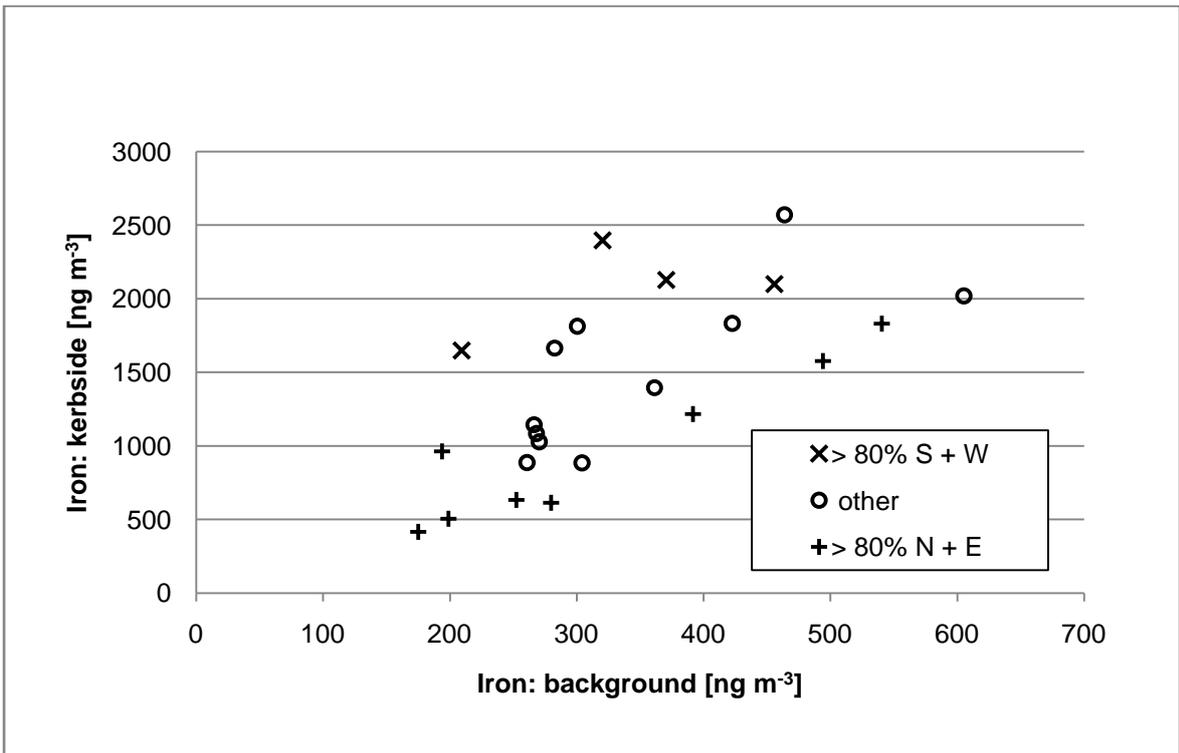
| Site             | Type of site     | Latitude (degrees) | Longitude (degrees) |
|------------------|------------------|--------------------|---------------------|
| Marylebone Road  | kerbside         | 51.5227            | -0.1548             |
| Regent's College | urban background | 51.5258            | -0.1551             |
| North Kensington | urban background | 51.5215            | -0.2129             |
| Heathrow         | meteorological   | 51.4787            | -0.4490             |

**Table S2:** Selection of wind sectors

| Wind sector |           | Wind direction at Heathrow | Description of airflow                                 |
|-------------|-----------|----------------------------|--|
| 'N'         | northerly | 310° to 30°                | Normal to highway, clean air from above                |
| 'E'         | easterly  | 40° to 120°                | Aligned with highway, airflow from free moving traffic |
| 'S'         | southerly | 130° to 210°               | Normal to highway, airflow from adjacent traffic       |
| 'W'         | westerly  | 220° to 300°               | Aligned with highway, airflow from road junction       |



**Figure S1:** Relationship of iron concentrations to NO<sub>x</sub> at Marylebone Road



**Figure S2:** Influence of predominant wind direction upon concentrations of iron