Supplemental information for

**Distribution of Particle and Gas Concentrations in a**

**Swine Gestation Confinement Animal Feeding Operations**

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A correction factor was developed to convert the photometer data to an estimate of IOM concentration. The measurements used in the development of this factor were collected as part of the study described in O’Shaughnessy et al. ([2010](#_ENREF_10)) but have been previously unpublished. Unlike the personal exposure measurements reported in O’Shaughnessy et al., these measurements were collected in a stationary position within the swine barn. The IOM sampler and the photometer were collocated in an open basket just above head height in the center of the barn. Sampling was conducted as described in O’Shaughnessy et al. for longer than four hours.

As shown in Figure S1, photometer readings can be multiplied by 3.55 to obtain an estimate of IOM concentrations. The regression used to develop this correction factor include data from three seasons (winter, spring, and summer). There is one outlier in the data set during winter, which we removed when developing the correction factor. We have no physical explanation for the outlier, although we conjecture that it may be related to increased activity in the area around the sampler or perhaps related to a feeding event. The data used to develop the correction factor encompass the photometer data that was observed in the current study. Given that the data used to create the strong linear relationship shown in Figure S1 includes values obtained during different seasons, it is very likely that the relationship between photometer concentrations and IOM concentrations is independent of season.



Figure S1. Mass concentration measured by the IOM inhalable sampler compared to that measured with the pDR photometer.