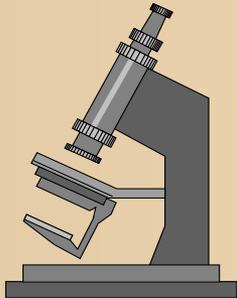


Comments on the Draft Report



***SAB Meeting
Via teleconference
March 7, 2013***

by Al Heber, Purdue University

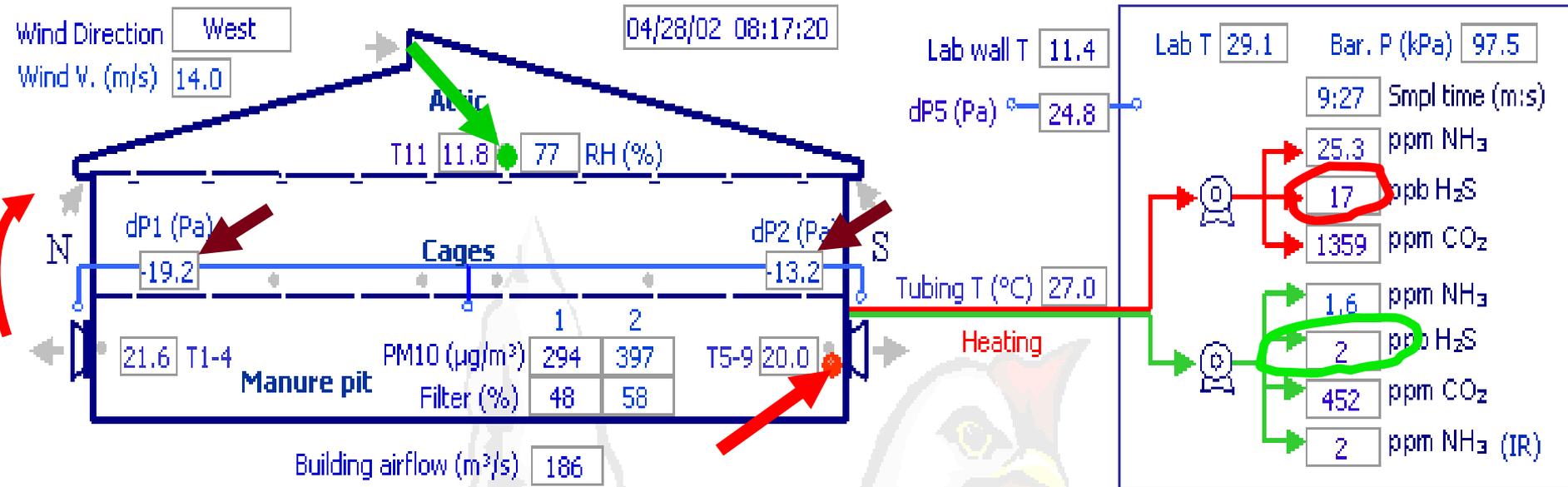


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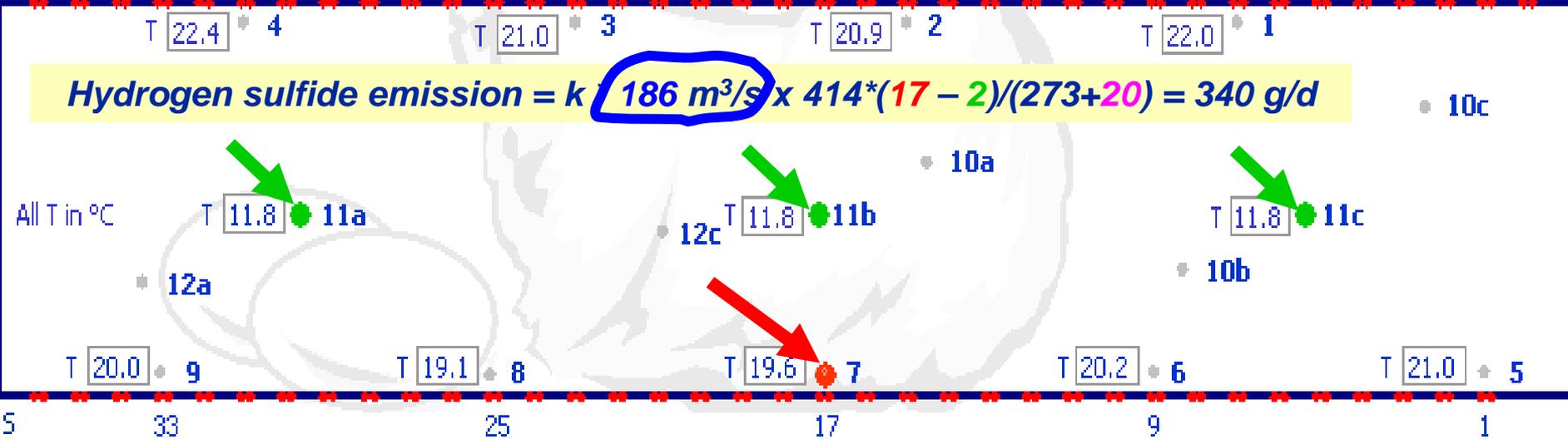
Purdue University

Measuring/Calculating Barn Emissions

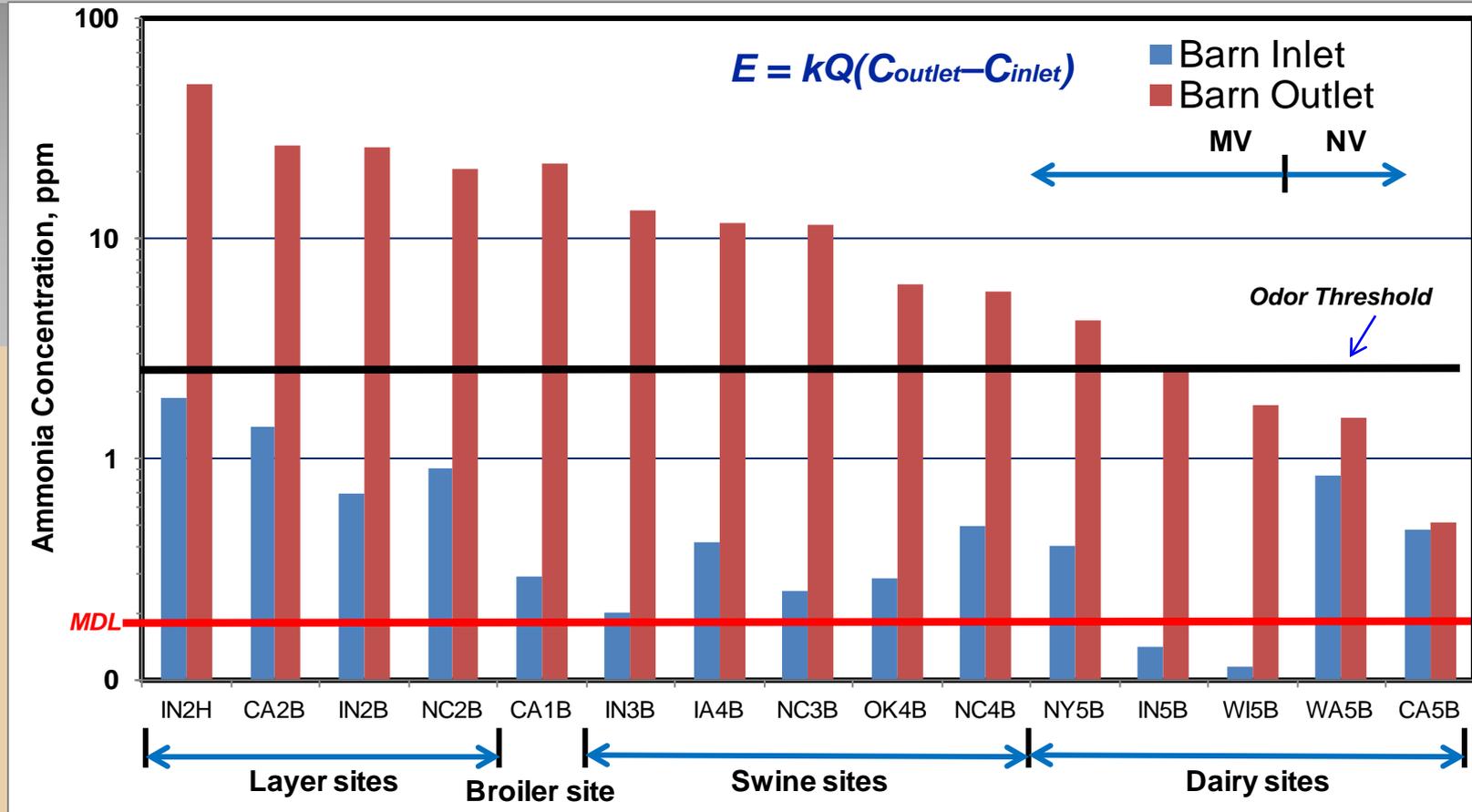


Fans operating: N 35 32 31 27 24 23 19 16 15 11 8 7 3

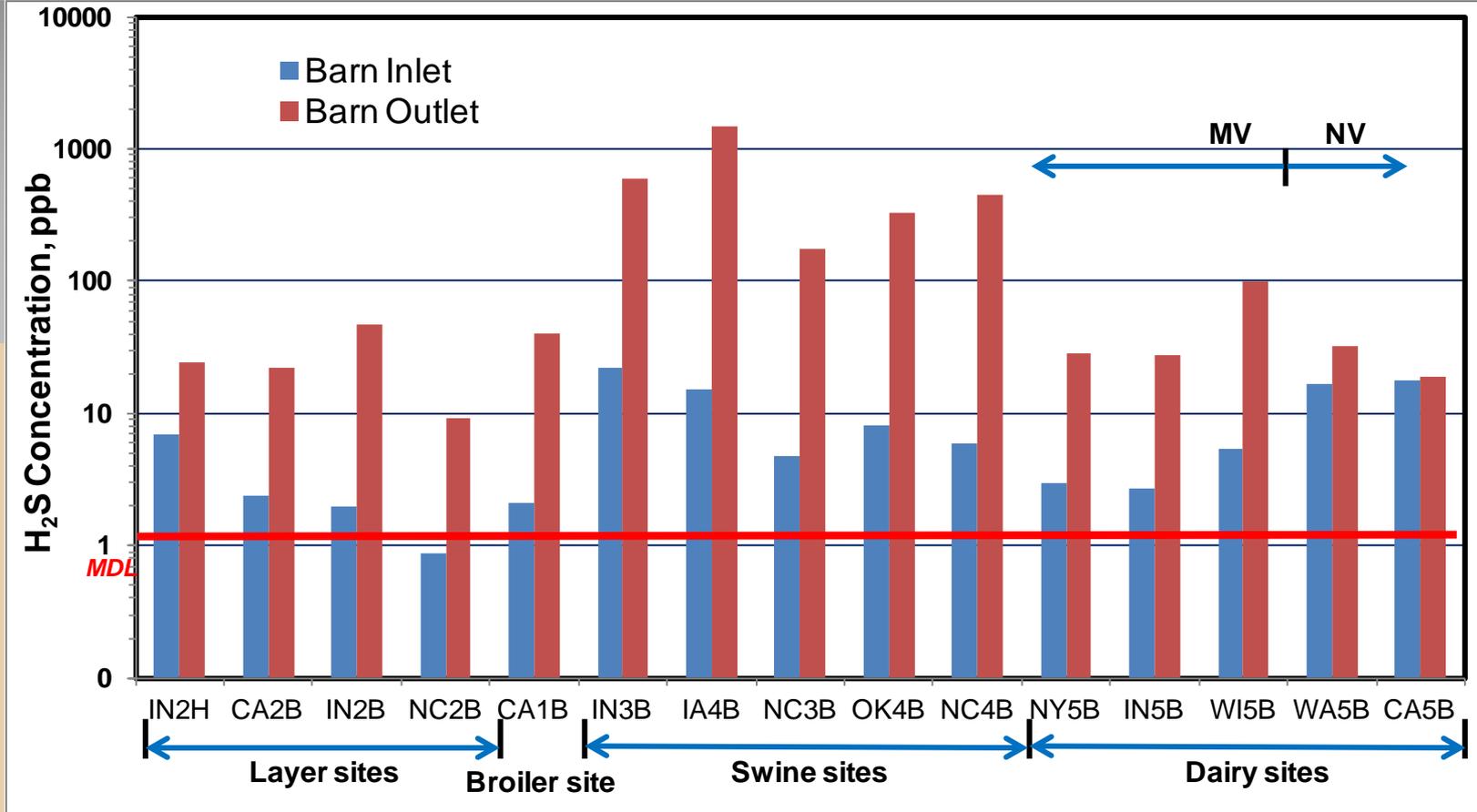
Current methods tests: 1. TEOM wind break wall, 2. Infrared NH₃ monitor.



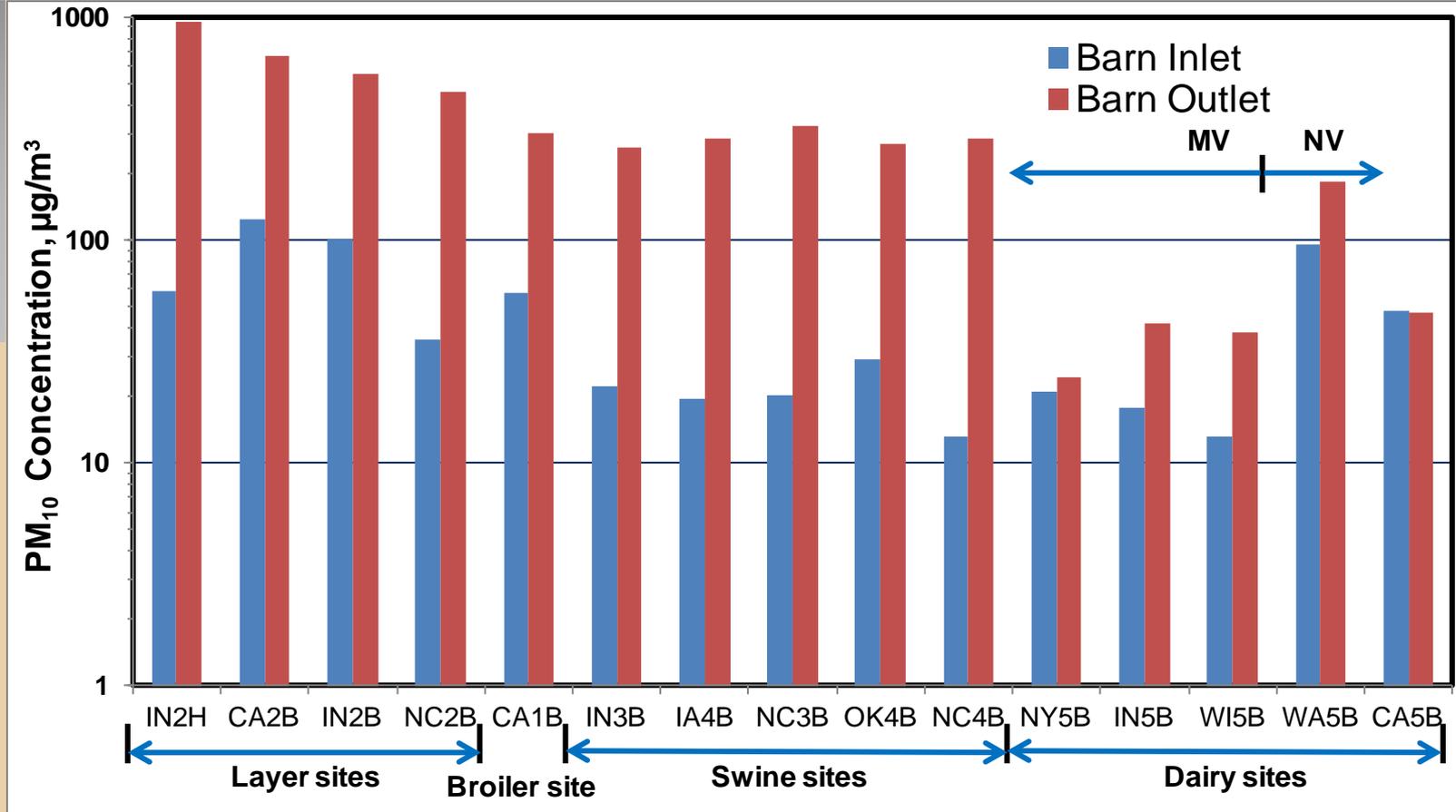
Mean NH_3 Concentrations Inlets vs. Outlets



Mean H₂S Concentrations Inlets vs. Outlets



Mean PM_{10} Concentrations Inlets vs. Outlets



Negative and Zero Emissions

- *Do not remove/adjust valid negative emissions (Section 7.1)*
 - *Brief negative emissions were calculated when inlet > exhaust concentrations.*
 - *Negative emissions are reasonable when actual emissions are zero or near zero.*
- *Do not use emissions when barn airflow $Q = \text{zero}$ (p. 4-2 bottom)*
 - *Emissions = 0.0000 when $Q=0$, not because C 's are equal.*
 - *$Q=0$ means all fans off and barn is naturally ventilated.*
 - *NV airflow was not measured, therefore ER is invalid.*
 - *These "0" emissions should not be used in EEMs.*
 - *Should have been seen as outlier per Section 5.2.2.*
 - *These "0" emissions should have been invalidated by Purdue.*

Emissions per Bird Place

- ***Just like airflow rate and static pressure, flock mortality data is not readily available as was proven in all four broiler houses. EPA removed over 40 days of data from EEM development because of missing mortality data.***
- ***Using either the beginning inventories for each flock (recommended) or the nominal capacity of the house would eliminate this problem.***

Tables 4-1 and 4-2 Corrections

- ***Purdue submitted hourly emissions of NH₃, H₂S, PM₁₀, TSP, and PM_{2.5} (all normalized to area, bird, and AU), flock inventory, weather, ventilation rates, exhaust temperature and RH in spring of 2010. EPA unfortunately did not use this data for their draft report.***
- ***Daily and hourly emissions submitted in March 2012 after draft report was submitted.***

Table 4-2 (VOC grab samples)

- ***Sampling was conducted seven times between 7/14/09 and 10/7/09***
- ***Every 3 months is incorrect.***

Table 4-2

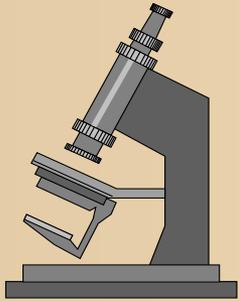
- ***House ventilation rate was logged every 15 and 60 seconds, for 24 months.***

Sections 4.1.2 and 5.1.2

- *“A valid monitoring day is one in which 75 percent of the hourly average data values used to calculate the daily value were valid measurements” is incorrect and should be:*
- *“A valid monitoring day is one in which 75 percent of the 60-s records used to calculate the daily value were valid measurements.”*

Thanks!

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