

6) INTENSE SMOKING REGIMES

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British American Tobacco**

Smoking Regimes

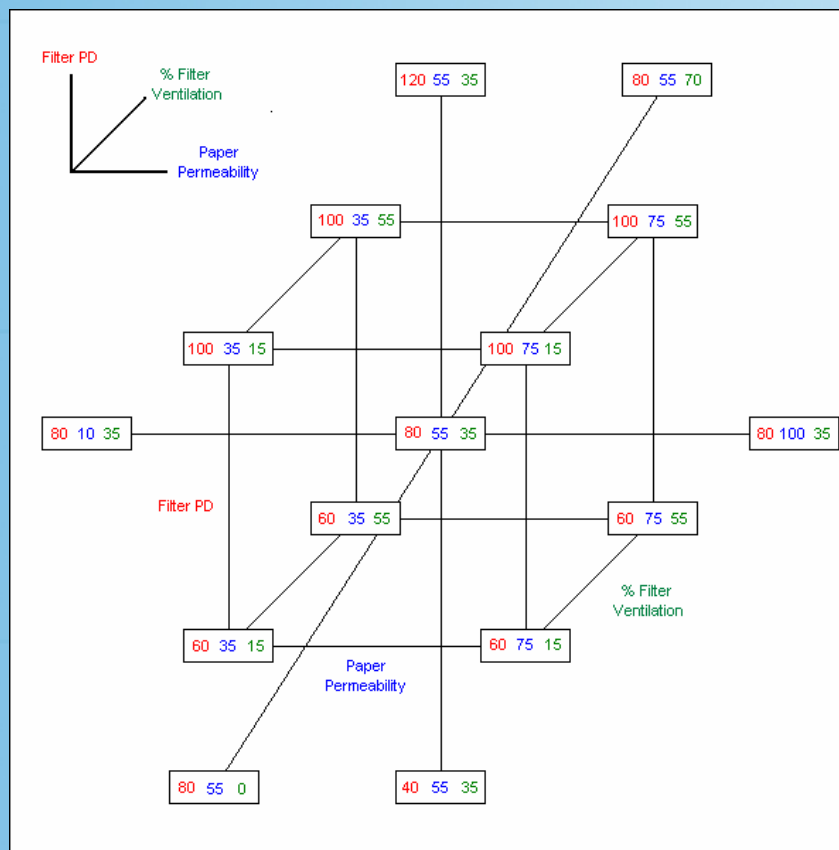
- ISO/FTC 35/2/60 Vents open
- Massachusetts 45/2/30 ½ vents occluded

$$\text{Bandwidth} = \frac{\text{Intense smoke yields}}{\text{ISO smoke yields}}$$

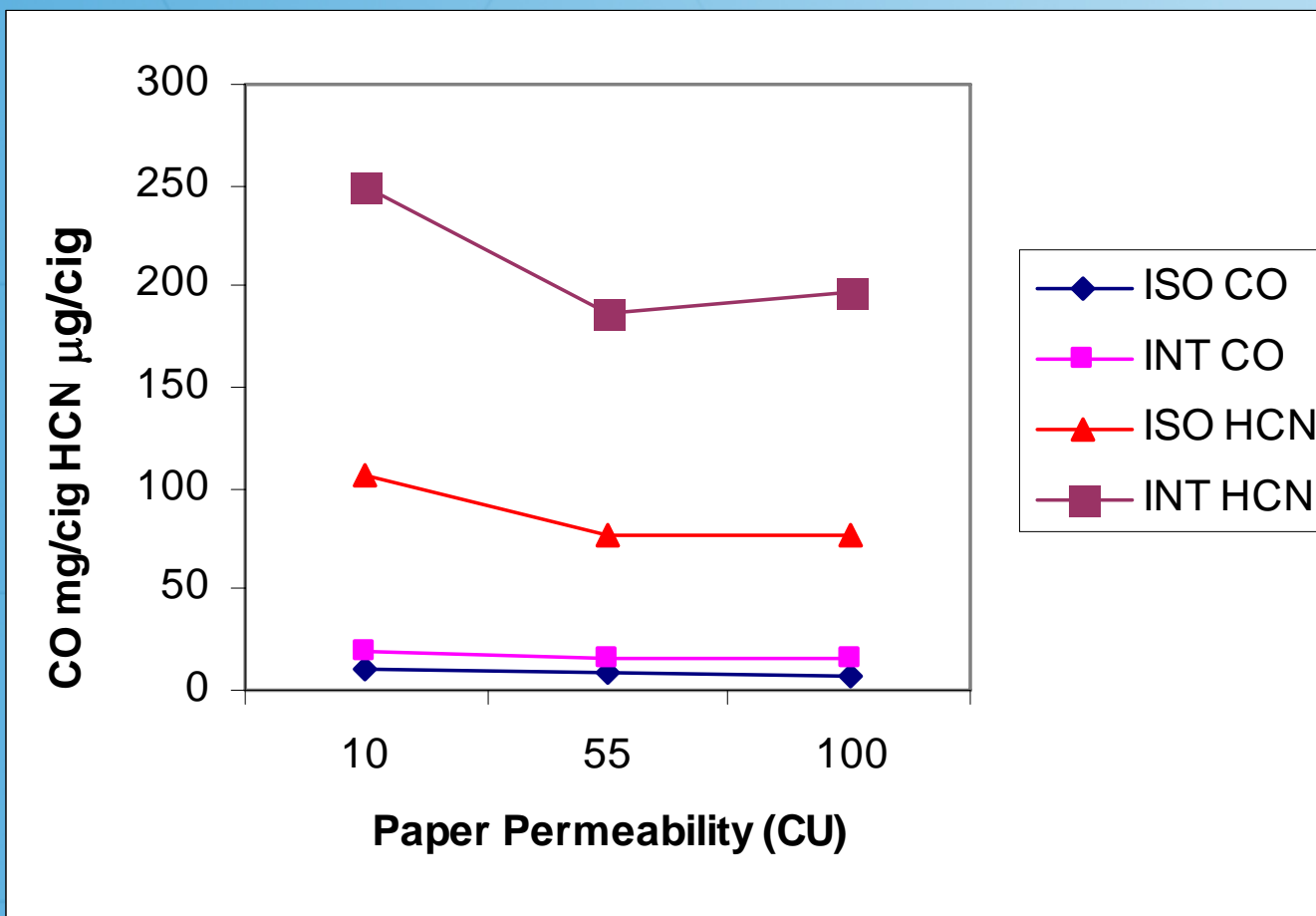
- Canadian 55/2/30 vents occluded
- Canadian 55/2/30 Vents open

Sample Selection

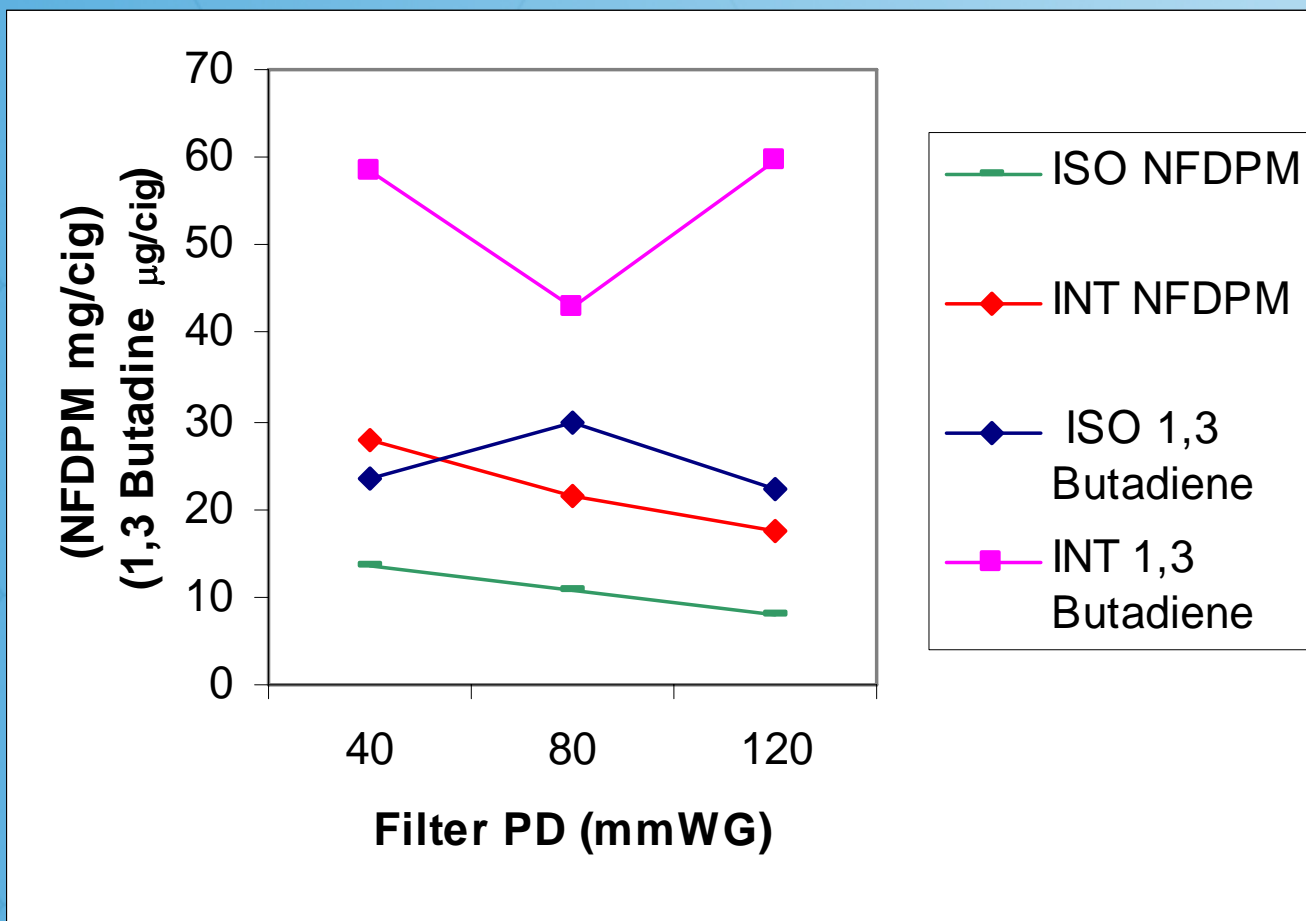
- Full Hoffmann analysis on:
 - Virginia Blend
 - All design points
 - Burley, Oriental and Mix
 - Centre point only for comparison



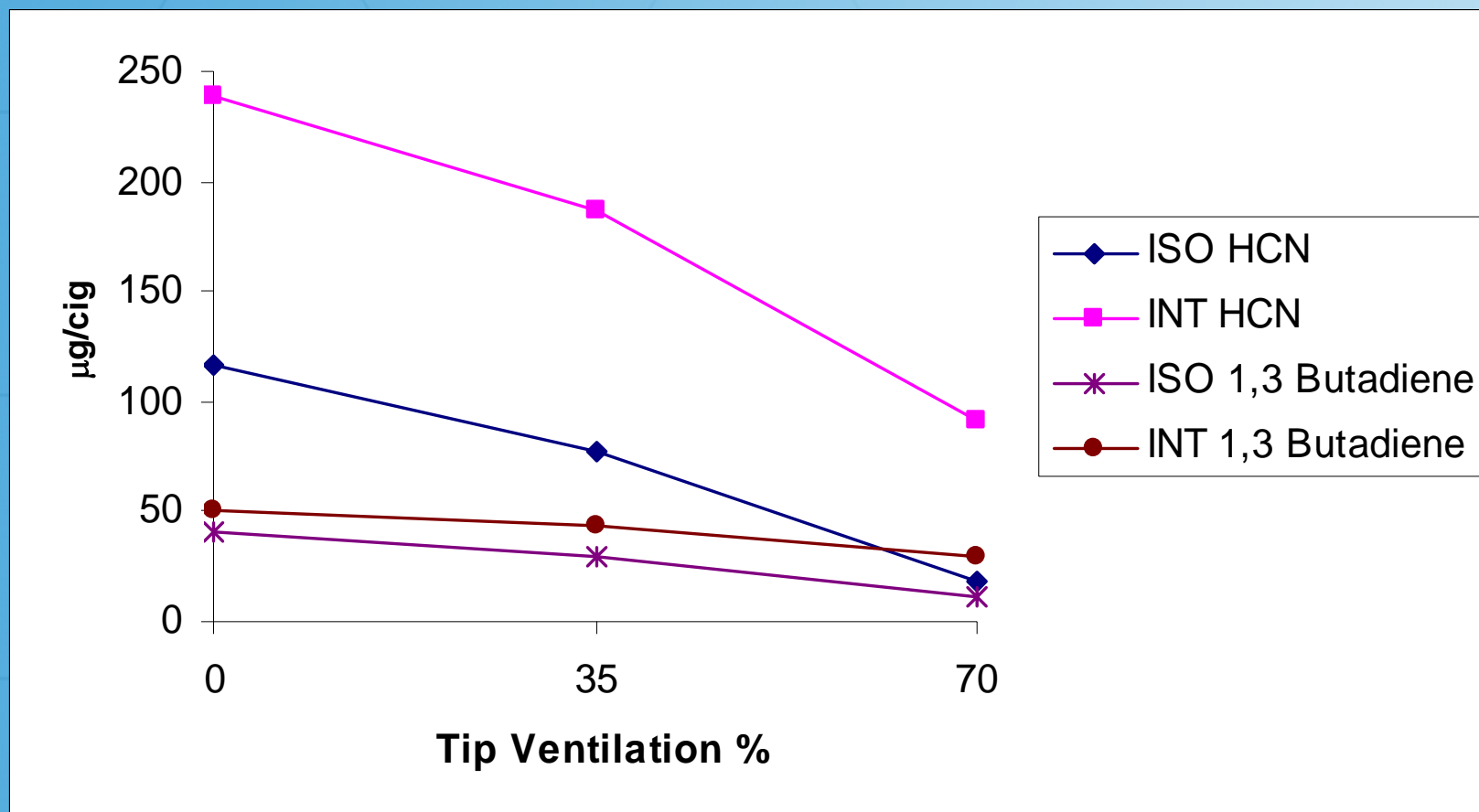
Effect of Paper Permeability



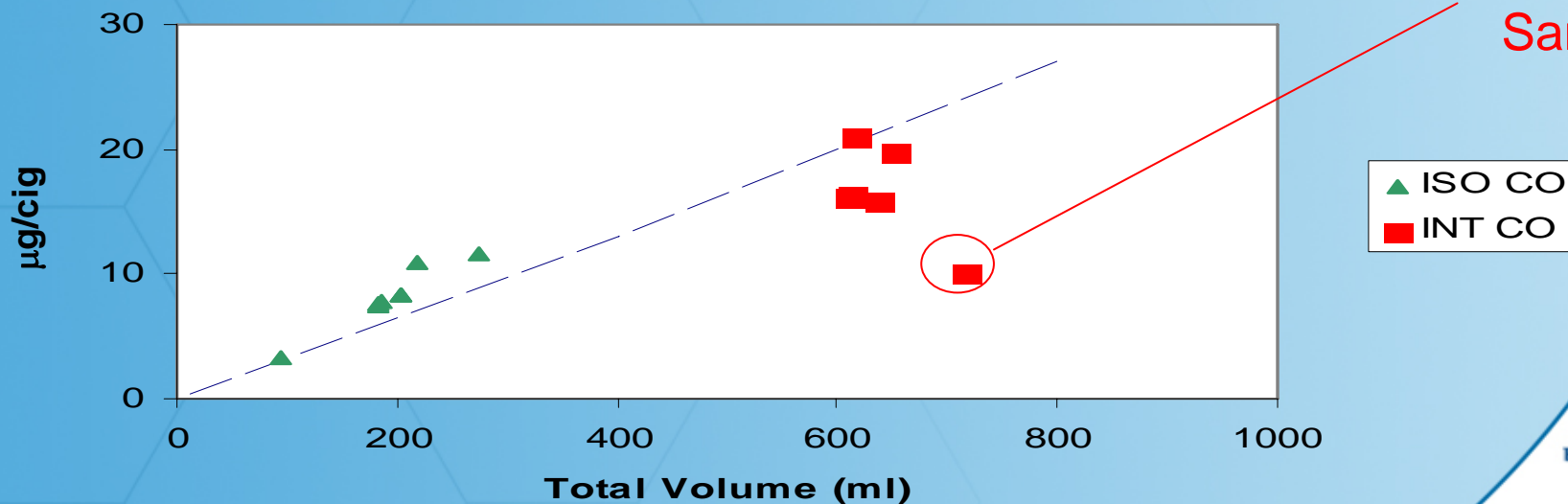
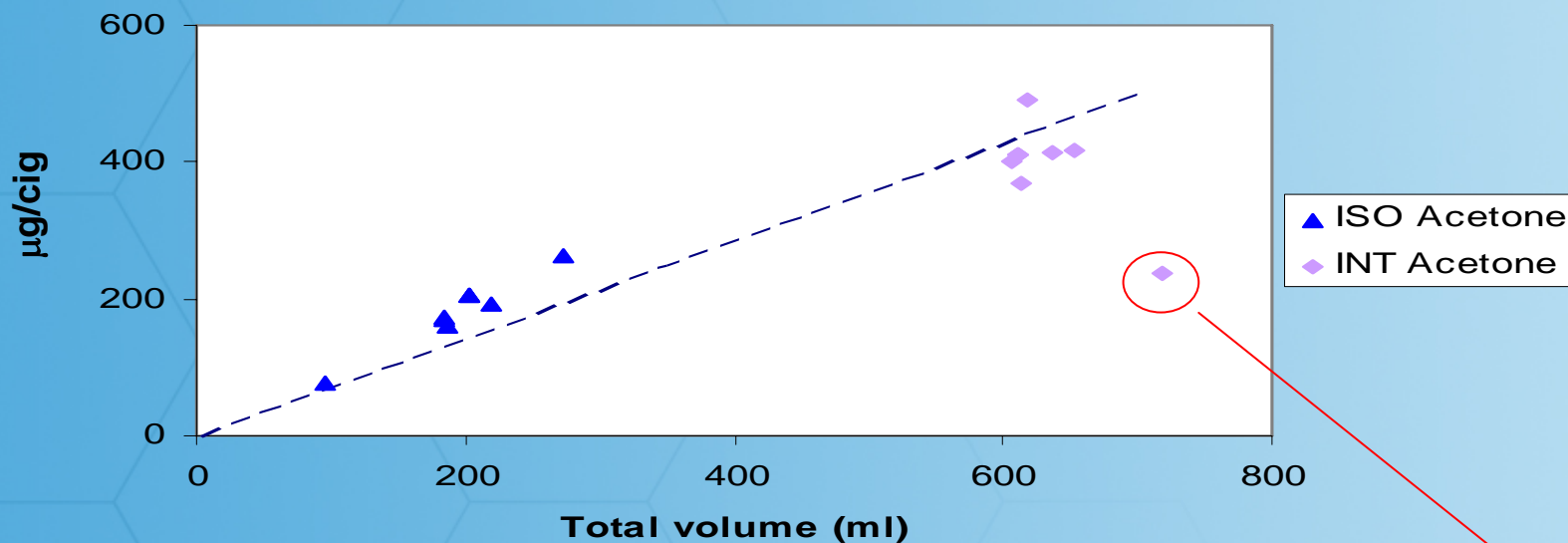
Effect of Filter PD



Effect of Tip Ventilation

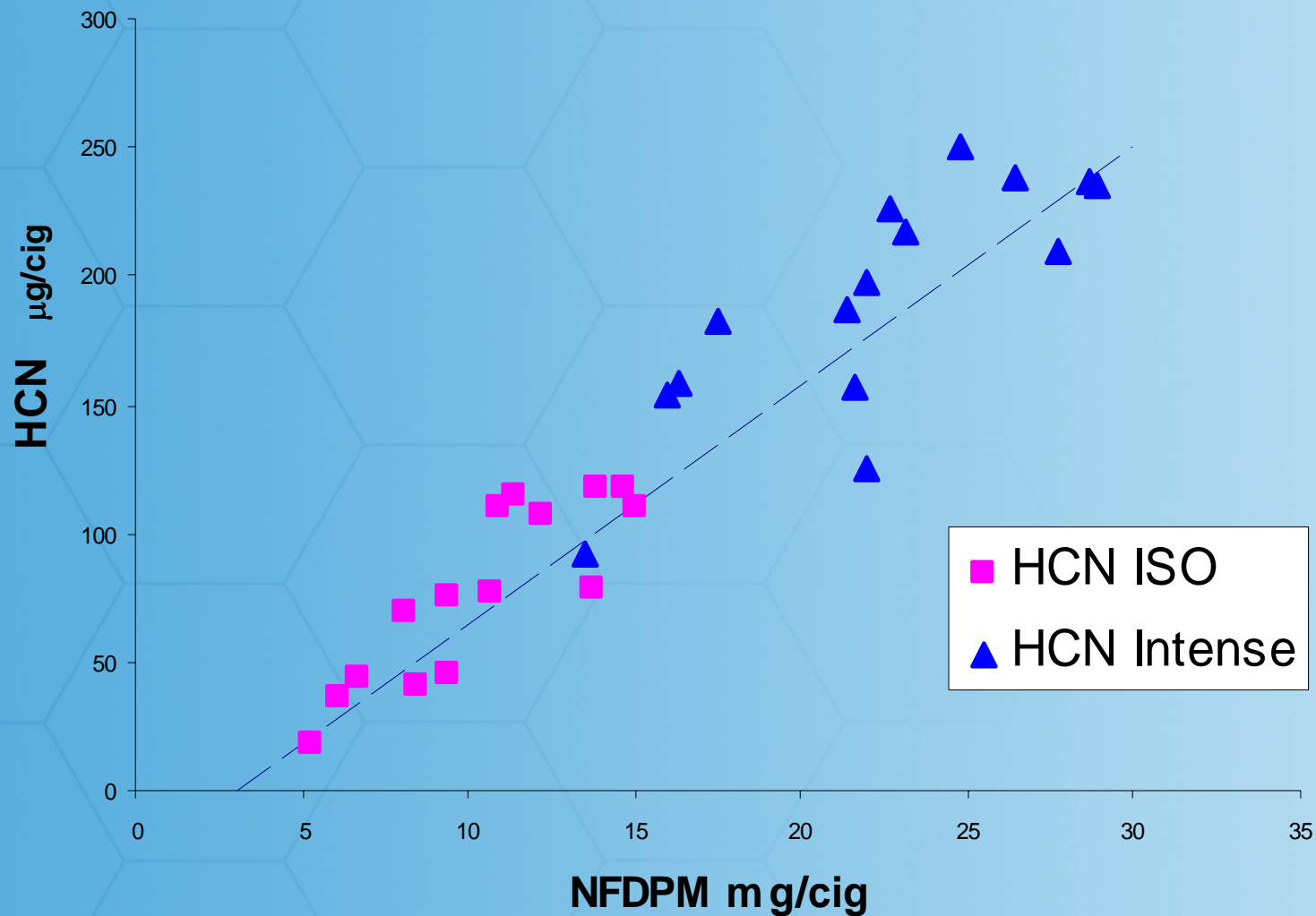


Total Volume Plots



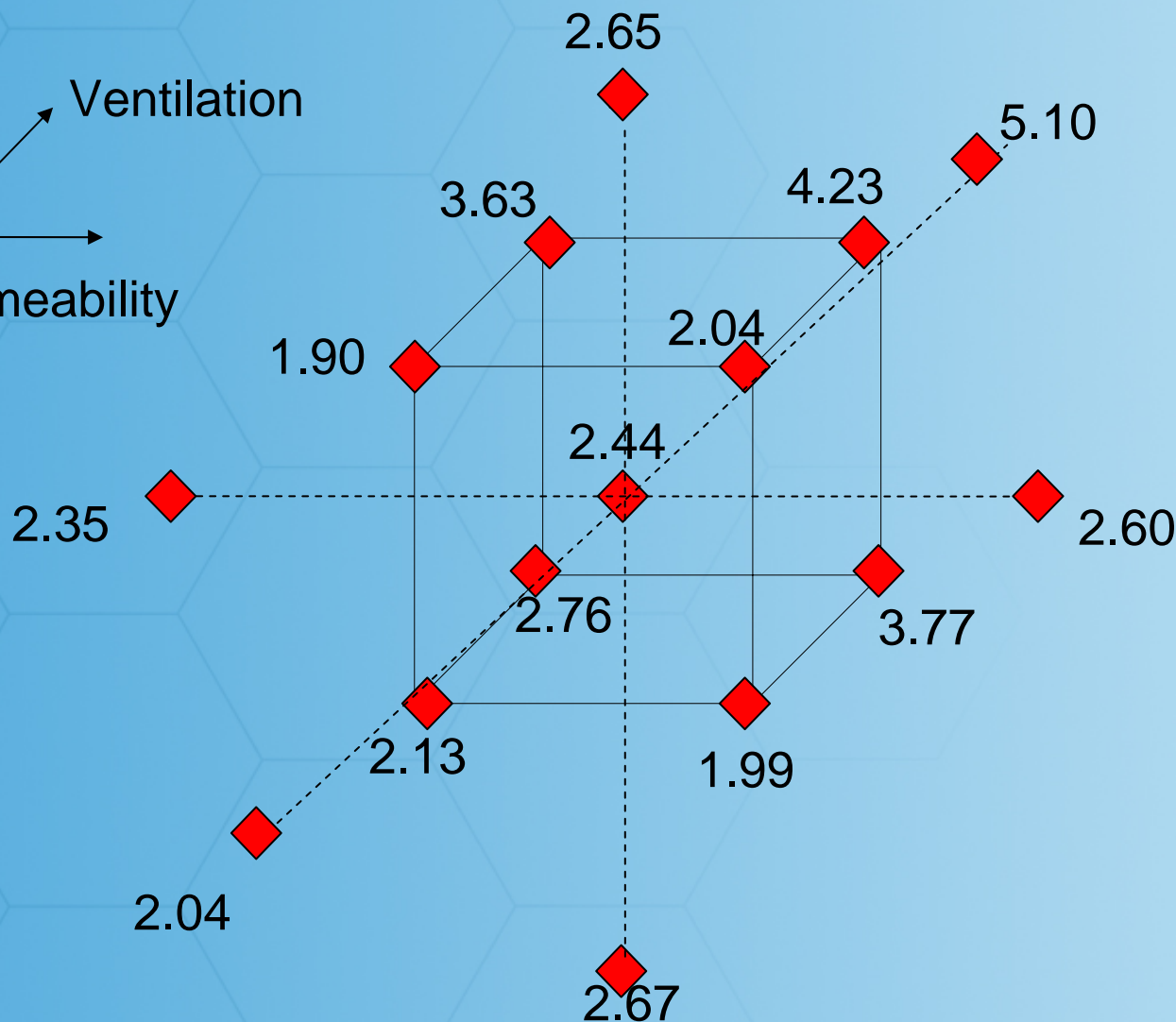
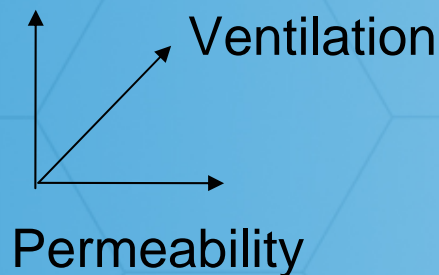
High Vent Sample

Benchmarking Plot



Hydrogen Cyanide Bandwidth Plot

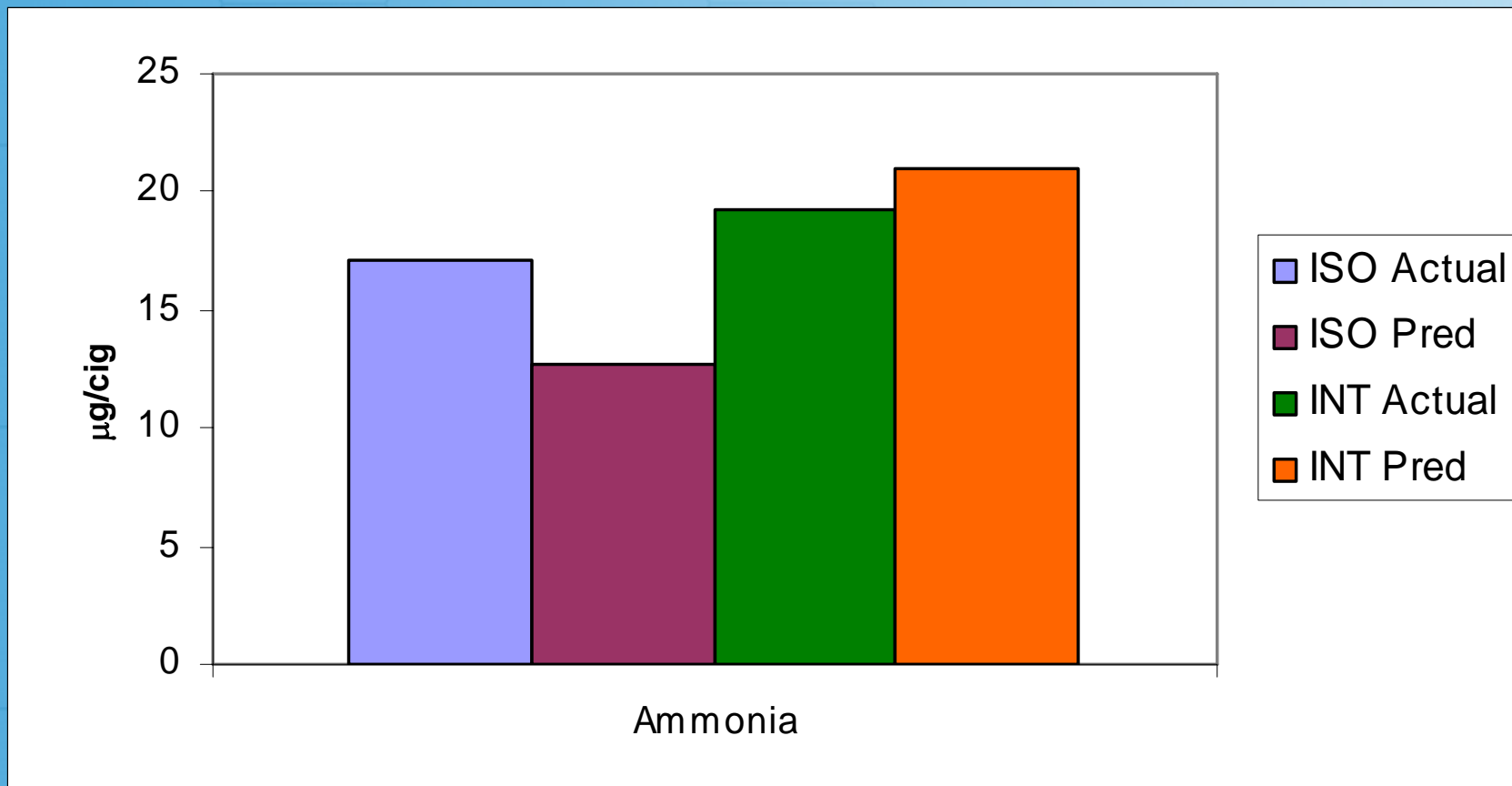
Press' Drop



Conclusions

- Trends shown in ISO results are also present in Intense results
- Bandwidths are not consistent across analytes
 - Ventilation increases bandwidth
- Robust models can be built using data from both ISO and Intense smoking

Conclusions



Number of Experiment

- 15 Central Composite Points
+ 1 Repetition (Centre Point)
+ 1 Check Point
= 17 Designs
- X 4 Blends
= 68 Cigarette Design Samples (20,000 per Sample)

Number of Data Point ~ 10,000 !

Overall conclusions

- Multidisciplinary team to optimise use of data
- Huge Volume of data generated
 - Chemical
 - *Invitro*
 - Aerosol
 - Smoking behaviour (poster)
- Many different approaches to data analyses
 - Multiple + linear regression
 - Correlation
 - Ratio analysis
 - Proportionality analysis

Acknowledgements

Original Team

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Peter Wan, Dinah Winter, Paul Case, Nick Timms.

Co-opted members

Jon Sheppard, Maria Cashmore, Fiona Cunningham,

Other Groups

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Aerosol dept- John McAughey + team
Biology dept- Kali Kalirai + team

Project Team

