

# Summary of work undertaken by SoBRA asbestos in soil sub-group in 2017

# Terms of reference

- Support JIWG
- Develop and promote QRA techniques for asbestos in soil

# Quick recap

2013 – summer workshop and identification of research initiatives required to support asbestos QRA in UK

2015

- Sampling protocols
- Empirical data collection
- Qualitative frameworks

2016

- Move towards options for soil-based standards
  - Exploring QRA options
    - Air quality standards
    - Quantitative risk models
    - Soil to air relationship

# New UK lab data

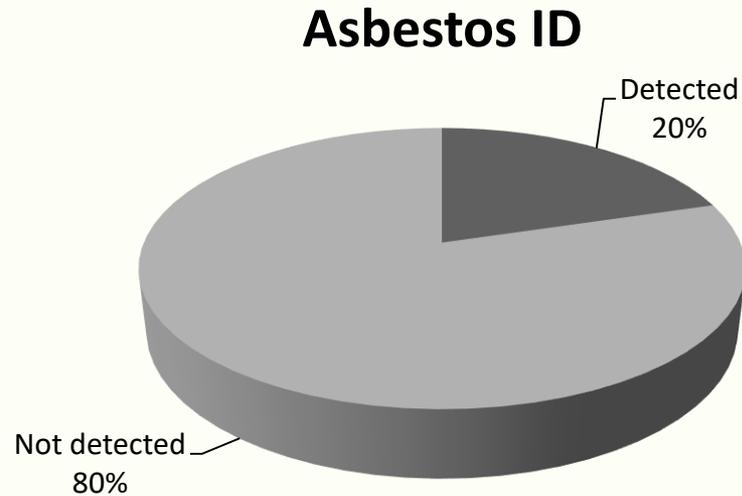
- Thank you to i2
- We now have approximately 150,000 soil sample results taken across the UK

# UK data capture (i2)

Data from 37255 samples kindly provided by i2 for 2017

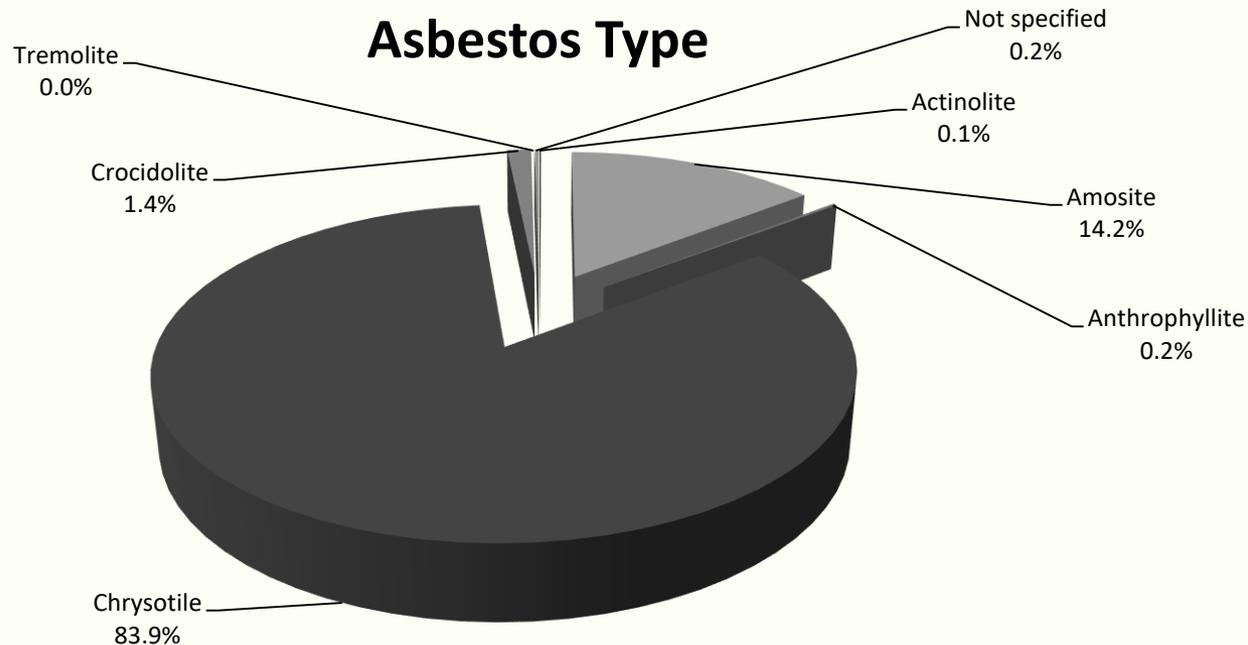
UK laboratory data survey underway

Provision of anonymised LIMS data from UK major laboratories



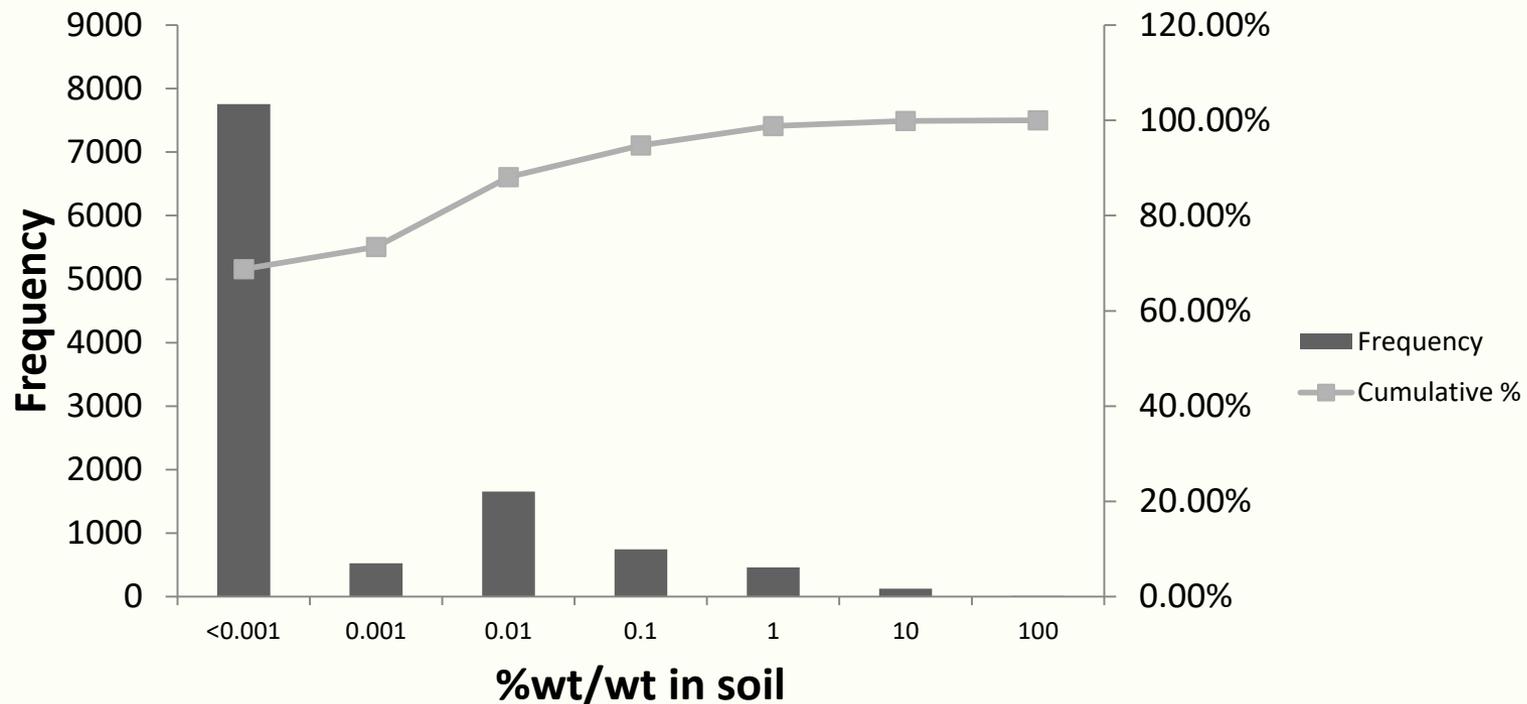
# UK data capture (i2)

Data from 37255 samples kindly provided by i2 for 2017



# UK data capture (i2)

Data from 11273 samples kindly provided by i2 for 2017

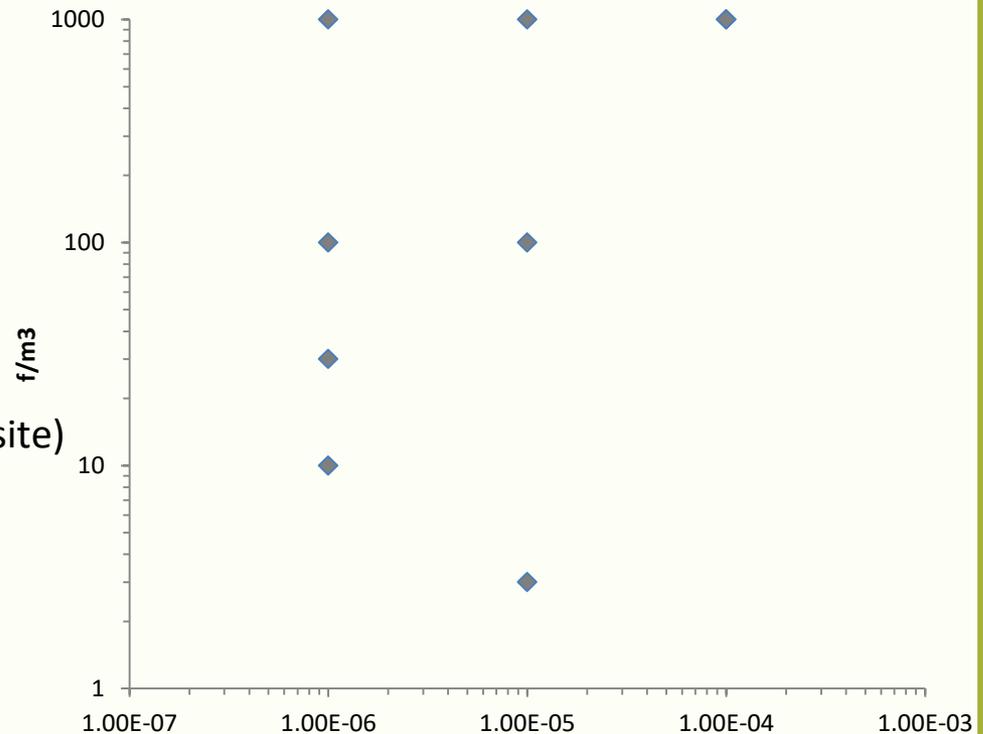


# Forthcoming discussion paper

- What air guideline should we adopt in the UK
- What difference to model choices make?
- What are the practical implications of those options?
  
- Huge thank you to Katy Baker and Simon Hay from Arcadis, Barry Mitcheson from Wood, and Lucy Thomas from RSK

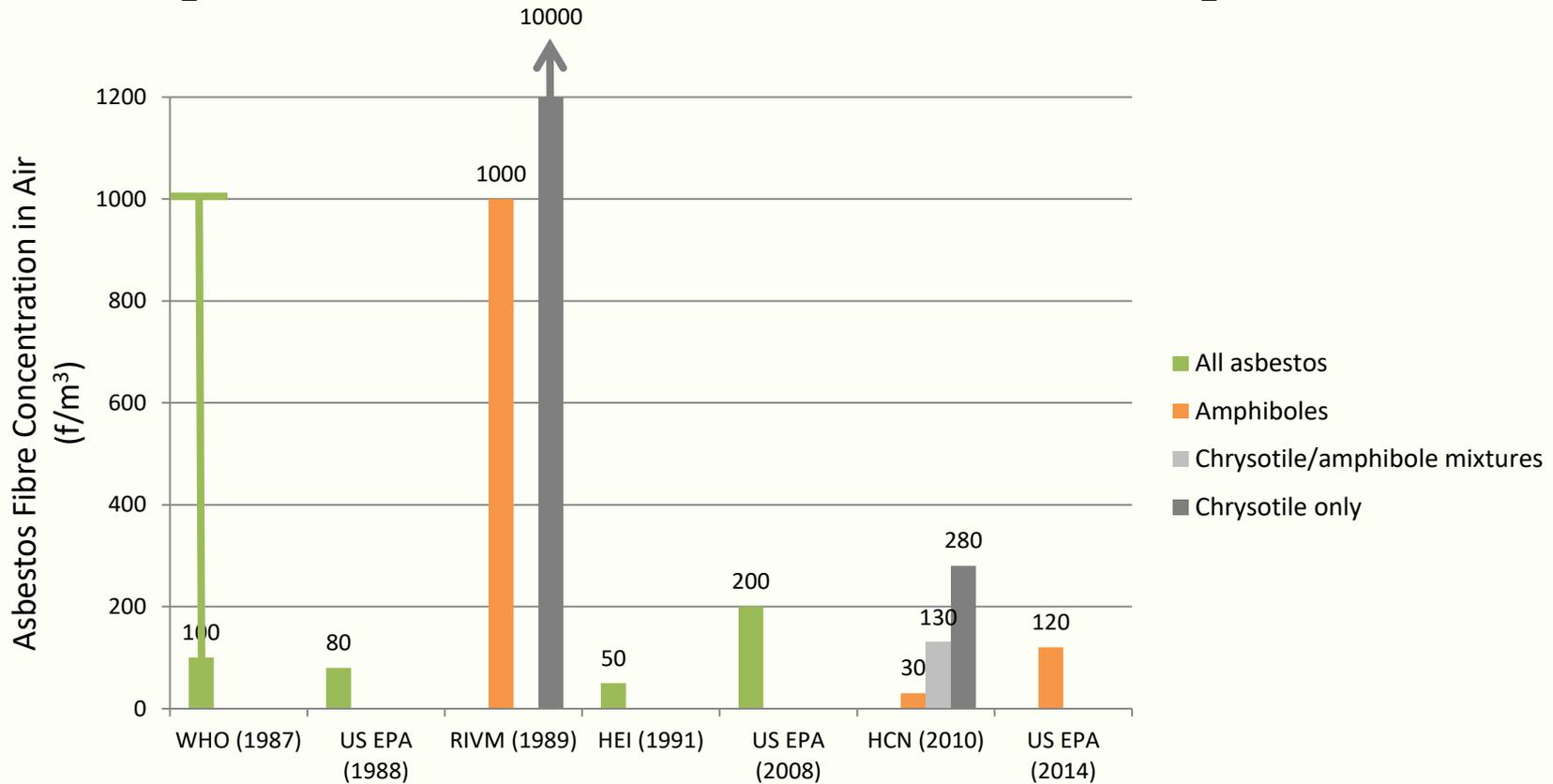
# Published air quality guidelines

- WHO (2000):
  - 1000f/m<sup>3</sup> (10<sup>-5</sup>-10<sup>-4</sup>)
- RIVM/VRM:
  - 1000f/m<sup>3</sup> (10<sup>-6</sup>chrysotile, 10<sup>-5</sup>amosite)
- HCN:
  - 30f/m<sup>3</sup> (10<sup>-6</sup>chrysotile , 10<sup>-5</sup>amosite)
- US EPA (2008):
  - 10f/m<sup>3</sup> (10<sup>-6</sup>)
  - 100f/m<sup>3</sup> (10<sup>-5</sup>)
  - 1000f/m<sup>3</sup> (10<sup>-4</sup>)



[Concentrations measured by TEM]

# Published air quality guidelines [normalised to ELCR 10-5]



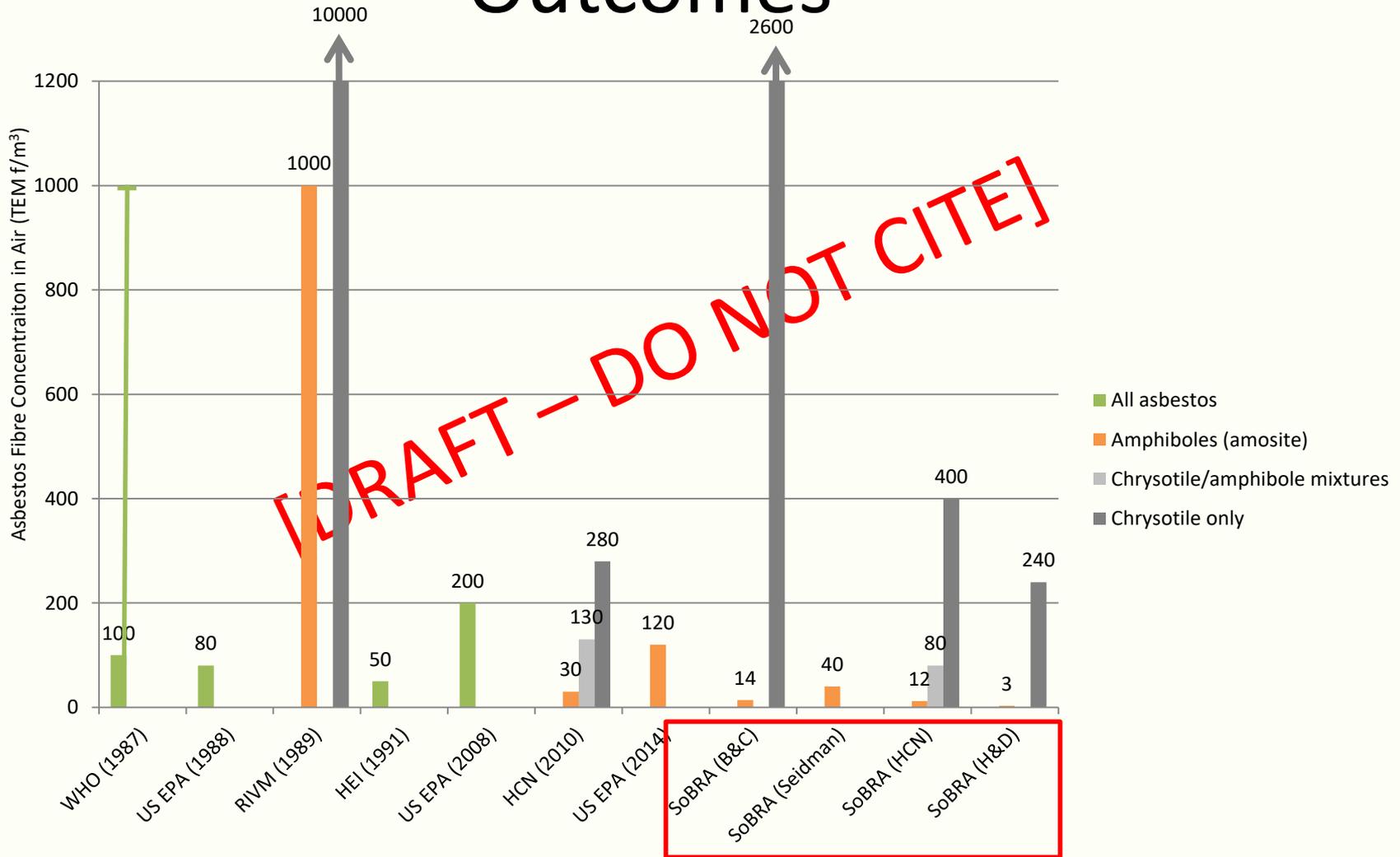
[Concentrations measured by TEM]

# UK guideline?

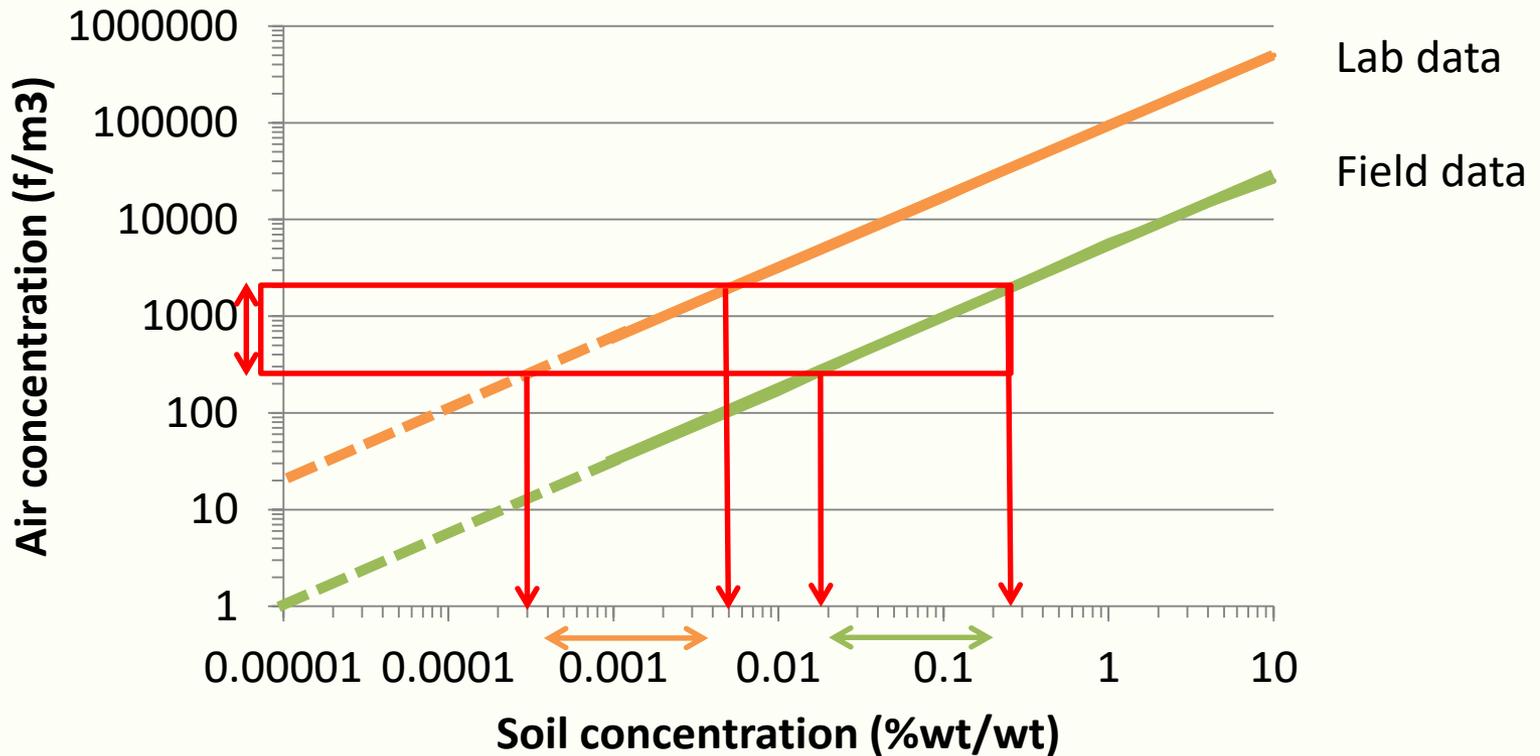
Two modelling options:

- Hodgson and Darnton (2000) algorithms for mesothelioma and lung cancer estimation adopted by the UK HSE
- Algorithms for mesothelioma and lung cancer commonly adopted by the US EPA, Berman and Crump, HEI and HCN

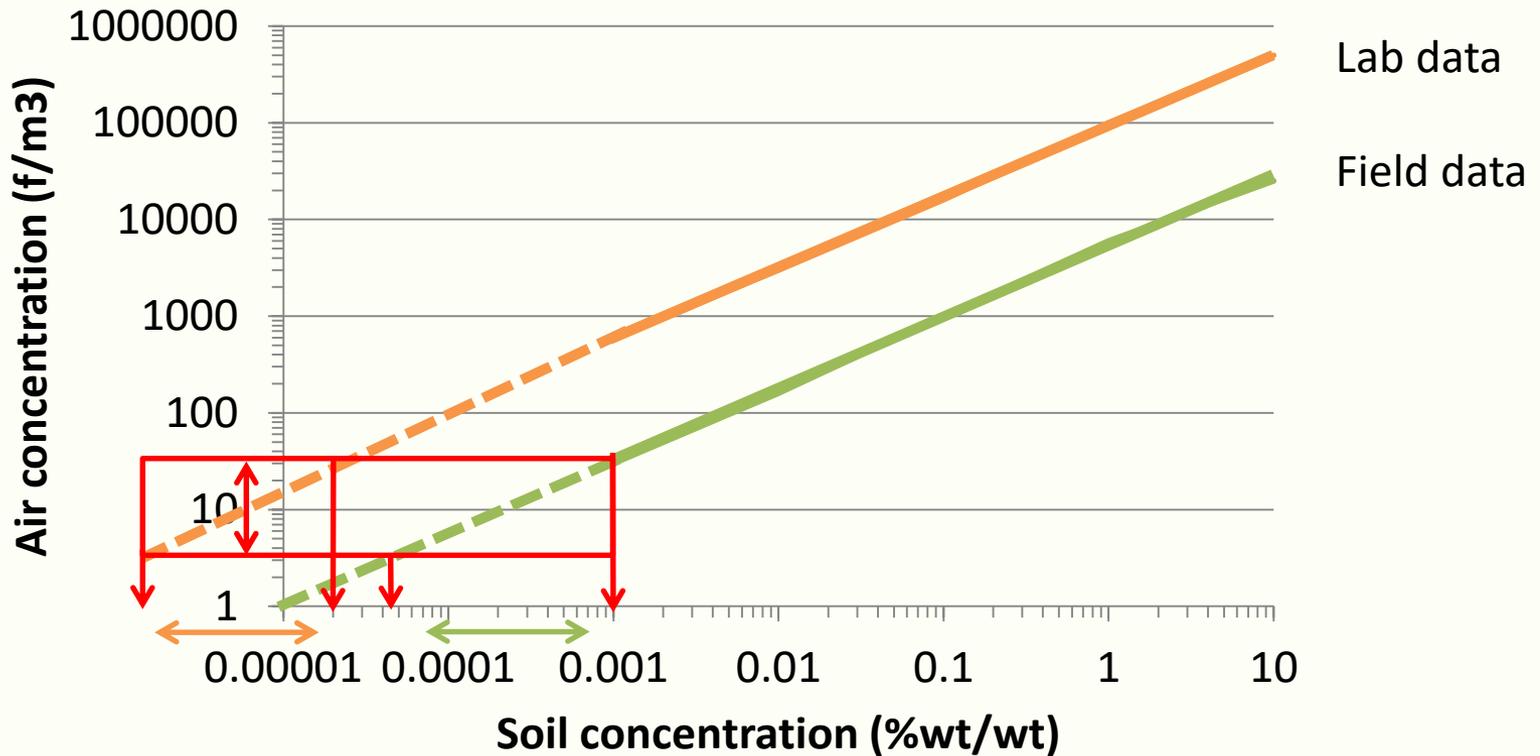
# Outcomes



# Implications for use of Dutch Approach - chrysotile



# Implications for use of Dutch Approach - amosite



# October 2017 mini workshop

- Challenges (how to deal with all the “what ifs”)
  - Direction of travel for air guidelines
  - Detection limits
  - Background concentrations
  - Limits in scientific knowledge
- Data gaps/research needs
- Policy(?)

# Next steps

- Continue to move towards guidance on calculating guidelines for soil
- Soil to air relationship
  - Use of empirical data
  - Use of field and laboratory testing
  - Correct interpretation of data
- Importance of context
  - Background air concentrations
  - How big an issue is track backing indoors?
  - Accuracy/reliability of exposure and risk estimates

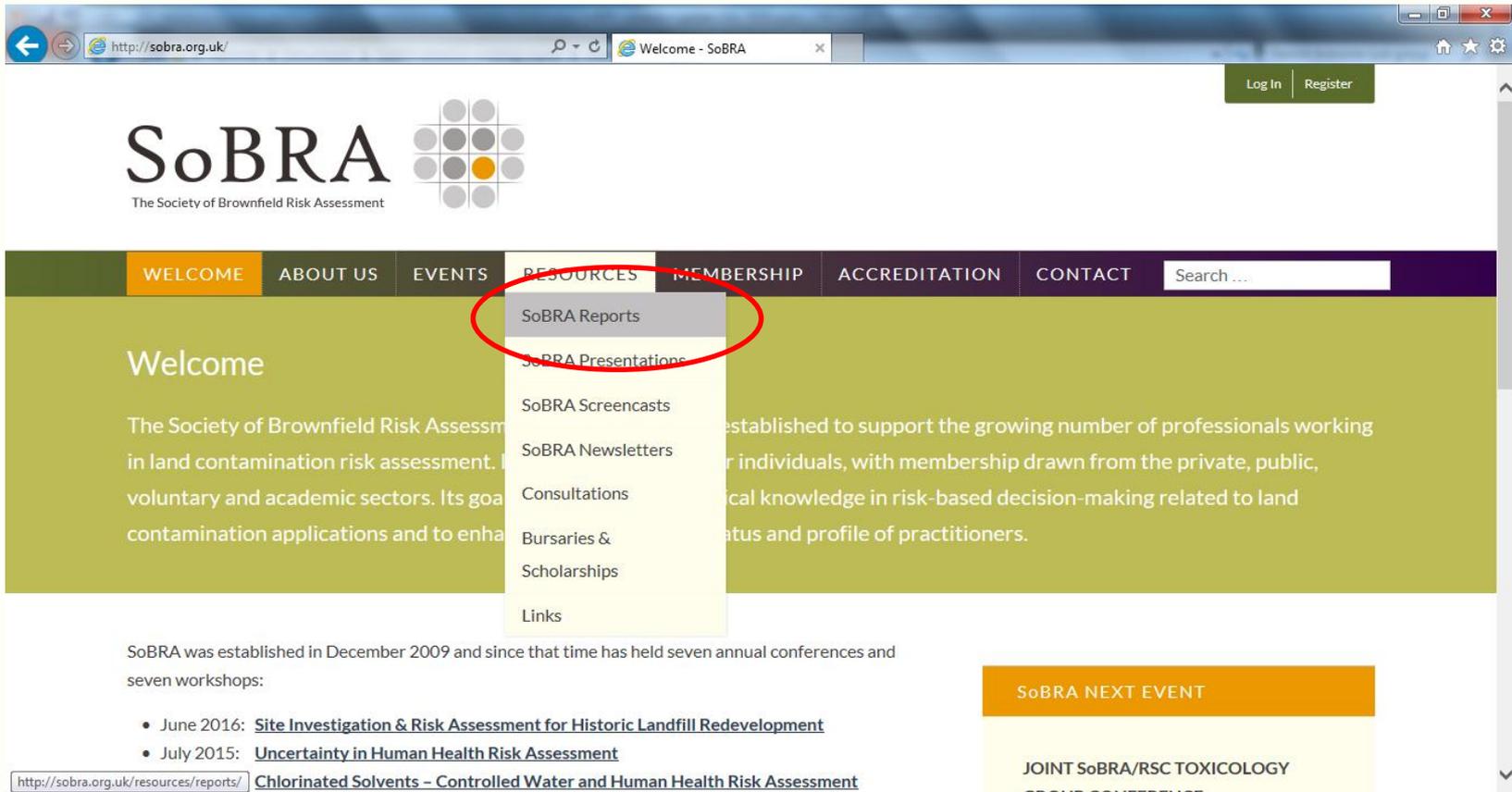
# Further Information

The screenshot shows the CL:AIRE website interface. At the top, there is a navigation bar with the CL:AIRE logo and the tagline "LEADING SUSTAINABLE LAND REUSE". Social media links for Twitter (@CL\_AIRE\_UK), LinkedIn (Follow), and an eAlert sign-up are present. A search bar and a "Log in / Register" button are also visible. Below the navigation bar, a grid of project and initiative tiles is displayed. The tiles include:

- IMPROVING E... RAISING ST...
- Definition of Waste Code of Practice (DoW:CoP)
- Register of Materials (DoW:CoP)
- Qualified Person Register (DoW:CoP)
- Workshops and Training (DoW:CoP)
- Land Forum
- NQMS
- SuRF UK
- SuRF Int'l / ISRA
- Inspiration
- Advocate
- JiWG** (Joint Industry Working Group) - circled in red
- Asbestos in Soil
- Asbestos Training
- Conland Expert Panel
- NanoRem
- GWSDAT
- CL:AIRE Projects

On the right side, there is a section titled "SHARING KNOWLEDGE & DEVELOPING PEOPLE" with a sub-heading "WATER AND LAND LIBRARY ( WALL), CONTINUING PROFESSIONAL DEVELOPMENT THROUGH TRAINING AND WORKSHOPS...". At the bottom, there are logos for Homes & Communities Agency, KIER, LLWR Ltd, and Magnox. The URL in the address bar is <http://www.claire.co.uk/projects-and-initiatives>.

# Further Information



The screenshot shows the SoBRA website interface. The browser address bar displays <http://sobra.org.uk/>. The page header includes the SoBRA logo (The Society of Brownfield Risk Assessment) and navigation links for 'Log In' and 'Register'. The main navigation menu contains 'WELCOME', 'ABOUT US', 'EVENTS', 'RESOURCES', 'MEMBERSHIP', 'ACCREDITATION', and 'CONTACT'. A search bar is located to the right of the menu. The 'RESOURCES' menu item is highlighted with a red circle, and its dropdown menu is open, listing the following options: 'SoBRA Reports', 'SoBRA Presentations', 'SoBRA Screencasts', 'SoBRA Newsletters', 'Consultations', 'Bursaries & Scholarships', and 'Links'. The main content area features a 'Welcome' section with text describing the society's purpose. Below this, there is a list of recent events and a section for the next event.

SoBRA Reports

SoBRA Presentations

SoBRA Screencasts

SoBRA Newsletters

Consultations

Bursaries & Scholarships

Links

SoBRA was established in December 2009 and since that time has held seven annual conferences and seven workshops:

- June 2016: [Site Investigation & Risk Assessment for Historic Landfill Redevelopment](#)
- July 2015: [Uncertainty in Human Health Risk Assessment](#)

<http://sobra.org.uk/resources/reports/> [Chlorinated Solvents – Controlled Water and Human Health Risk Assessment](#)

SoBRA NEXT EVENT

JOINT SoBRA/RSC TOXICOLOGY GROUP CONFERENCE

Many thanks

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