

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

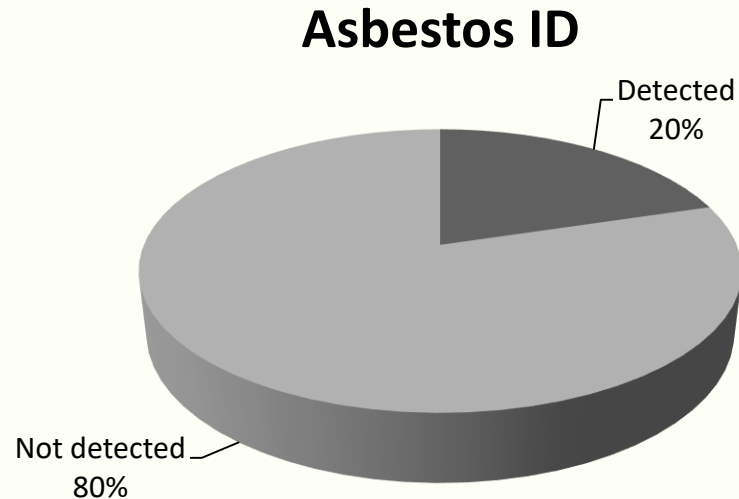
- Thank you to i2
- We now have approximately 150,000 soil sample results taken across the UK

UK data capture (i2)

Data from 37255 samples kindly provided by i2 for 2017

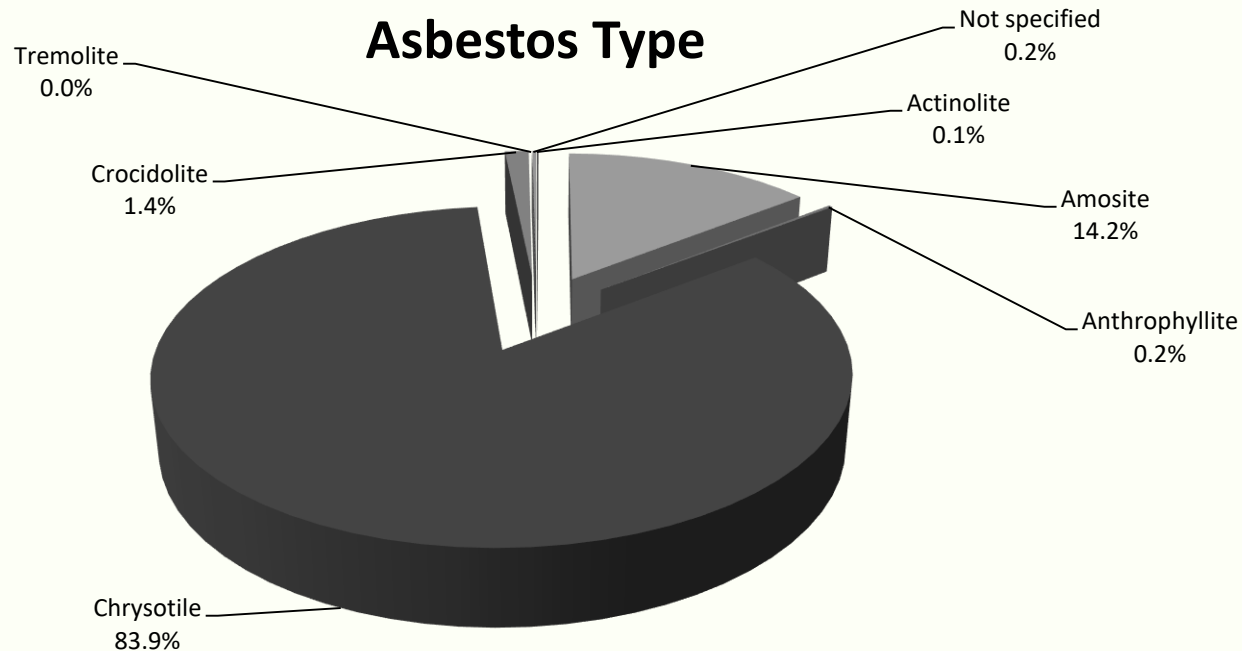
UK laboratory data survey underway

Provision of anonymised LIMS data from UK major laboratories



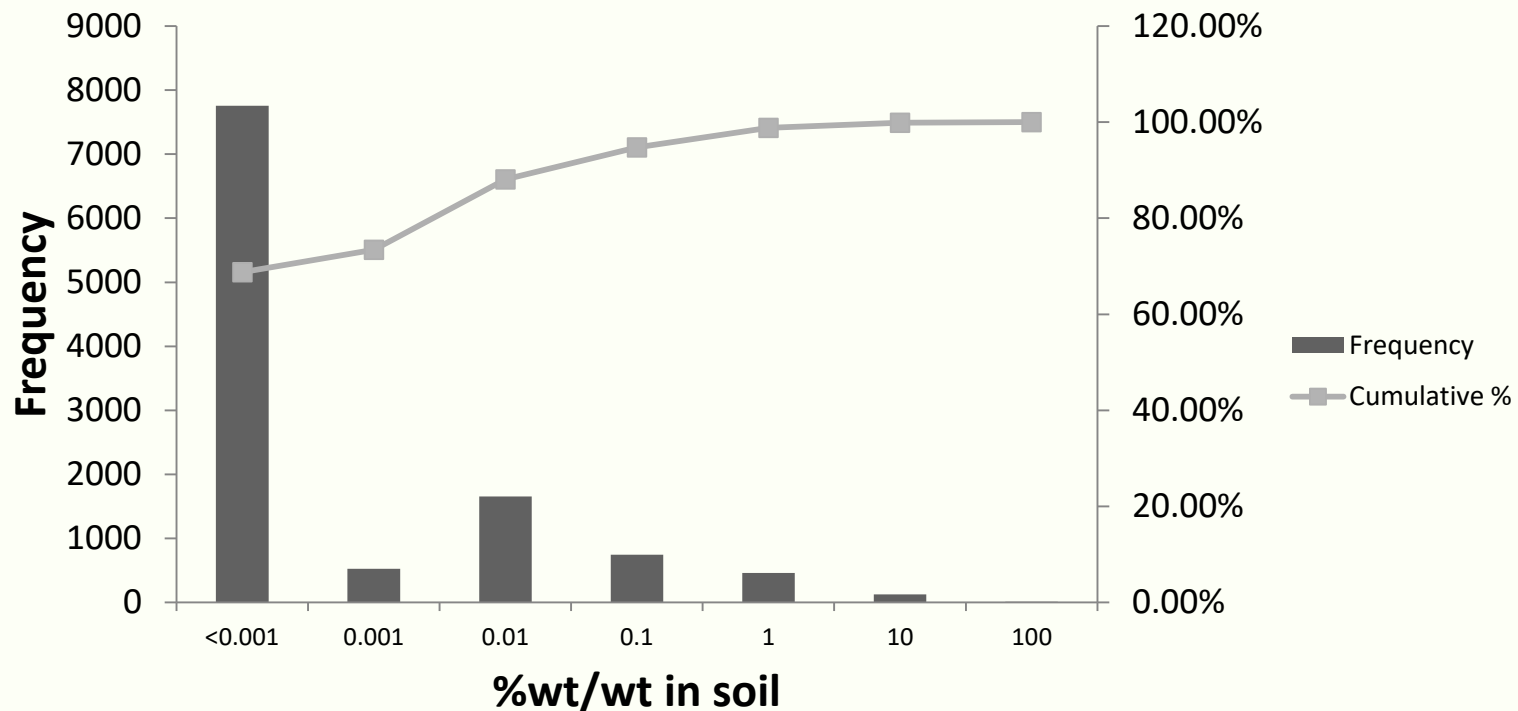
UK data capture (i2)

Data from 37255 samples kindly provided by i2 for 2017



UK data capture (i2)

Data from 11273 samples kindly provided by i2 for 2017

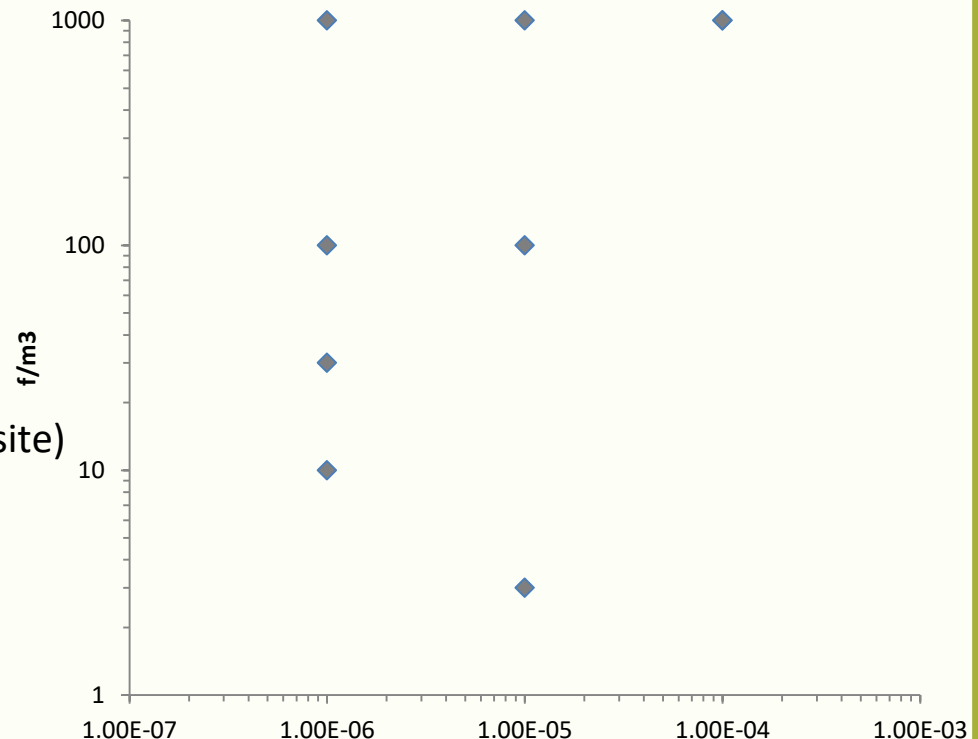


Forthcoming discussion paper

- 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

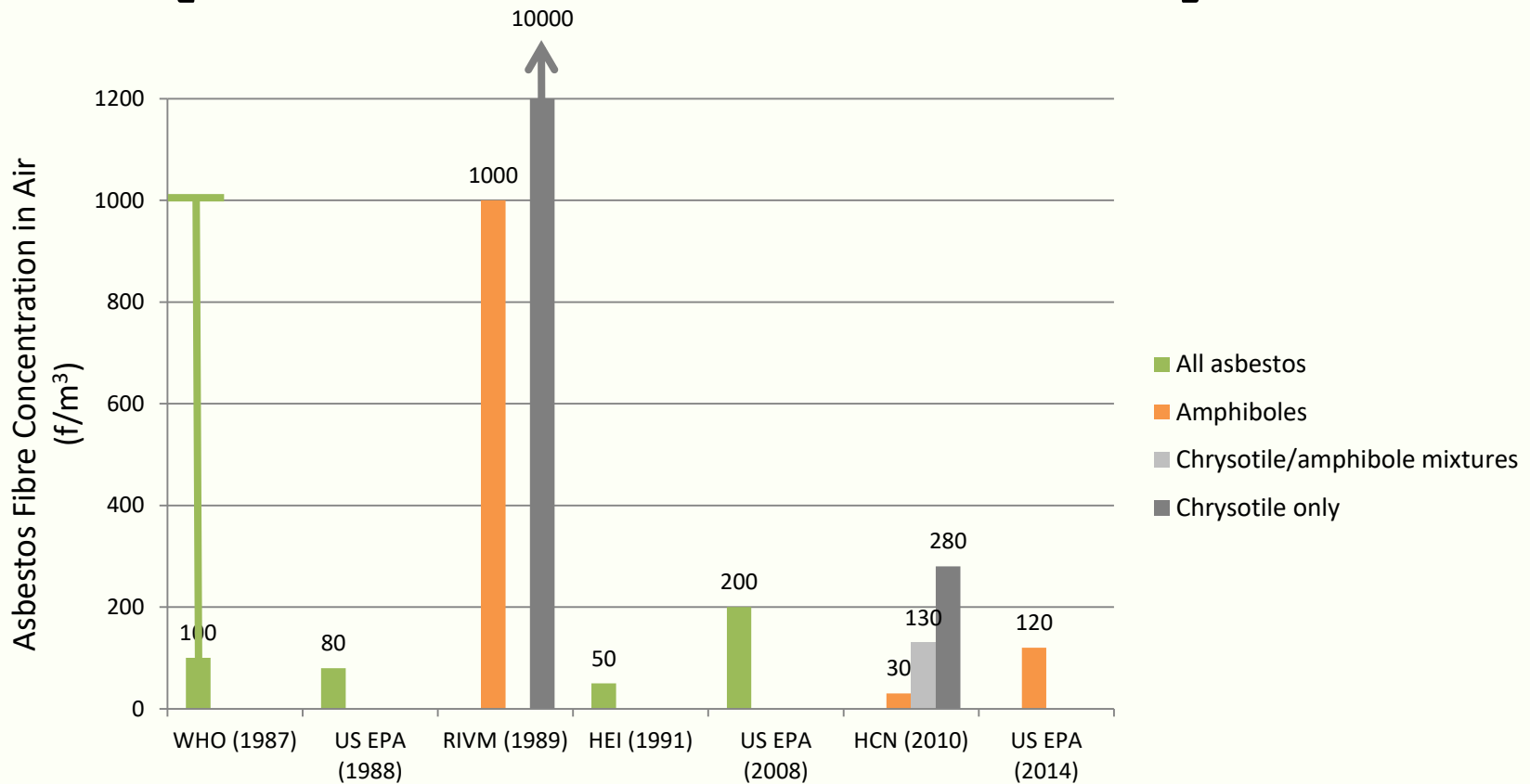
Published air quality guidelines

- WHO (2000):
 - 1000f/m³ (10⁻⁵-10⁻⁴)
- RIVM/VROM:
 - 1000f/m³ (10⁻⁶chrysotile, 10⁻⁵amosite)
- HCN:
 - 30f/m³ (10⁻⁶chrysotile , 10⁻⁵amosite)
- US EPA (2008):
 - 10f/m³ (10⁻⁶)
 - 100f/m³ (10⁻⁵)
 - 1000f/m³ (10⁻⁴)



[Concentrations measured by TEM]

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



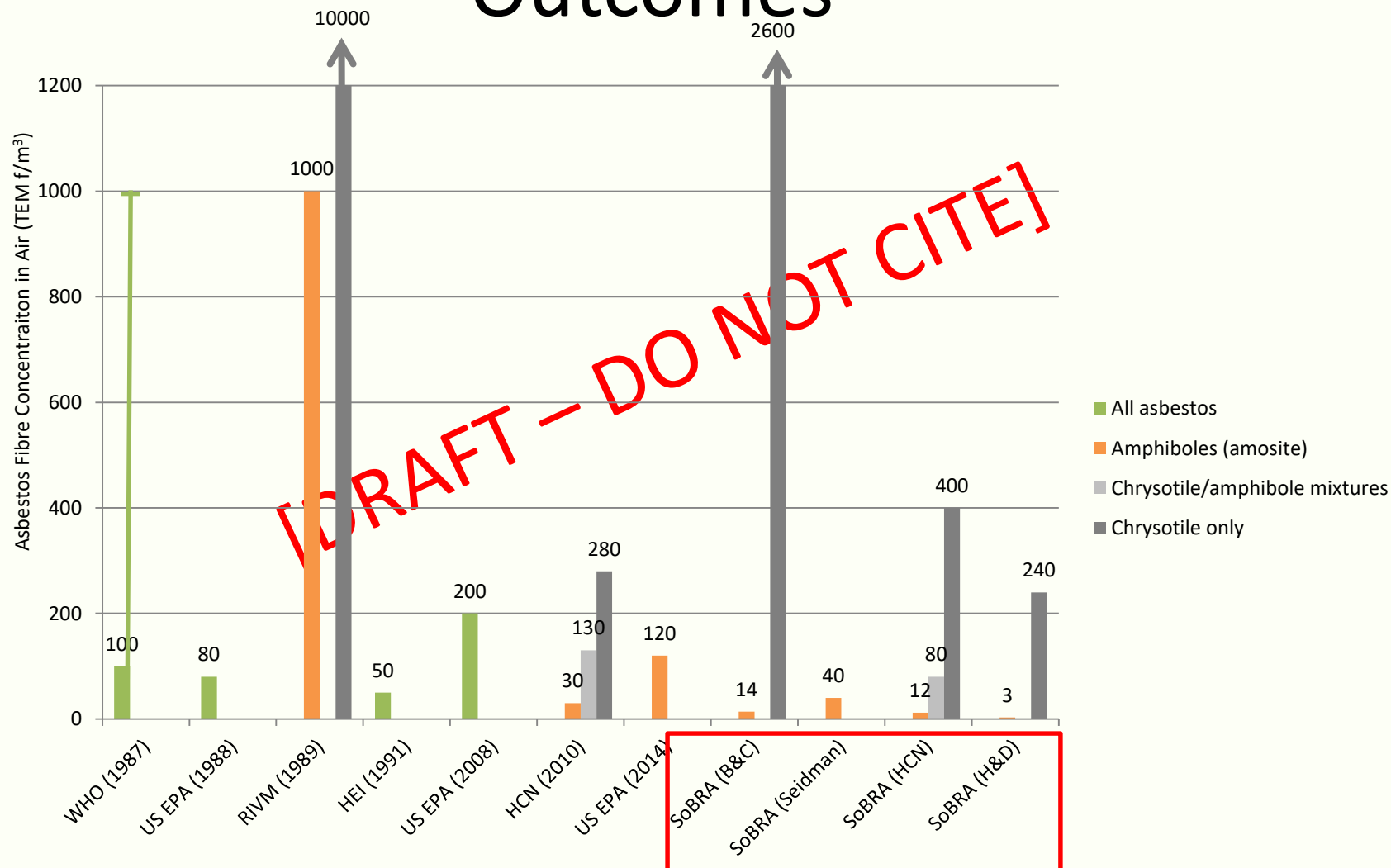
[Concentrations measured by TEM]

UK guideline?

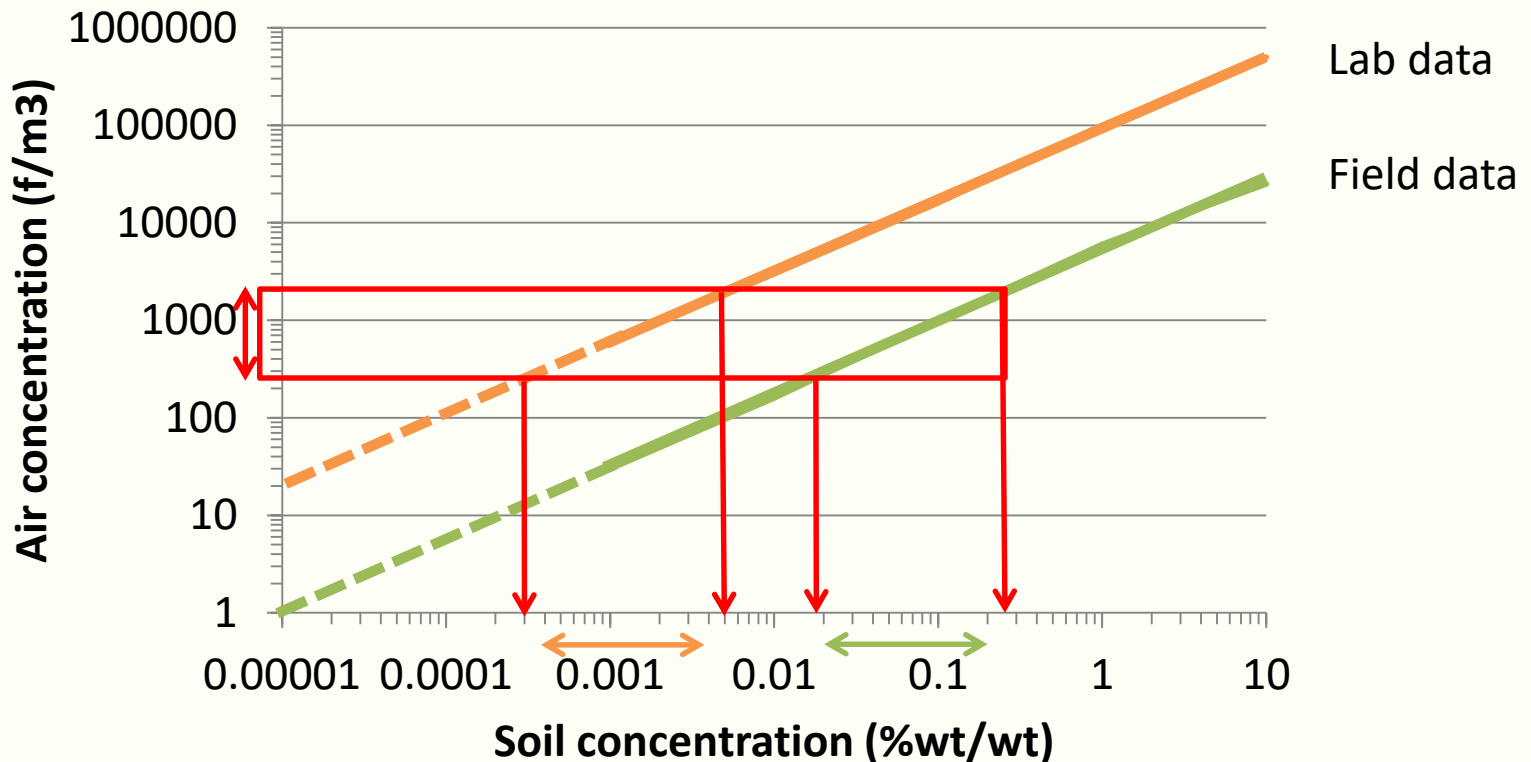
Two modelling options:

- 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

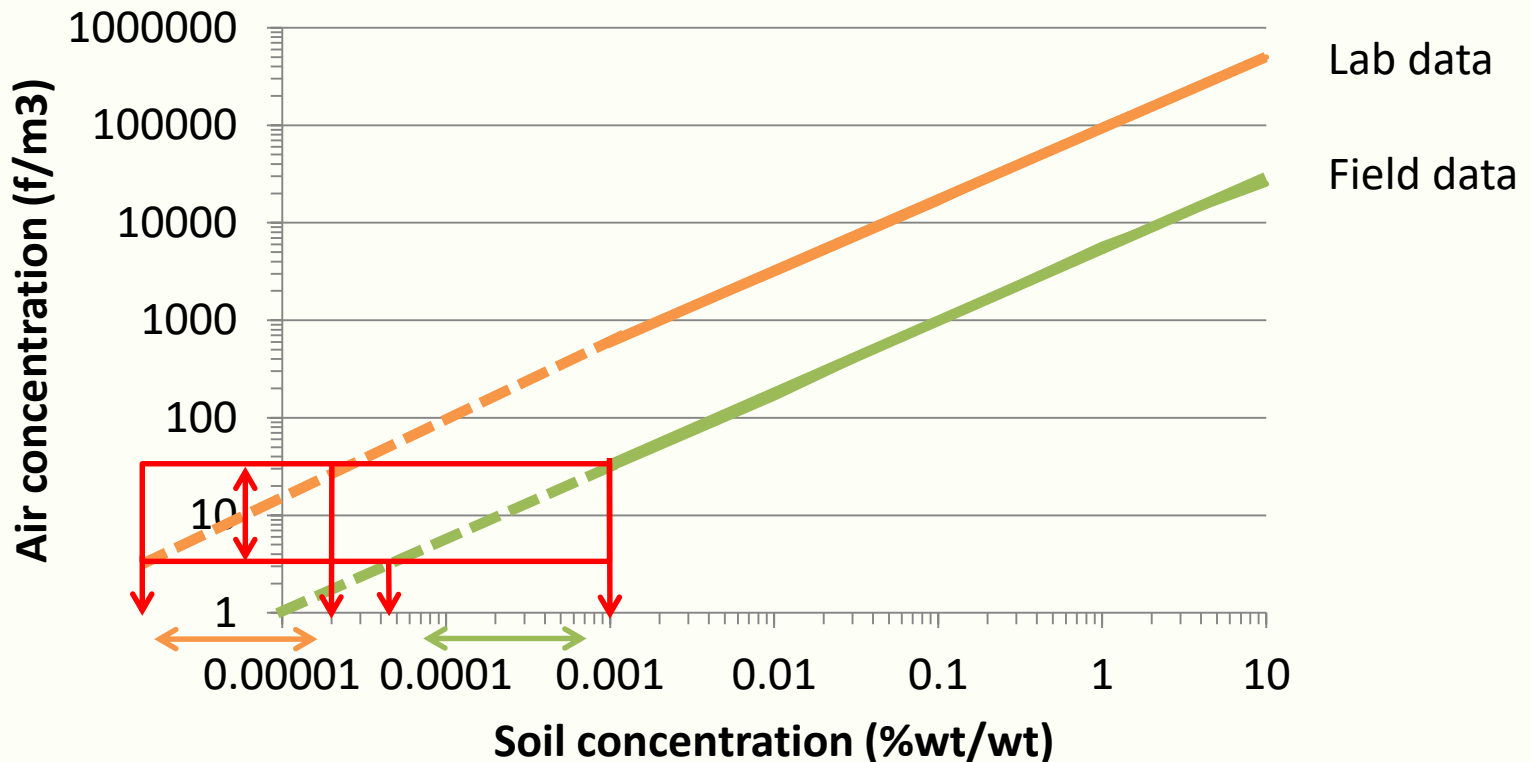
Outcomes



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(?)

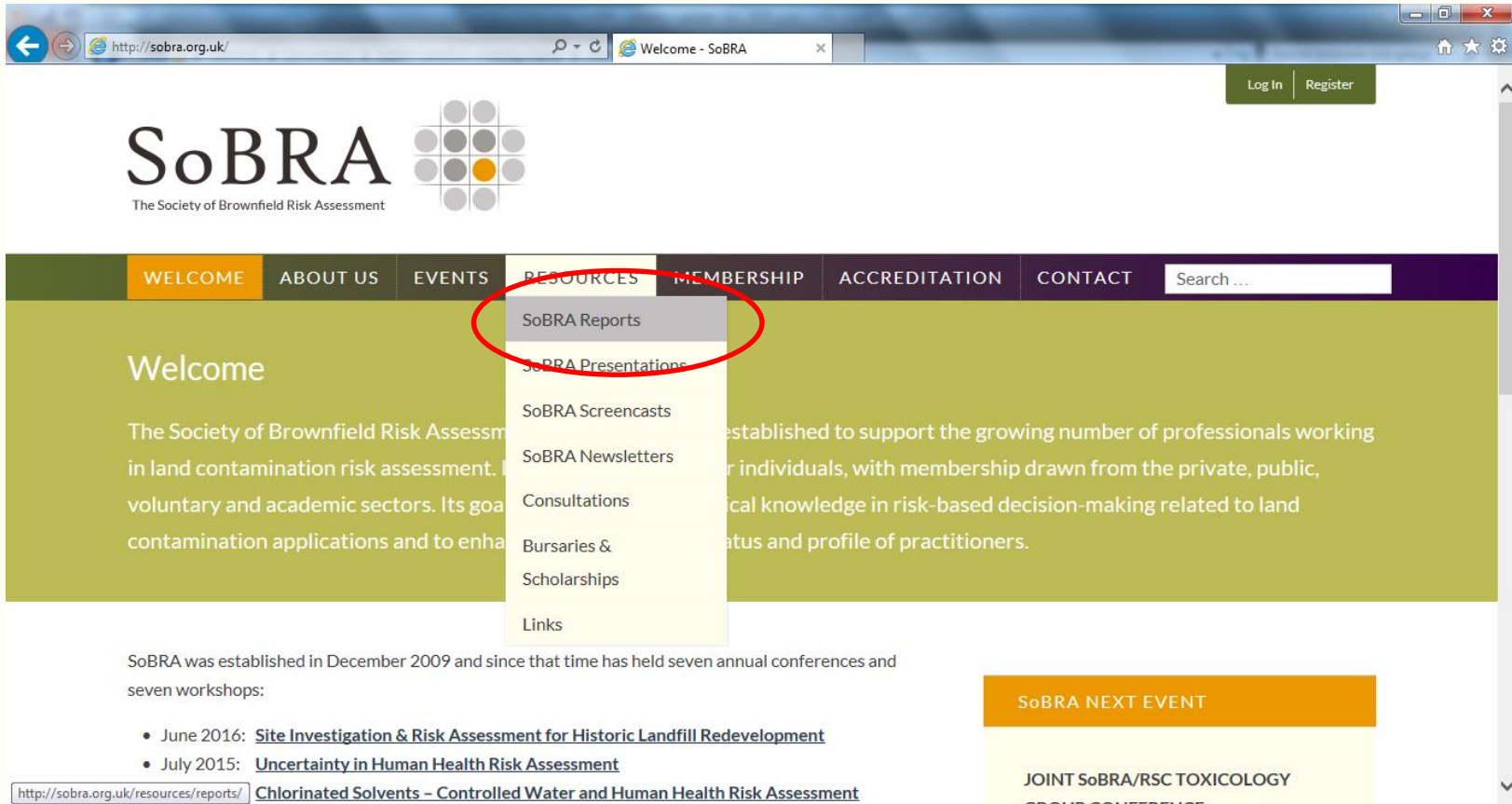
Next steps

- 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 displays the CL:AIRE website, which is dedicated to leading sustainable land reuse. The browser address bar shows the URL <http://www.claire.co.uk/>. The website features a navigation menu with categories: HOME, MEMBERSHIP, EVENTS & TRAINING, PROJECTS & INITIATIVES, KNOWLEDGE CENTRE, BOOK OR BUY, and HELP DESK. The main content area is divided into several sections. On the left, there is a banner for 'IMPROVING E... RAISING ST...' with a sub-header 'DEFINITION OF WASTE CODE NATIONAL QUALITY MARK SCHE... BY CONTAMINATION (NQMS)'. In the center, a grid of project and initiative tiles is displayed. A red circle highlights the 'JIWG' (Joint Industry Working Group) tile, which is titled 'Asbestos in Soil'. Other tiles in the grid include 'DoW:CoP' (Definition of Waste Code of Practice), 'Register of Materials', 'QP Register', 'DoW:CoP Training', 'Land Forum', 'NQMS', 'SuRF UK', 'SuRF Int'l / ISRA', 'Inspiration', 'Advocate', 'Asbestos Training', 'Conland Expert Panel', 'NanoRem', 'GWSDAT', and 'CL:AIRE Projects'. On the right, there is a banner for 'SHARING KNOWLEDGE & DEVELOPING PEOPLE' with a sub-header 'WATER AND LAND LIBRARY (WALL), CONTINUING PROFESSIONAL DEVELOPMENT THROUGH TRAINING AND WORKSHOPS...'. The footer of the website lists several partner organizations: Homes & Communities Agency, KIER, LLWR Ltd, and Magnox. The URL <http://www.claire.co.uk/projects-and-initiatives> is visible in the browser's address bar.

Further Information



The screenshot shows the SoBRA website in a web browser. The browser's address bar displays <http://sobra.org.uk/>. The page features the SoBRA logo (The Society of Brownfield Risk Assessment) and a navigation menu with links: WELCOME, ABOUT US, EVENTS, RESOURCES, MEMBERSHIP, ACCREDITATION, and CONTACT. A search bar is also present. The 'RESOURCES' menu is highlighted with a red circle, and its dropdown list is visible, containing the following items: SoBRA Reports, SoBRA Presentations, SoBRA Screencasts, SoBRA Newsletters, Consultations, Bursaries & Scholarships, and Links. The main content area includes a 'Welcome' section with text about the society's purpose and a list of recent events. A sidebar on the right contains a 'SoBRA NEXT EVENT' section.

SoBRA
The Society of Brownfield Risk Assessment

WELCOME ABOUT US EVENTS **RESOURCES** MEMBERSHIP ACCREDITATION CONTACT Search...

Welcome

The Society of Brownfield Risk Assessment is established to support the growing number of professionals working in land contamination risk assessment. It provides a forum for individuals, with membership drawn from the private, public, voluntary and academic sectors. Its goal is to enhance the practical knowledge in risk-based decision-making related to land contamination applications and to enhance the status and profile of practitioners.

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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