

# CONTAMINATED LAND WORKING GROUP

Group Leader

Neil Parry

Geotechnical Engineering Ltd.

# Meetings



- Four meetings a year in London and Warwickshire.
- Starting 1 hour early to discuss particular topics.
- Participants from 33 member organisations.
- Regular and new group members.
- Presentations from statutory bodies and relevant companies.
- Regularly attended by the Environment Agency and NHBC.
- Annual joint meeting with Laboratories Group.



# Group Members/Participants

**Leo Asuelimen**

**Murray Bateman**

**Pat Brennan**

**Kirk Bridgewood**

**Richard Brinkworth**

**Martyn Bumstead**

**Adam Cheers**

**Roger Clark**

**Mike Cohen**

**Catherine Copping**

**Sarah Cork**

**Viven Dent**

**David Entwisle**

**Sam Giles**

**Sarah Grainger**

**Roger Griffiths**

**Alison Hallas**

**James Harrison**

**Trevor Howard**

**Rob Ivens**

**Cathryn Jones**

**Alena Landers**

**Seamus Lefroy Brooks**

**Laura McDonough**

**Barry Mitcheson**

**Andy O'Dea**

**Anthony Owen**

**Neil Parry**

**Geoffrey Perrett**

**Bridget Plimmer**

**Mike Plimmer**

**Alice Pooley**

**Chris Rudd**

**Dave Simons**

**Michael Smith**

**Chris Swainston**

**Karen Thornton**

**Paul Tilley**

**Graham Whitaker**

**Christiaan Wilkinson**

**Geraint Williams**

**John Wilson**

# Companies

**ALcontrol Laboratories**  
**Amec Foster Wheeler**  
**Arcadis**  
**British Geological Survey**  
**Buro Happold**  
**CGL**  
**Chevin Environmental**  
**Delta Simons**  
**DETS**  
**ELAB**  
**Environmental Agency**  
**Environmental Scientifics Group**  
**GCA**  
**GEA**  
**Geolabs**  
**Geotechnical & Environmental Associates**  
**Geotechnical Engineering**  
**Geotechnics**

**Golder Associates**  
**Hydrock**  
**Ian Farmer Associates**  
**LBH Wembley Geotechnical & Environmental**  
**Leap Environmental**  
**Listers**  
**M A Smith Environmental Consultancy**  
**Marlowclark Consulting Ltd**  
**MVDC**  
**National Laboratory Service**  
**NHBC**  
**Norfolk Partnership Laboratory**  
**Peter Brett Associates**  
**Royal Haskoning DHV**  
**RSK Environment**  
**UKAS**  
**United Utilities**

# What Do We Do?

- Development of QMLC scheme.
- Representing AGS on BSI, SiLC, Asbestos JIWG, SoBRA, CIRIA guides, Land Forum, SAGTA.
- Presentation from Veridata.
- EA presentation/Q&A on WM3.
- Developing guidance.



NATIONAL QUALITY MARK SCHEME  
FOR  
LAND AFFECTED BY CONTAMINATION

# Bioavailable Metals

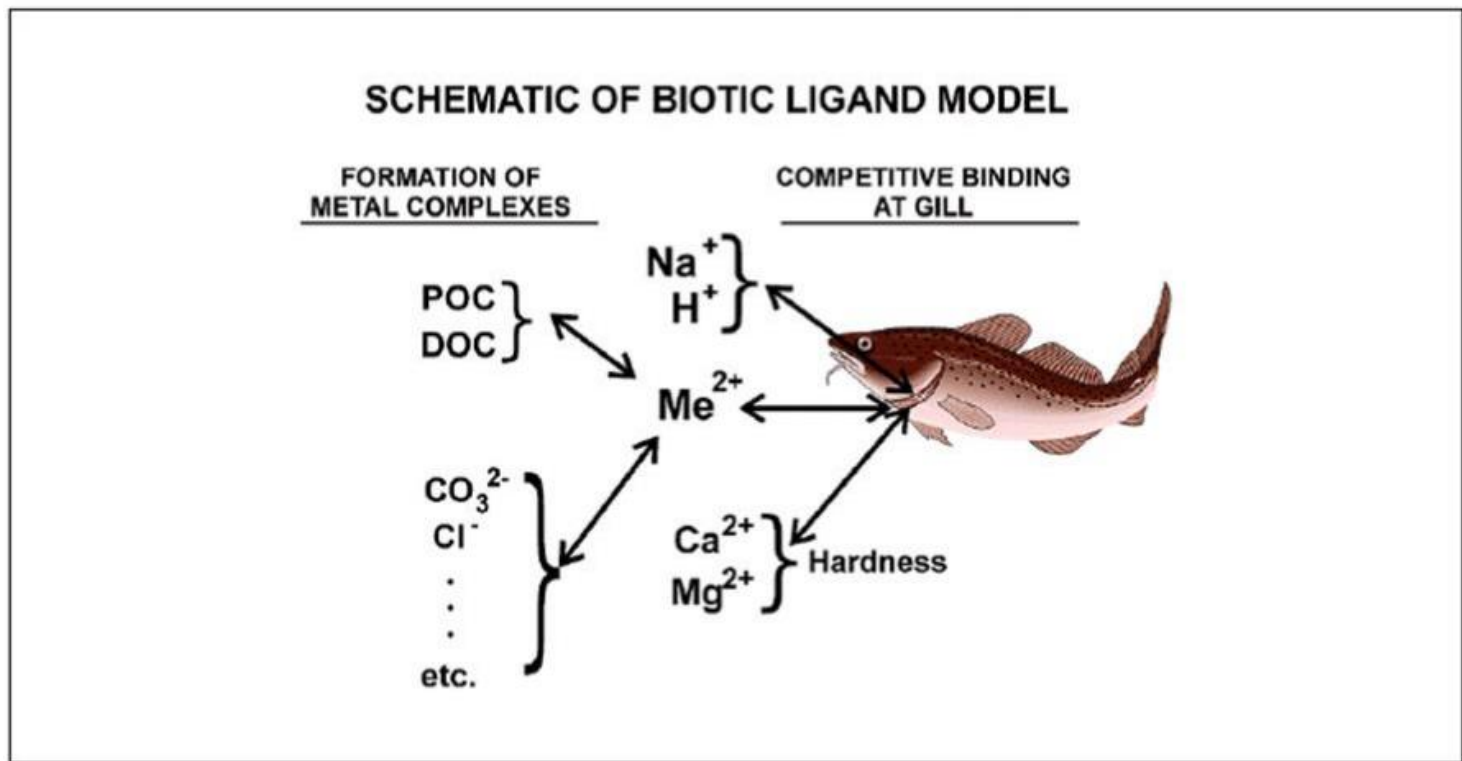


Figure 1.1 Simplified schematic of the biotic ligand model;  $Me^{2+}$  is the free metal ion, POC and DOC are particulate and dissolved organic carbon, respectively (source: <http://www.hydroqual.com>)

# Current Issues Regarding Waste Classification

- Current non-compliance in the construction industry (WAC testing v hazard assessment to WM3).
- EA current campaign on waste compliance.
- Conflict between EU and past EA guidance with WM3.
- Difference between Risk Assessment and Hazard Assessment.
- Determination of the number and size of samples required.

# Purpose of New AGS Guidance

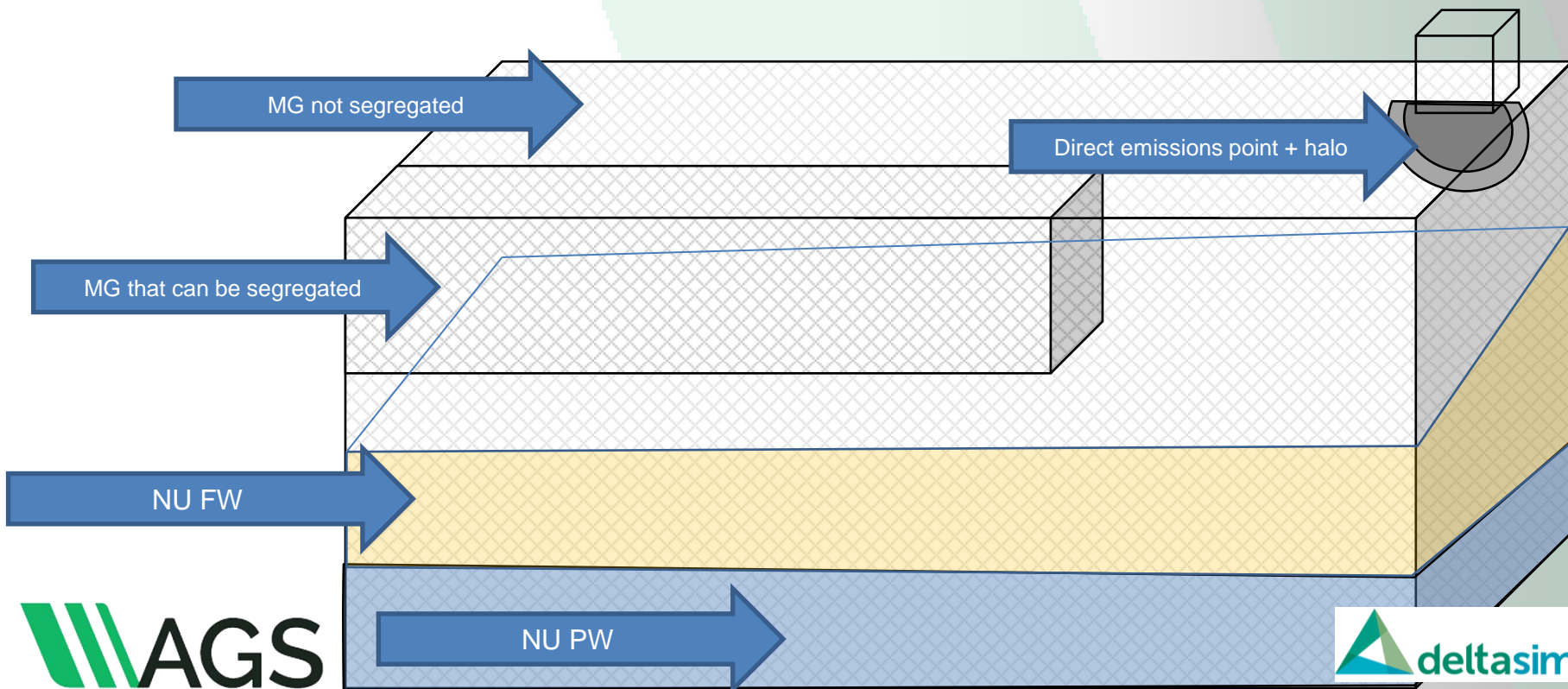
- Provision of a document explaining the current situation regarding waste sampling prior to classification to AGS members.
- To provide practical supplementary guidance.
- To achieve a workable framework that is acceptable to the EA.



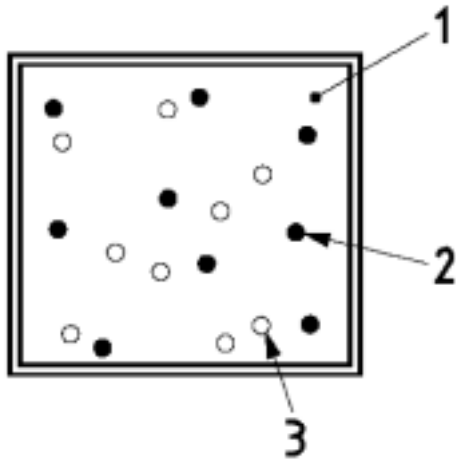
# Draft AGS Protocol

- Identify potential hazardous soil by ground modelling or preliminary ground investigation.
- Define typical sample population sizes/types/numbers/distributions.
- Undertake primary ground investigation to verify hazardous populations in 3 dimensions (statistics).
- In situ soil is excluded as a waste prior to excavation.
- Apply waste hierarchy.

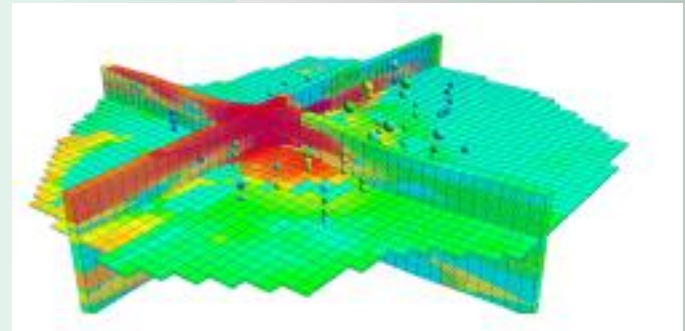
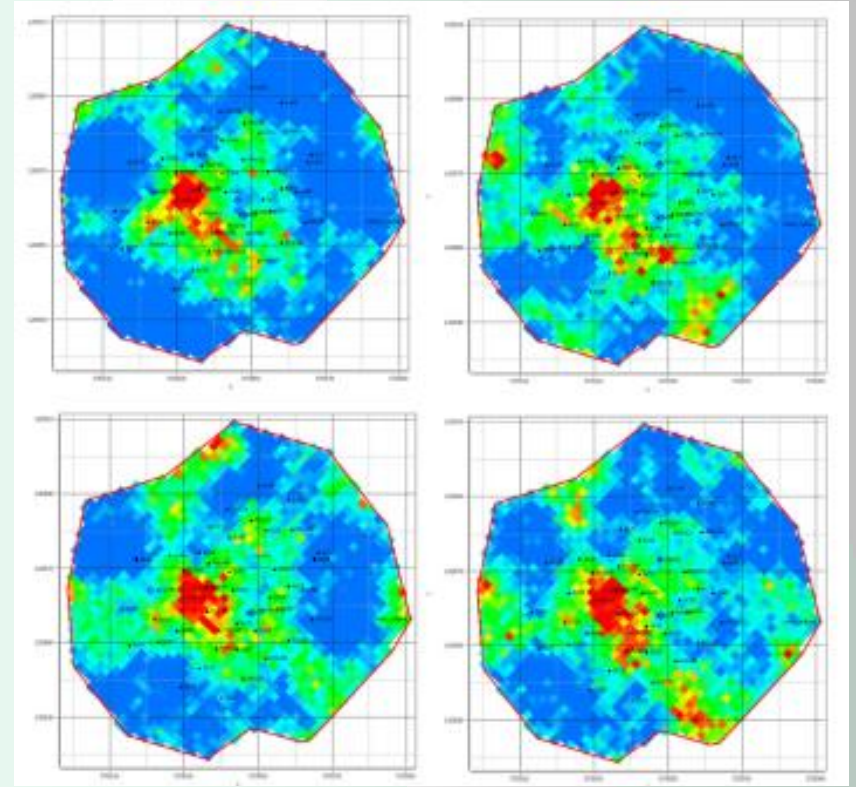
Population	Comment	Class
Direct emissions + halo	Hazardous and able to be source segregated in the ground to disposal stockpile. Mixing on excavation is inevitable but the extent is limited/controlled by easy field characterisation definition and validation	Hazardous
MG can be segregated, no emissions point	Made ground that has hazardous sub-population statistically significant. Can be segregated/ separated from the remainder of the ground by a conceptual "edge". Mixing inevitable on excavation, extent difficult to define and validation uncertain	Hazardous
MG not segregated	Made ground with hazardous sub-population not significant	Non-hazardous
NU FW	Natural uncontaminated, fails WAC	Non-hazardous, non-inert
NU PW	Natural uncontaminated passes WAC	Non-hazardous and inert



# Sampling Strategies



$$n = \left( \frac{u_a}{d_{\text{prec}}} \right)^2 \times (\sigma_s^2 + \sigma_e^2)$$



# Moving On

- Continue to challenge poorly explained or inconsistent guidance.
- Lobby regulators for further explanation or changes.
- Provide straightforward explanation and guidance to AGS members.