

TOPIC: COMPOUND SPECIFIC ISOTOPE ANALYSIS (CSIA)

Presented by: Mark Chapman (AECOM)

Time: 12:00 pm for 12:30pm start – until 1:30pm approx.
Date: Wednesday 27 September 2017
Where: Pilgrim Hall (Pilgrim Uniting Church) – 12 Flinders Street Adelaide

Synopsis:

AECOM has been undertaking environmental investigations into elevated concentrations of the solvent trichloroethylene (TCE) that have migrated off-site onto adjacent industrial and residential zones in the Clovelly Park area. While spatial and historical environmental data suggested the possibility of several potential source zones, both on and off the Monroe site, confirming the presence of such was complicated by a range of factors including a complex, very low-yielding, spatially variable hydrogeological environment, multiple adjacent former industrial sites, uncertainties in contaminant migration pathways and, in some areas, limited spatial data due to building footprints.

In order to attempt to clarify potential sources and migration pathways, compound specific isotope analysis (CSIA) was used. This technique is based upon the relative abundance of naturally occurring isotopes of carbon and chlorine (or hydrogen) within the target compounds. Spatial and/or temporal differences in isotopic ratios can arise from differences in source composition, as well as preferential biodegradation of lighter isotopes, leading to changes in isotopic ratios (*enrichment*).

This talk will present the basic theory of CSIA, its uses and limitations, as well as present data from several site investigations where the technique provided valuable information relating to source zones and biodegradation of chlorinated compounds.

Presenter's Bio:

Mark has a chemistry background and is a Technical Director with the AECOM Adelaide office. He has 19 years' experience working as an environmental consultant in contaminated site assessment and specialising in environmental health risk assessment.

REGISTRATION

Registration for all ACLCA SA events is essential at: <http://www.aclca.org.au/sa-events>

This workshop is free and open to attend for members and invited guests only.

Join us for a light lunch from 12:00 to 12.30 pm – session will commence at 12.30pm sharp!

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