Innovation or Research that Advances the Land & Groundwater industry

Translating research into effective digital tools for industry - Background soil survey and Web Application

Firstly, I would like to thank ALGA for the important role its play in providing a platform for industry to share, collaborate and celebrate novel and innovative approaches to progressing our profession at a national level.

Our project involved:

1. Significant component of collaboration between University (RMIT), Industry and the Regulator (EPA Victoria).
2. Long term vision and team commitment to facilitate the delivery of a 6-year project.
3. The integration of environment and data science to enable the accurate translation of research.

Waste classification of soils naturally enriched in metals (such as arsenic and nickel) or fluoride was identified by members of the Australian Contaminated Land Association (ACLCA) as a knowledge gap requiring research, back in 2012. ACLCA reached out to Associate Professor Suzie Reichman at RMIT University who undertook preliminary studies to support the proof of concept. These preliminary studies allowed Suzie to gain funding and support for the works from EPA Victoria and ACLCA.

Hannah Mikkonen, an environmental consultant at the time was selected to undertake the research as part of a PhD. Hannah was supported by industry supervisors Christian Wallis (EPA appointed Auditor with CDM Smith) and Raghava Dasika, representing ACLCA.

A soil survey across Victoria was undertaken, data was collected and interrogated and papers were published describing environments and causes of natural enrichment. However, whilst many research projects stop there. The achievement of this project has been through the translation of research to industry. The findings of this project are accessed daily through an interactive tool developed by CDM Smith, with RMIT University. The website has had almost 2000 users since opening early last year and has been referenced many times in environmental audit and soil reuse reports.

The application of this research has resulted in tens of thousands of tonnes of soil to be re-used on major projects rather than disposed to landfill and improved waste classification of naturally enriched soils.

Special thanks to Suzie Reichman whose connection to industry and EPA continues to result in delivery of effective translation of research for industry use. To Christian Wallis and Raghava Dasika for providing industry insight. To Andrew Barker, Paul Bentley from CDM Smith for developing the web interface. To Chris Sandiford, Brad Clarke, Jessica Drake, Ian Thomas and Nick May for assistance with aspects of the project. To the HazWaste Fund (managed by EPA Victoria), ACLCA Victoria, RMIT University and the Australian Government for the funding that enabled the research to occur.