Australian developed soil contamination detector launched in the United States

PRESS RELEASE: Monday 3pm, May 19, 2014, California USA

A handheld detector that reduces both the cost and time taken to remediate sites contaminated by petroleum products has been launched to market in the United States. The device, RemScan™, developed by CSIRO and industry partner Ziltek Pty Ltd, uses an infrared signal to directly measure petroleum hydrocarbons in the soil, giving a result in around 20 seconds.

The ability to rapidly and accurately detect petroleum contamination on site, instead of the traditional method of sending soil samples to a laboratory and waiting days for results, will enable industry to close projects quicker with more certainty.

The technology has the potential to save the environmental remediation industry millions of dollars per year in laboratory and project costs globally. Petroleum contamination as a result of leaking tanks or industrial spills is a widespread global issue with potentially serious impacts for human and environmental health.

RemScan™ can be used as a quick in-field screening tool to characterise contaminated sites, to validate spill clean-up areas, or to monitor ongoing contaminant degradation. In remote areas, where laboratory analysis is either not available or is prohibitively expensive – RemScan shows its true value as a quick, easy to use and accurate instrument. The technology is particularly useful for the quantitative measurement of diesel, oil and crude products in soil, but can also be used as a screening tool for lighter fuels such as jet fueland gasoline.

Successfully commercialised in Australia by Ziltek Pty Ltd since 2012, RemScan™ is now in use by the mining industry and the oil and gas industries in various Australian states. The USA patent for the RemScan method, held by CSIRO and licensed exclusively to Ziltek, has now been allowed.

CSIRO has significant expertise in advanced analytical methods to detect contaminants in soils, including new portable spectroscopic techniques for the rapid identification of a variety of soil properties. RemScan™ is one example of the commercial application of this expertise. “CSIRO has enabled the use of infrared spectroscopy for rapid non-destructive prediction of contaminants in soils and soil properties using both near- and mid-infrared spectral regions”, said CSIRO’s Prof Mike McLaughlin.

The RemScan™ device uses an infrared signal to directly measure petroleum contamination in soil.

“CSIRO also identified the potential of this new method to greatly reduce costs to industry and we saw Ziltek as the logical partner for global commercialisation”. Apart from oil detection, CSIRO is continuing to work with Ziltek to extend the technology to enable rapid detection of other soil contaminants.

Ziltek recently engaged the services of Battelle, an independent testing organization in the United States, to test the accuracy and usability of the technology. Results of this study are due to be published at the upcoming Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds to be held May 19-22, 2014, in Monterey, California. “This international conference is an ideal opportunity to launch RemScan™ in the US market after our success in Australia. This is regarded as the cornerstone event for the global remediation industry” said Ziltek Managing Director, Dr Richard Stewart.

The conference will attract scientists, engineers, regulators, and other environmental professionals from universities, government, regulatory agencies, R&D and manufacturing firms from more than 30 countries.

Development of RemScan™ was supported through the HazWaste Fund (EPA Victoria), Bio Innovation SA and the Australian Government through Commercialisation Australia and Enterprise Connect.

CSIRO

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