



**CERTIFIED ENVIRONMENTAL TECHNOLOGY
TECHNOLOGY TRANSFER ADVISORY**

**Tri-Service Site Characterization and Analysis Penetrometer System
(SCAPS)
Thermal Desorption Sampler**

Issued To:

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00-01-031

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Expiration Date:

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DTSC Contact:

Technology Development Branch
(916) 322-3670

Technology Description:

The SCAPS Thermal Desorption Sampler (TDS) is certified as a near real-time in-situ subsurface screening method for volatile organic compounds (VOCs). This certification is specific to the use of the SCAPS TDS technology in the vadose or capillary zone as a qualitative to semi-quantitative field screening method for trichloroethene (TCE) or total dichloroethene (DCE) contamination. The technology has applicability to other VOCs which can be detected with an ion-trap mass spectrometer (ITMS), provided these compounds can be effectively desorbed from the soil matrix with SCAPS TDS. As a field screening method, it is not a replacement for soil sampling borings, but is a means to further delineate the distribution of subsurface contamination and to reduce the time to fully characterize a site. Field studies for total DCE and TCE demonstrated that the SCAPS TDS technology achieved less than 5% false negative results and less than 5% false positive results when compared to verification core samples analyzed by EPA Method 8260A, the reference method. Detection thresholds for TCE and total DCE achieved in field studies using SCAPS TDS are comparable to those of the reference method. SCAPS TDS has applicability to field screening for the presence of known contaminants, but not for the identification of an unknown substance unless the ions detected are uniquely characteristic to those substances. Isomers such as 1,1-DCE and 1,2-DCE or other compounds which produce the same quantitation mass ions cannot be distinguished from each other with this method. False positive or high results may occur when there are VOCs present in the sample which yield molecular ions or ion fragments with the same m/z values as the characteristic ions of the target VOCs.

A copy of the published Certification Statement may be obtained by contacting the Department of Toxic Substances Control at (916) 322-3670 or on the Internet at http://www.dtsc.ca.gov/ScienceTechnology/TechCert_index.html.