



PRESS RELEASE

Identifying methane in soil with a field spectroradiometer

Haverhill, MA – August 22, 2019 Methane in soil can be an indicator of the presence of hydrocarbons and reservoirs of natural gas and oil during exploration or leaks and spillage along pipelines and storage facilities. Traditional testing for methane in soil is costly and time consuming.

Field testing provides an affordable alternative. NIR reflectance spectroscopy can be used to identify methane in soil. Spectral Evolution offers a range of field spectroradiometers including the SR-6500, RS-8800, RS-5400, PSR+, and RS-3500. These instruments cover the full spectral range from 350-2500 nanometers in rugged, lightweight units with no moving optical components for reliable field operation. Spectra of soils with methane show characteristic absorption features at 1180 and 1380 nanometers and from 1680-1720 and 2300-2450 nanometers. Different algorithms, modeling and chemometric techniques can be used to manipulate the spectral data acquired and build a library of known samples for comparison with new targets.

For ultra high resolution and high sensitivity spectra, the SR-6500 is unmatched among field units. The SR-6500 delivers the following resolution:

- 1.5nm @ 700nm
- 3.0nm @ 1500nm
- 3.8nm @ 2100nm

The SR-6500 can be used with our Miniprobe to scan soil samples and identify minerals, especially clays and carbonates, in soil samples. With our optional EZ-ID software and three mineral spectral libraries mineral identification is fast, easy and accurate. There is a sample methane spectra included in the USGS library for target matching.

In addition to soil analysis, the effects of methane in soil can also be indicated by changes in the red edge spectra of vegetation. The SR-6500 can be used for stand-off scanning of

vegetation with a Field of View (FOV) lens or our unique leaf clip. The loss of chlorophyll in vegetation can also be an indicator of methane microseepage.

For more information: <https://spectralevolution.com/applications/remote-sensing/identifying-methane-in-soil/>

About SPECTRAL EVOLUTION

Established in 2004, SPECTRAL EVOLUTION is a leading manufacturer of laboratory and handheld portable spectrometers, spectroradiometers and spectrophotometers. SPECTRAL EVOLUTION spectrometers are used worldwide for many mission-critical lab and field applications in mining, remote sensing, vegetative studies, ground truthing, environmental and climate studies, developing satellite calibrations, and more, due to their reliable, robust, rugged design and user-friendly one-touch features.

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