

Use of a Heated Transfer Line-Membrane Interface Probe to Characterize Polycyclic Aromatic Hydrocarbons at a Manufactured Gas Plant Site

Abstract

This report describes bench-scale and field pilot tests of a system integrating a heated transfer line (HTL) and a membrane interface probe (MIP) with commercially available analytical instruments and software. Driven into the subsurface by a cone penetrometer, the HTL-MIP thermally extracts organic compounds from saturated and unsaturated soils at former manufactured gas plant (MGP) sites. The integrated system detects compounds using a screening photo-ionization detector (PID) and analyzes them *in situ* using full gas chromatographic/mass spectroscopic (GC/MS) analysis. Conceptually, this system worked well in the laboratory; however, there were limitations of its use in the field setting. These limitations are further evaluated in this report along with recommendations for improving this tool for future use.