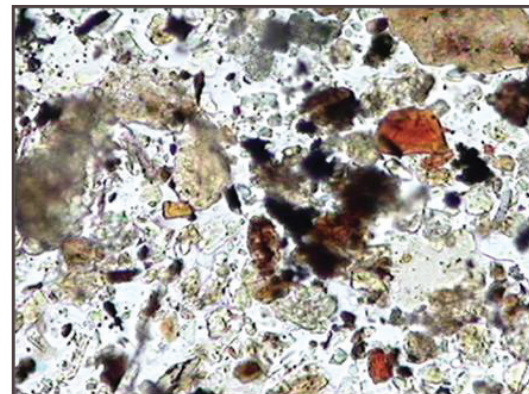
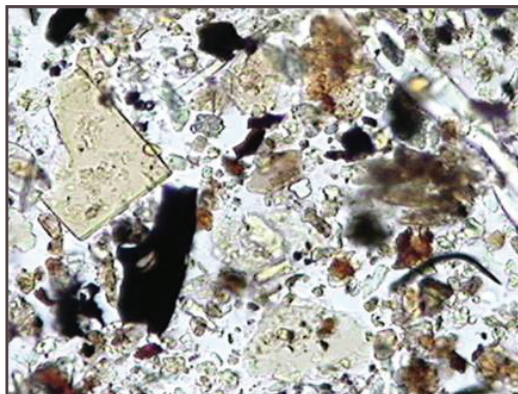


Identifying and measuring fire soot and dust infiltration using Zefon's Air-O-Cell CSI™

The infiltration of fire soot and dust into buildings in proximity to local wild fires can be a serious health and clean-up problem. In the last week of October 2007, serious fire outbreaks occurred in San Diego County creating significant economic loss and displacement of a large residential population. Significant number of buildings and homes were destroyed and a larger number suffered smoke damage and infiltration of both soot and fine soil dust. Fires create elevated hydrocarbons (PAH's) and respirable "soot" and soil dust. Examples of these particles are shown by optical microscopy with dust compositions analyzed by scanning electron microscopy below.

Optical Microscopy Analysis

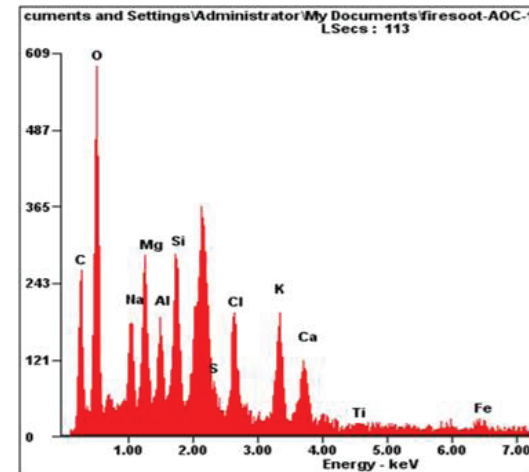
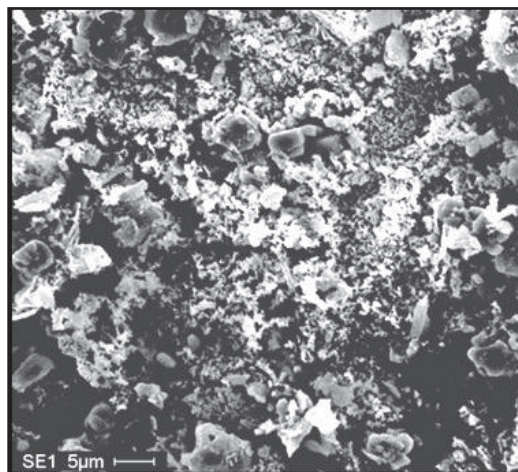
is the first step to measure the concentration and distribution of the fire-soot "opaque" particles and lofted soil dust. Air samples collected in non-impacted areas of the San Diego fires contained unusually high concentrations of mineral and soil particles as well as the expected combustion soot.



Optical Microscopy: 30-minute Outdoor Air-O-Cell sample, La Jolla, CA ~800X

Scanning Electron Microscopy Analysis

of airborne dust reveals the presence of both soot-like "opaque" particles and confirms the unusually high concentration and ratio of mineral dust and clay mineral particles observed in the optical microscopy examination. A large percentage of the dust particles are in the respirable size range.



Scanning Electron Microscopy & X-ray analysis: 1-hour Outdoor Air-O-Cell sample, La Jolla, CA ~1500x



Zefon's Air-O-Cell[®] CSI

The Next Generation of Air Sample Analysis

Featuring full particle identification via optical and scanning electron microscopy (SEM) and dispersive x-ray analysis on the exact same sample.