

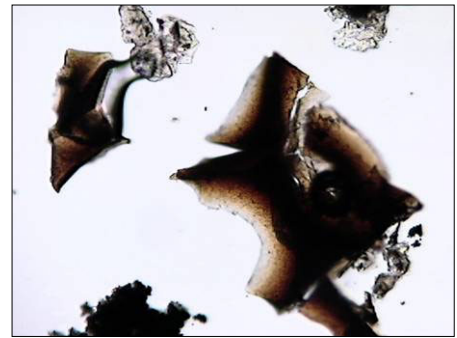
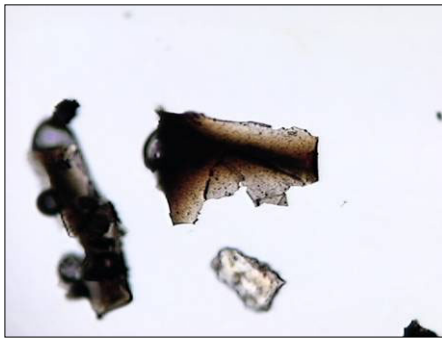
## Identifying the opaque (black) dust produced by the shedding of galvanized coatings within HVAC systems

The visual observation of "black dust" accumulating on interior building surfaces is sometimes caused by the degradation of galvanized coatings lining metal ducting within HVAC systems. Because these particles are usually very large (i.e. > 20um) they are readily visible with the naked eye. The actual source of these particles can be readily identified by the presence of Zinc Oxide (Zn and O) in the X-ray spectra. Examples of these particles are shown by optical and electron microscopy below.



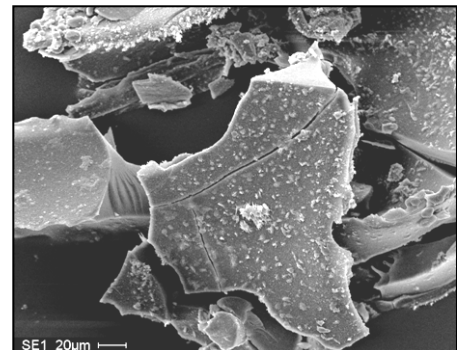
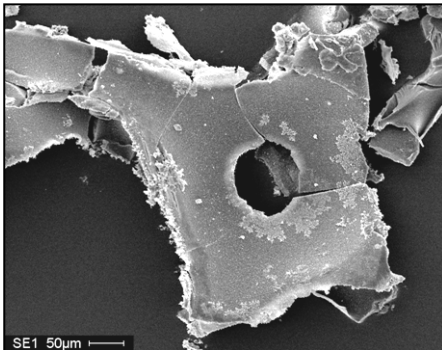
**Optical  
Microscopy**

~200X

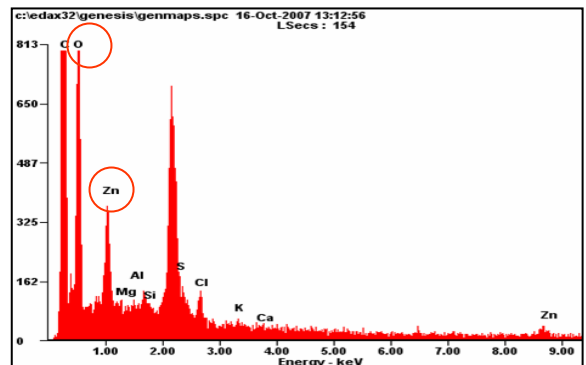
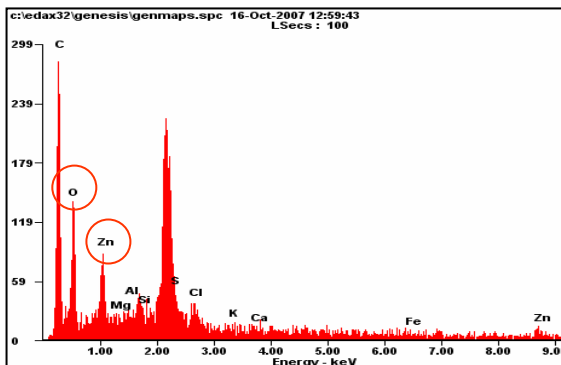


**Scanning  
Electron  
Microscopy**

~200X



**Dispersive  
X-ray  
Analysis**



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