



September 16, 2008

Project # 0807.000

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**Attn: John Doe**

### **Identification of Soot on Filter**

The soot was removed from the filter and subjected to Fourier Transform Infrared Spectroscopy (FTIR). This technique generates a fingerprint of the substance based on the molecular bonds present. The fingerprint of the unknown sample is then compared with our database of over 50,000 substances. The soot from the filter matched a mix of gypsum wallboard dust and organic plant material. The spectral mix was approximately 4:1 so we can conclude that the organic material represented the majority of the mixture.

Organic matter has a very generic fingerprint so we cannot say exactly from what the substance originated. A reference run of rose pollen indicated a close match so it is likely that the source of the sample is plant-based.

This report contains the results of FTIR spectroscopy on samples submitted by J. Doe on 7/24/08.

<b>LCM Sample ID</b>	<b>Client Sample ID</b>	<b>Description</b>	<b>Results</b>
0807.000-01	n/a	Ziploc bag with filters containing soot	Soot is primarily organic material, similar to pollen, with the remainder being gypsum wallboard dust

#### **Comment**

FTIR spectra and reports are attached.

R. M. Fisher, PhD  
Chief Scientist

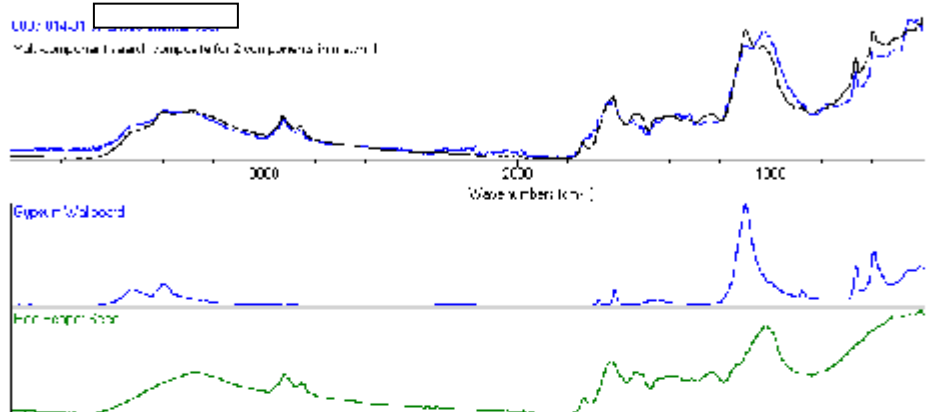
C. K. Brown  
Laboratory Supervisor



FTIR Analysis

0807  Soot

Multi-Component Search Results



	Match	Title	Cumulative	Composite%	Folder	Filename	Index
1	50.23	Gypsum Wallboard	28.31	36.94	Common Materials	c:\my documents\o mnic\lib s\sea2 63_common materials.lib	39
		Red Pepper Seed	50.23	63.06	Common Materials	c:\my documents\o mnic\lib s\sea2 63_common materials.lib	133