

Joshua Lindberg

From: Nancy McAtee
Sent: Thursday, August 22, 2024 1:59 PM
To: Joshua Lindberg
Cc: Donald Kramer
Subject: Email Report-CEN23FA315 (Unknown material found in fuel system)
Attachments: CEN23FA315 material.jpg; CEN23FA315 debris 50x.jpg

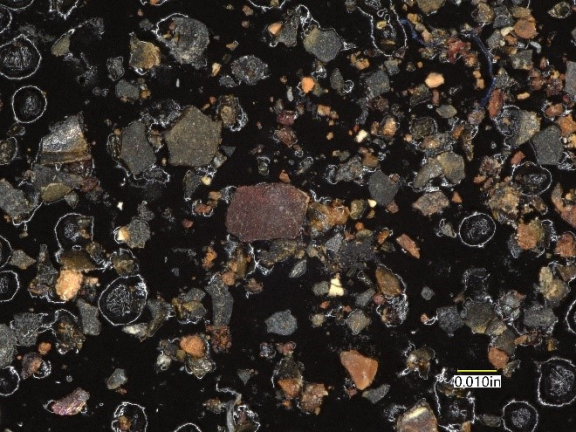
Joshua,

A particulate sample removed from the fuel system of the accident aircraft was submitted to the Materials Laboratory for examination. Photographs of the material are attached to this email. The reddish-brown substance was examined using a Fourier Transform Infrared (FTIR) spectrometer with a diamond attenuated total reflectance (ATR) accessory in accordance with ASTM E1252-98 (American Society for Testing Materials E1252-98: *Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis*). The spectrometer was used to collect and process infrared wavelength absorbance spectra of the unknown material. The spectrum of the unknown substance yielded no significant peaks indicating that the substance was not likely organic (hydrocarbon) based.

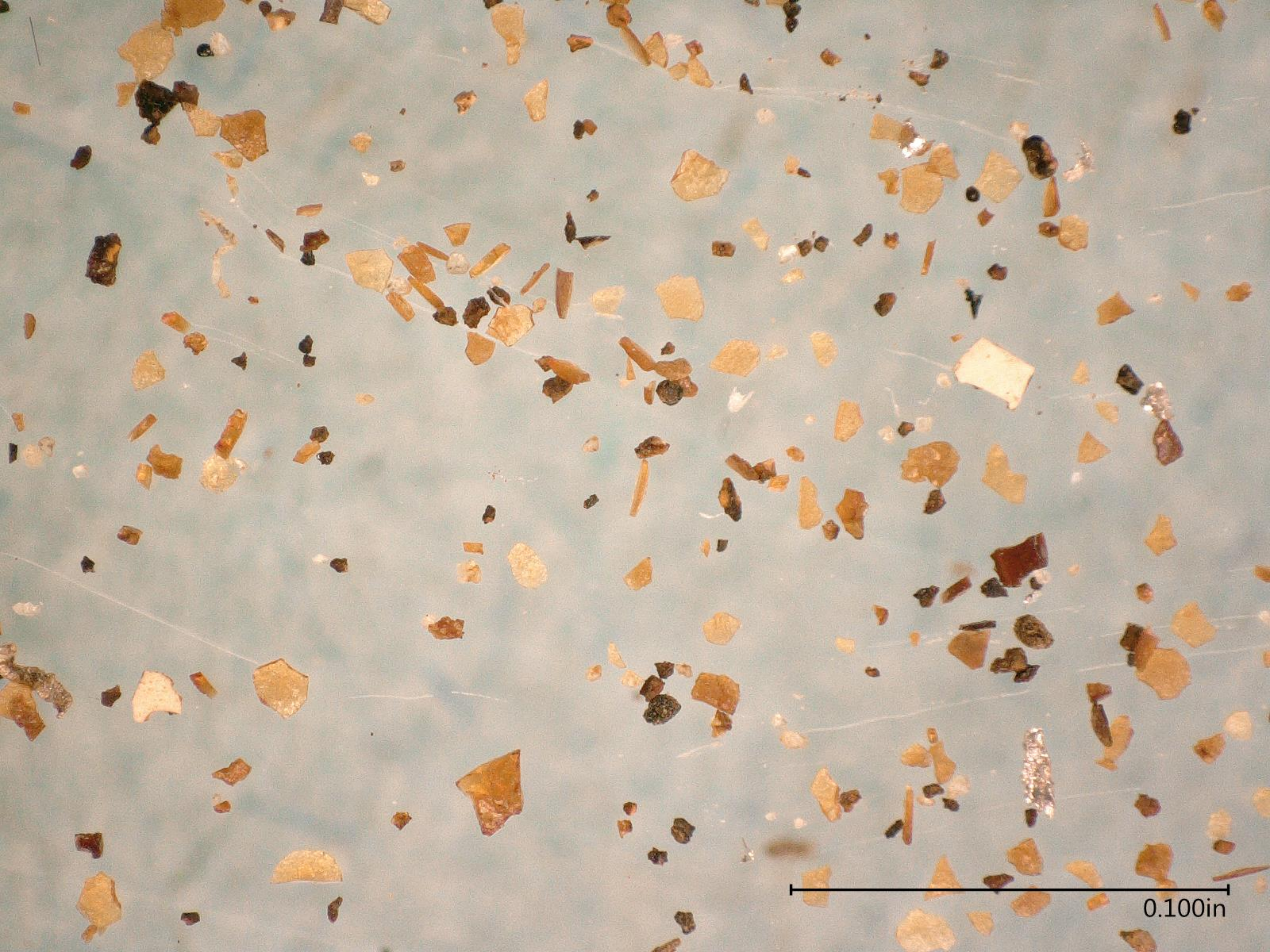
The sample was then examined using scanning electron microscopy (SEM) and semi-quantitative standardless energy dispersive x-ray spectroscopy (EDS) in accordance with ASTM E1508: *Standard Guide for Quantitative Analysis by Energy-Dispersive Spectroscopy*. A small amount of the material was mounted on carbon tape for analysis. The EDS analysis found that the sample consisted mostly of carbon (C), oxygen (O) and aluminum (Al) with small amounts of sodium (Na), silicon (Si) and iron (Fe). This is consistent with the presence of aluminum wear particles from the fuel system as well as dirt/soil present in the fuel system.

If you have any questions or comments, let me know.

Nancy B McAtee
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RE-30



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