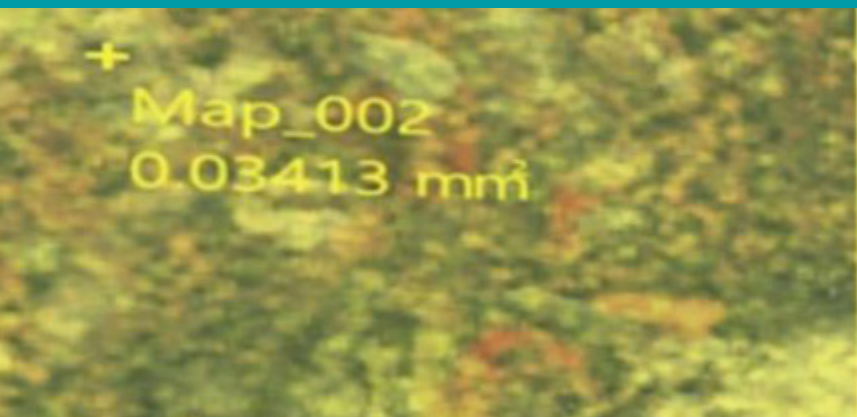


SEM-EDS LARGE PARTICLE ANALYSIS



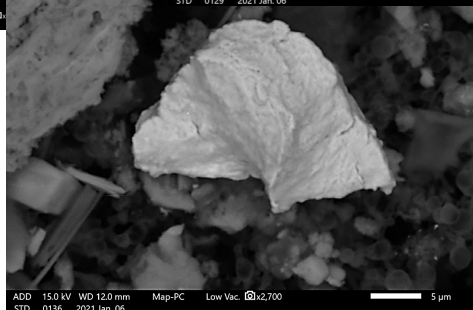
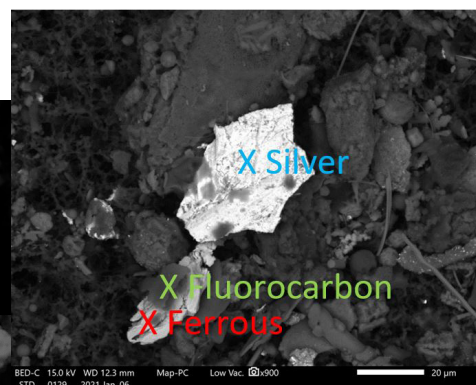
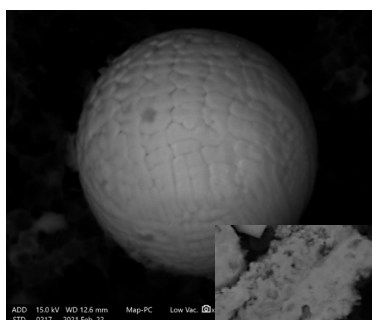
Large particle analysis is a critical, but often neglected, element of an effective oil analysis and condition monitoring program. ICP/AE spectrometers have a well-known lack of sensitivity to particles greater than approximately 5-10 microns. Particles >10µm are effectively invisible to a spectrometry based oil analysis program. These large particles (>10µm) provide critical information about machine health, component wear and contamination and are often considered an early warning of abnormal wear, bearing fatigue and transmission failure.

SEM - EDS ANALYSIS

Fluid Life's Scanning Electron Microscopy – Energy Dispersive Spectroscopy (SEM-EDS) wear debris and large particle analysis is far superior in determining the size and composition of hundreds of particles per sample in lubricating oil, grease, filters, and process materials.

ADVANTAGES OF SEM-EDS ANALYSIS

- Detects large particles missed by spectrometry.
- Determines size and elemental composition.
- Detects abnormal wear modes including spheres, cutting and fatigue wear.
- Determines the cause and source of Copper wear; differentiate between cooler core leach, bearing wear and bushing wear.
- Monitors the progression of bearing wear through multi-layer bearings and monitor bearing overlay, nickel barriers, intermediate layers and abnormal wear into the support shell.
- Differentiates Aluminum wear from outside contamination.
- Perform accurate particle counts on in-service diesel engine oils.
- Monitor cleanliness and contamination against baselines and target.



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