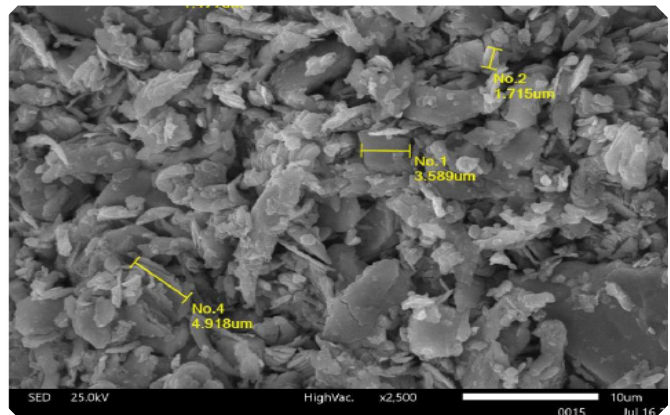
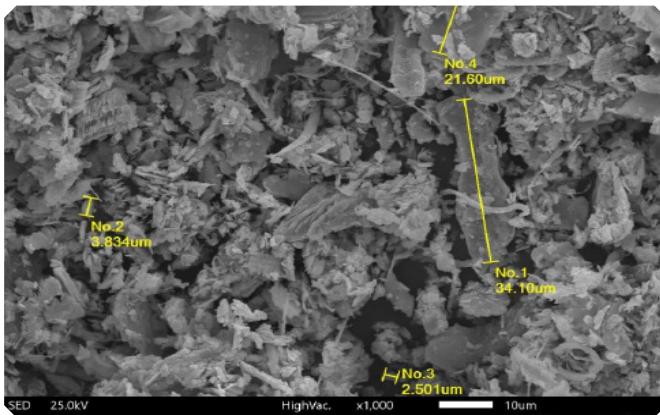


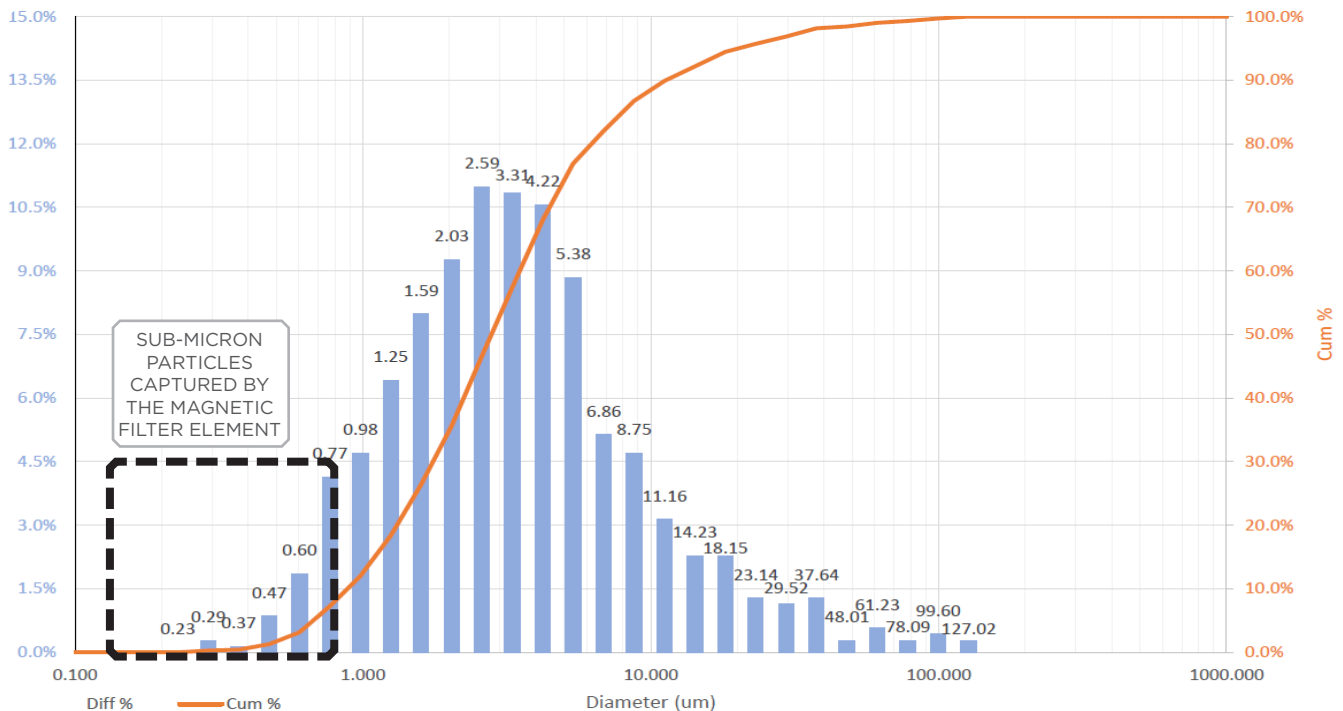
SEM / PSD ANALYSIS

- » SEM was used to observe and count the particles in the sample to obtain the particle size distribution. Size is measured by length in micrometers. Statistics and analysis is based on total counts measured by SEM. SEM was conducted on a JEOL - JSM300 LV.
- » The results of SEM analysis showed that 13.1% of total particles were found to be under 1 micron and 65.9% of particles were found to be under 4 microns.

CONTAMINATION SAMPLE UNDER MICROSCOPE



PARTICLE SIZE DISTRIBUTION FROM SOLID ANALYSIS

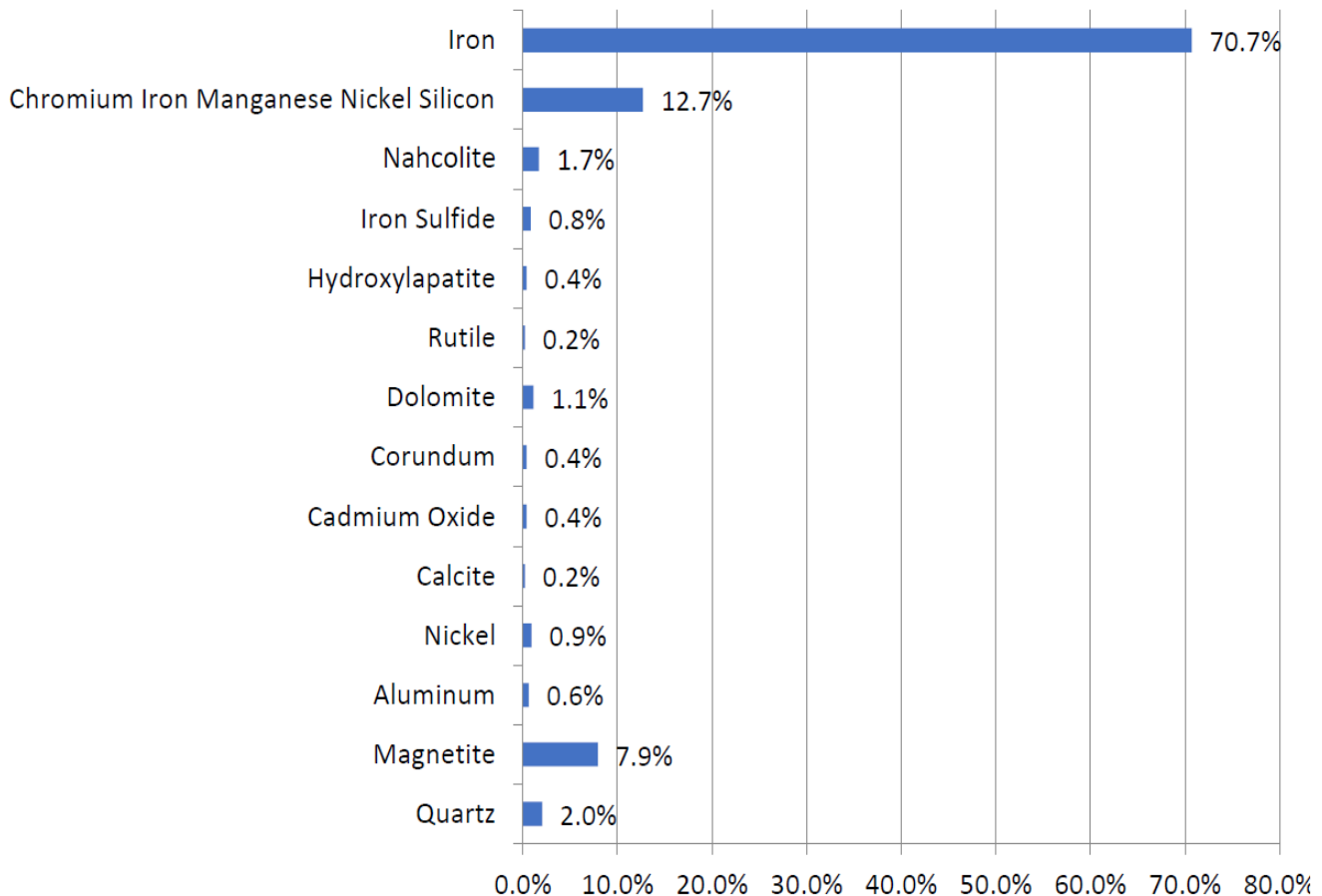




XRD / EDS ANALYSIS

- » One of the magnetic filter samples received by SEMx Incorporated was analyzed using X-ray diffraction (XRD) and energy-dispersive X-ray spectroscopy (EDS).
- » Solids were wiped off the filter and washed by solvent prior XRD EDS PSD analysis. The sample was finely crushed and ground using an Agate mortar and pestle in preparation for XRD and EDS analysis. XRD was employed to identify and quantify the phases present in the sample.
- » XRD data was collected using a PANalytical Aeris X-ray diffractometer. Qualitative XRD analysis and Rietveld Refinement was performed using HighScore Plus XRD analysis software. EDS was used to determine the elemental composition of the sample and helped to verify the results obtained with XRD quantification. EDS was conducted using a JEOL JED-2300 DRY SDD EDS detector.
- » This analysis quantifies the amount of both ferrous and non-ferrous wear contamination caught by OEI magnetic filter elements. Ferrous contamination presented at more than 78.6%, while non-ferrous contaminants, such as Chromium, Dolomite, Manganese and others totalled approximately 21.4%.

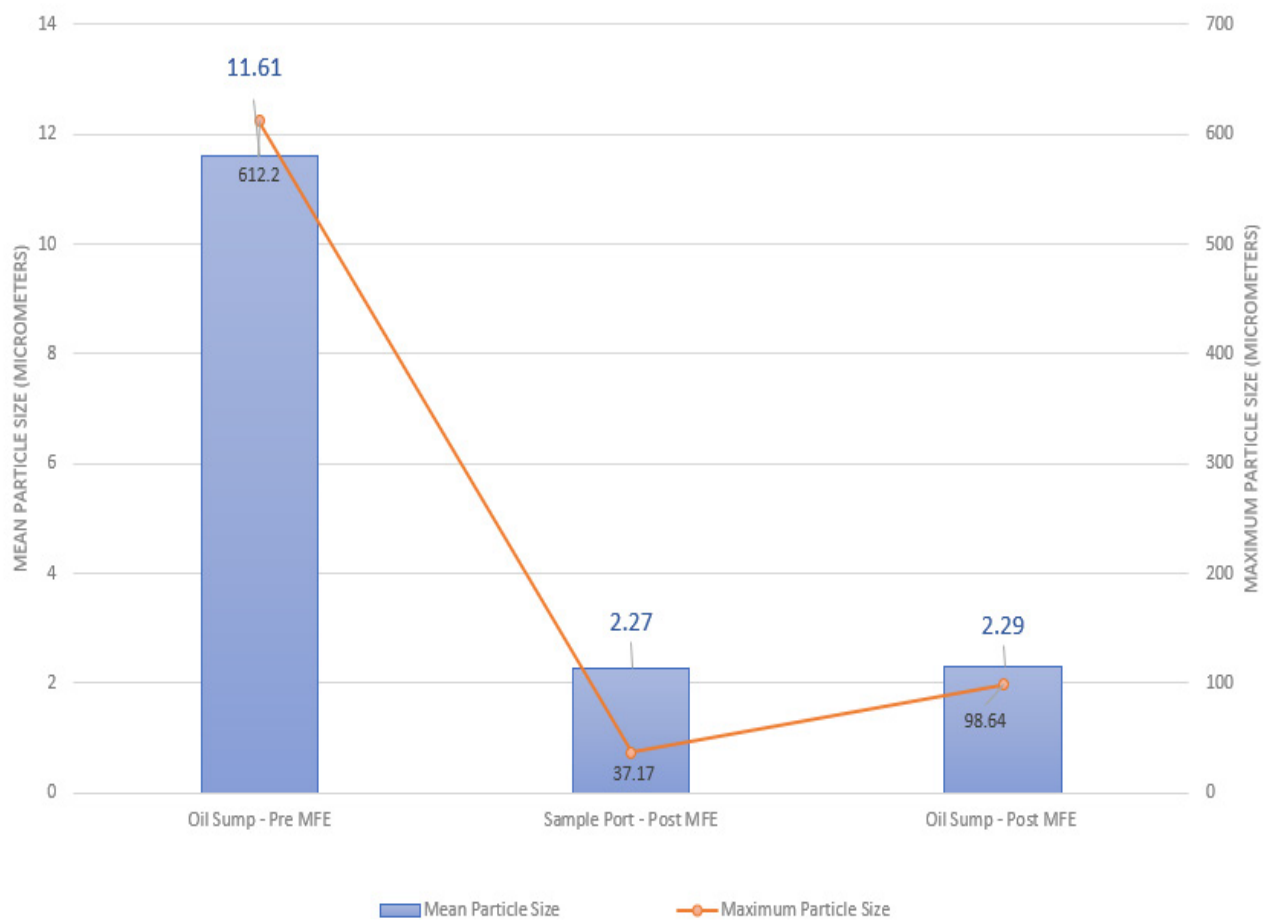
XRD WEIGHT PERCENTAGES



SEM ANALYSIS

- » The results of SEM analysis showed that the maximum particle size decreased over 83%, after using the OEI magnetic filter. The mean particle size declined approximately 80% with mean particles size decreasing from 11.6 to 2.3 microns.

OIL SAMPLE COMPARISONS Eagle Copter Transmission Oil Particle Size



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