Field-Emission Environmental SEM XL30 Images

All magnifications are given as original magnifications (for pictures 4”x5”)

**Wet Mode**

Resolution in Wet Mode is practically the same as in high vacuum mode.

100,000x. Vaporized gold. Chamber pressure 3.4 Torr.

350x. Alfalfa. The cells were alive in the microscope.

6500x. Dentin. On the top is a very wet layer of proteins.

**Wet samples**

5000x. Paper.

1500x. Cotton fabric.

**Non-conductive samples**

Dissolution and Crystallization of Table Salt (NaCl)

With the cooling Peltier stage, water vapor pressure in the specimen chamber can reach the dew point (100% humidity) and water will condense on the stage. Salt crystals were placed on the
stage at +5°C. Pressure in the chamber was gradually increased and crystals were dissolved in condensed water (first four pictures below) until there was nothing left but water solution of NaCl (picture in the center). Pressure then was decreased, and salt crystallized (last four pictures). 250x.

EDS analysis works fine in wet mode:
Sample: paper, not coated, non-conductive
Maps for Ti, Al, and Si

High Vacuum Mode

100,000x. Collagen in dentin. Au/Pd coated

200,000x. Mineralized dentin. Au/Pd coated

25,000x. Perlit colony in a steel

2000x. Corrosion products
12,000x. Steel fracture.
Corrosion fatigue

5000x. Dentin

Low Voltage Mode (High Vacuum)

View of the specimen chamber from the inside.
CCD camera.

100x. 300V.
Cotton fabric.