



Regional Analytical Centre

Saint Mary's University

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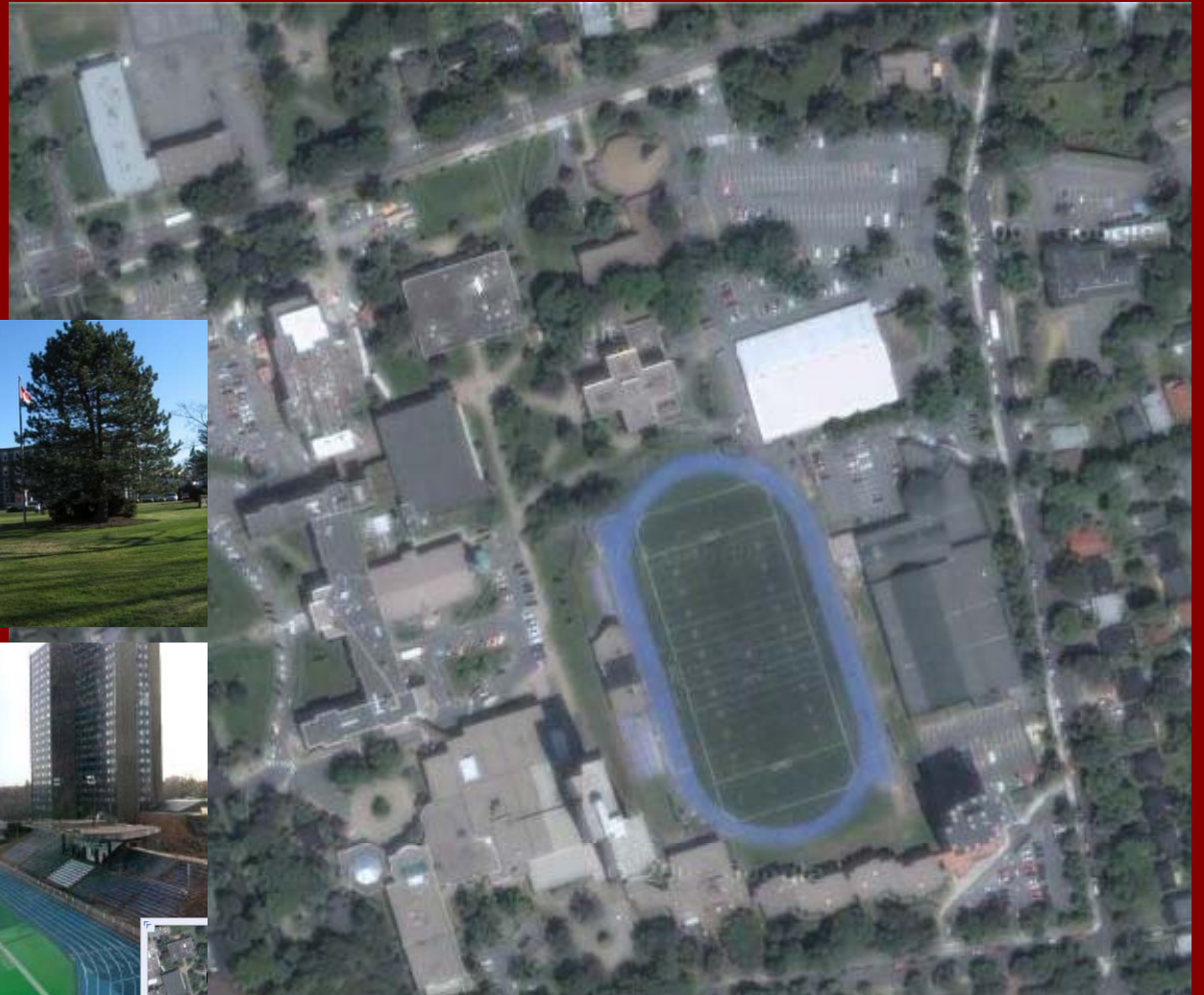
Web: <http://fgsr.smu.ca/emc/welcome.html>

<http://www.smu.ca/institutes/rgc/welcome.html>

Halifax, Nova Scotia



Saint Mary's University



Regional Analytical Centre

Electron Microscopy Unit

Geochemistry Unit

Scanning Electron
Microscope

Transmission Electron
Microscope

PW2400 X-ray Fluorescence
Spectroscopy



Geochemistry Unit

- Sample Preparations



Geochemistry Unit

Elements being analyzed

- 10 major elements
- 22 trace elements

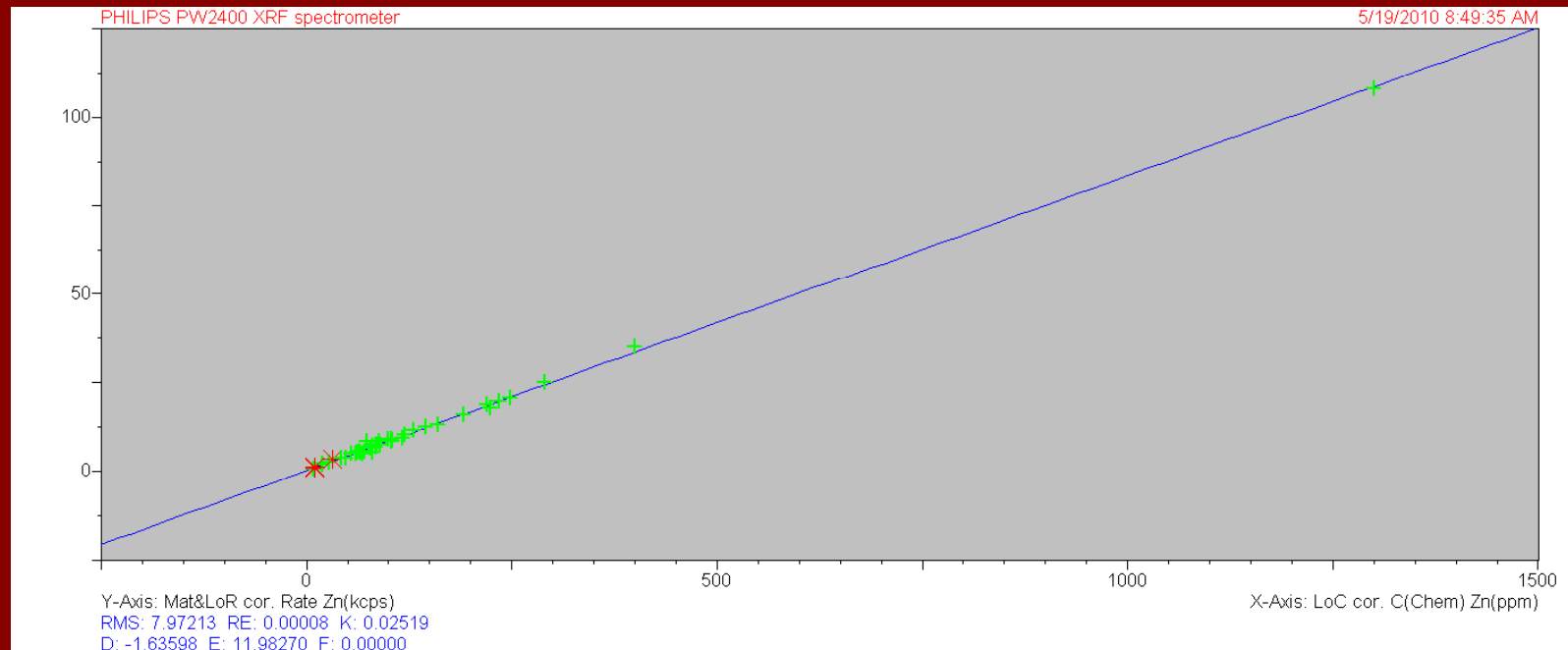
■ majors
■ traces

H																	He	
Li	Be												B	C	N	O	F	Ne
Na	Mg												Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	Ln	Sn	Sb	Te	I	Xe	
Cs	Ba		Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
Fr	Ra		Rf	Db	Sg	Bh	Hs	Mt	Uun	Uuu	Uub							
			La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
			Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	

Geochemistry Unit

Standards

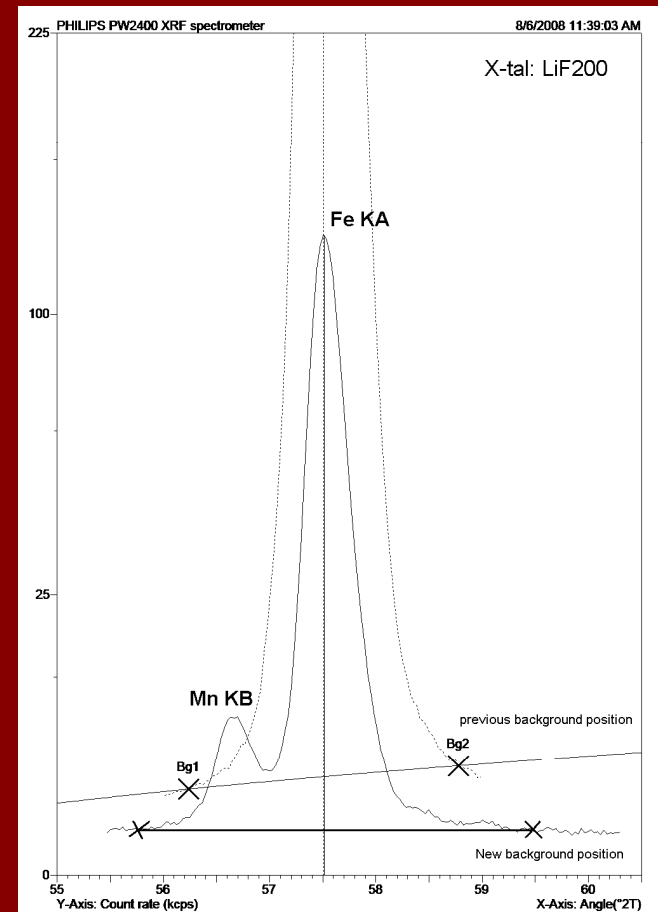
- 42 International geo-Standards used for calibration
- represents a large variety of the most common geological materials
- covers the typical concentration ranges for trace elements.



Geochemistry Unit

Angle and background selection

- standard materials containing both high and low concentrations interfering elements were used to help determine the position of interfering spectral lines for each analyte's peak.



Geochemistry Unit

- Clients



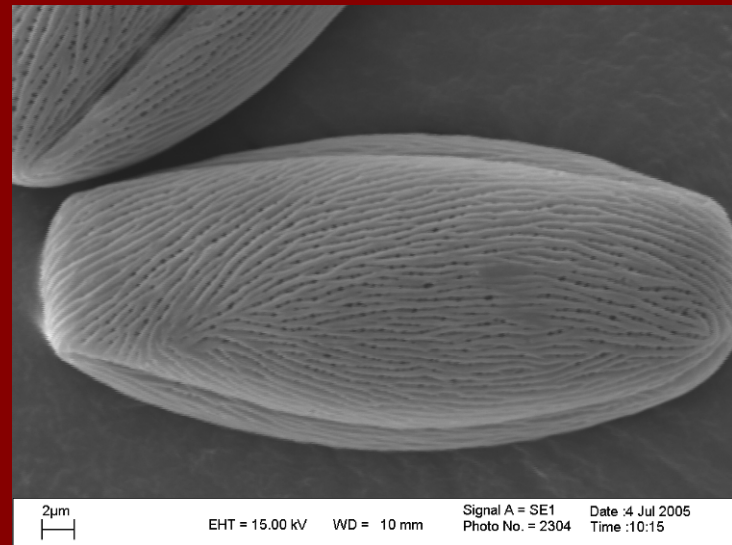
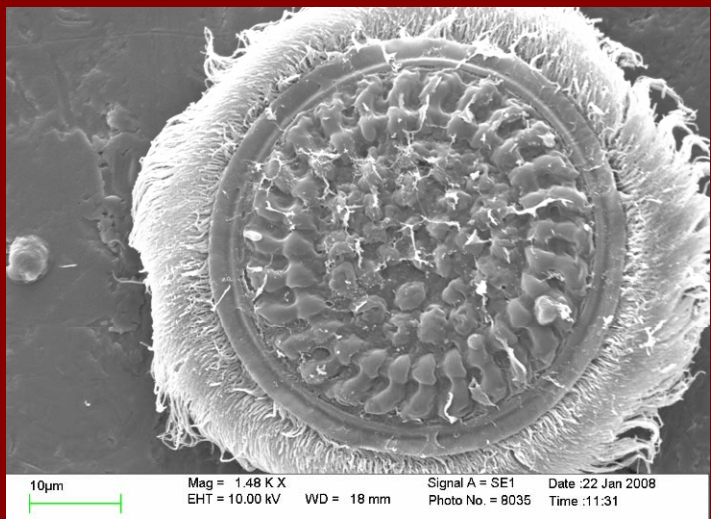
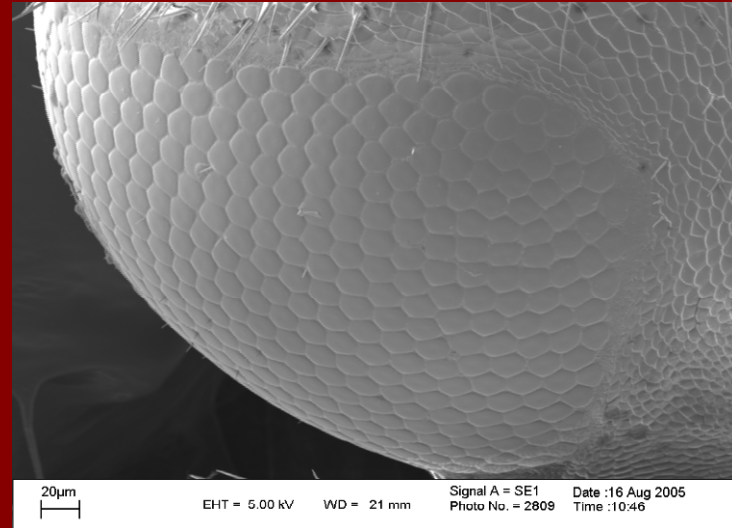
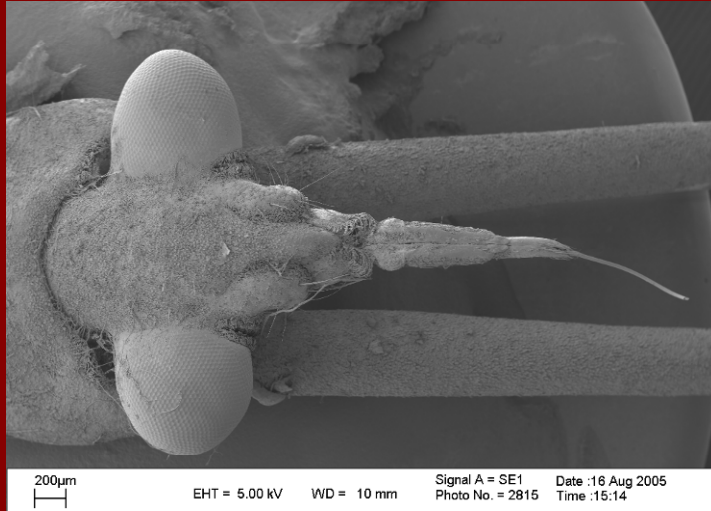
Geochemistry Unit

- Undergraduate and Graduate Teaching



Electron Microscopy Unit

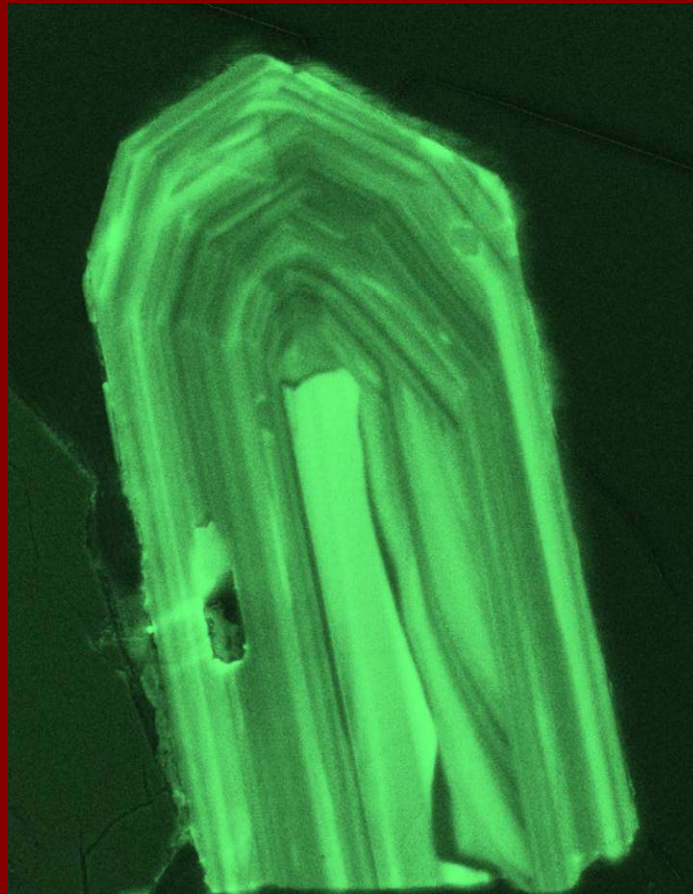
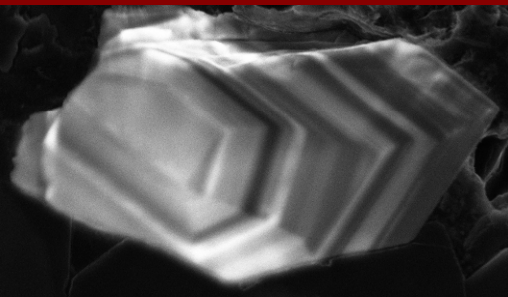
- Biological Samples



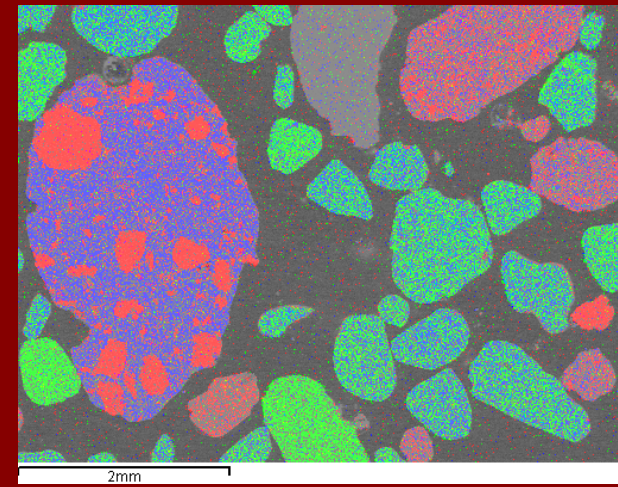
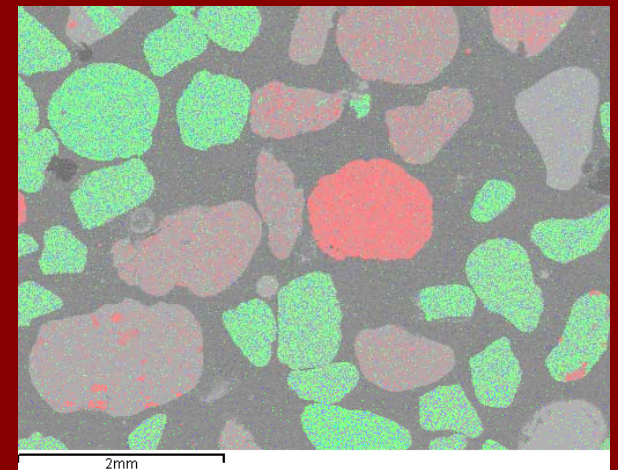
Electron Microscopy Unit

- Geological Samples

Cathodoluminescence

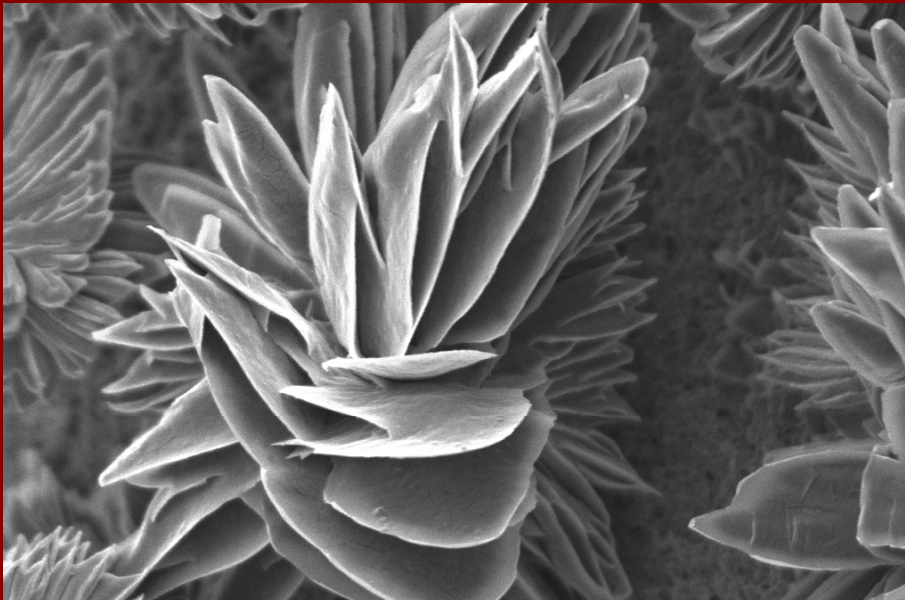


EDS Element Maps

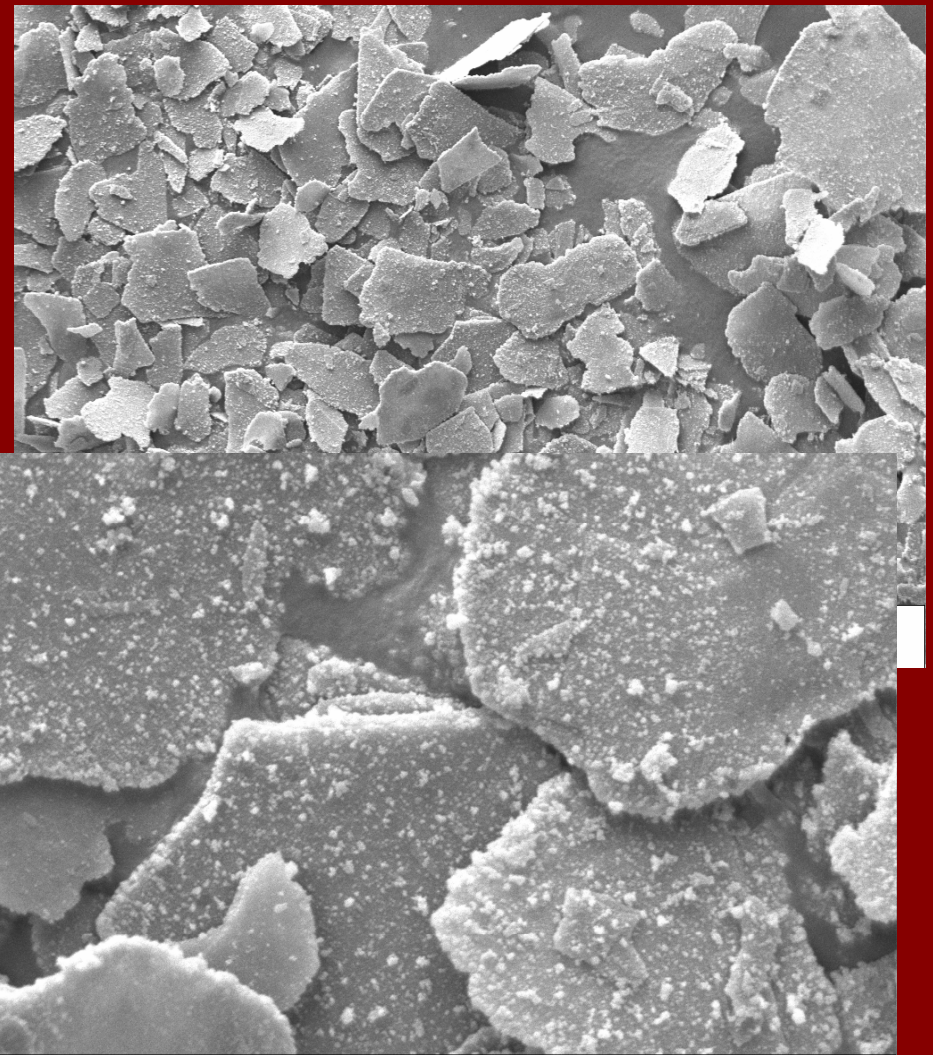
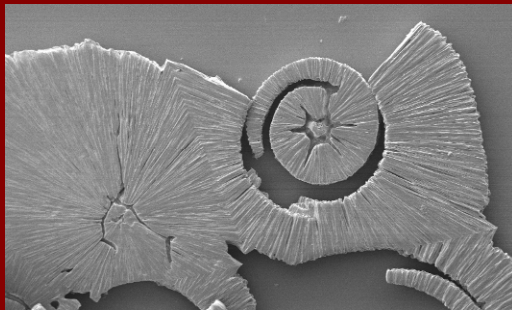


Electron Microscopy Unit

- Material Science



10µm EHT = 5.00 kV WD = 19 mm Signal A = SE1 Date :23 Oct 2008
Photo No. = 9518 Time :11:29



2µm Mag = 2.85 K X EHT = 10.00 kV WD = 17 mm Signal A = SE1 Date :1 Mar 2007
Photo No. = 5753 Time :15:38