





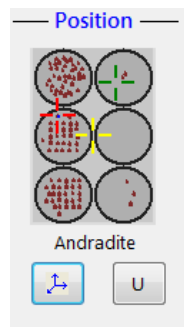
Calibrations

- 1.0 Allocate your elements to the proper spectrometers and crystals. Make sure you have identified the necessary standards and have calculated the background offsets. This can be done using an Excel sheet and a WDS scan of your sample using all spectrometers to identify offsets for the backgrounds.
- 2.0 Load the holder with the calibration standards in the chamber. Refer to: *Sample Exchange SOP*.
- 3.0 Make sure spectrometers are verified. Refer to: *Crystal Exchange Spectrometer Verification SOP*.
- 4.0 Set the proper aperture and set current to 10nA, for sensitive, 20nA for all other standards.

Warning: *Sensitive standards will be damaged if measured with current larger than 10nA. Refer to the standards list to identify sensitive ones.*




- 5.0 Under the Position module, open the Position list  and drive to the desired standard location.

Focus  on the surface with the optical image using the smallest field of view  and  the location on the position list. (This is important for background measurements done during calibrations.)




Block	Name	X	Y	Z	Sp
GEO MK 2	AD03	-6961	-6788	118	S.
GEO MK 2	Albite	-20280	3303	139	S.
GEO MK 2	Andradite	-25489	-4093	85	S.
GEO MK 2	Andradite	-12610	3957	128	S.
GEO MK 2	Apatite	-13266	5437	127	S.
GEO MK 2	Bar04	-39135	2478	97	S.
GEO MK 2	CaF	-20811	-90	118	S.
GEO MK 2	CaSiO3	-13301	2598	130	S.
GEO MK 2	Ce	-61268	2255	114	S.
GEO MK 2	Cr2O3	-39783	-6636	305	S.
GEO MK 2	Cy Glass	-66169	5234	116	S.
GEO MK 2	Cu	-13706	-6684	76	S.
GEO MK 2	Diopside	-10550	-6642	96	S.
GEO MK 2	Fe2O3	-30068	2636	343	S.
GEO MK 2	FeSi	-66043	-960	117	S.
GEO MK 2	Kyanite	-12900	-3668	113	S.
GEO MK 2	MgO	-19100	5565	115	S.
GEO MK 2	NaCl	-13048	-131	88	S.
GEO MK 2	Ni	-7177	-4028	104	S.


- 6.0 Using the SEM image, focus on the surface of the sample. After, set the beam diameter to 10 to 20um. Cut the beam and turn scanning off.

- 7.0 Open Setting / Acquisition module , select Settings then Calibration  and New .

A Calibrate Settings file will open. *Note: You can only select one element at the time. For each element you will generate a new calibration settings file.*

- 8.0 Open the periodic table on the desired spectrometer and click on the element to be calibrated. Adjust the Pk Time(s), Bg1 offset and Bg2 offset. At the bottom, double click on the standard file icon and select the desired standard from the pop up list.

- 9.0 Press the Acquire Now button  (running men). This will save the Settings file and create and link the setting file to a new Analysis file.

- 10.0 On the analysis file press the  button to add point locations to be measured on the standard. You can double click on the optical image to go to a new location and add to the list. Pick at least 4 different locations on clean areas of the standard.

- 11.0 Press Start. This will prompt to save the calibration file. Do not change the name. If the same file already exist, press *Append File*.

12.0 The software will announce the end of the calibration. Check the standard deviation and make sure is below 5%.

13.0 For the next element to calibrate, go back to step 4 and repeat process.