

# Preparation of Thin Sections

Rock samples-typically cores or individual grab samples, require processing before they can be used for mineral analysis by either PLM (Polarizing Light Microscope, Microprobe and Scanning Electron Microscope/X-ray Microanalysis). The sample has to be thin enough for light to pass through in a light microscope and have a polished surface for electron microscope studies.



*Synite-Coldwell complex near Marathon*



For more information on thin section production contact:

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## STEP 1: CUTTING A SLAB

A suitable size slab for mounting on a slide is cut from a piece of rock or drill core with a diamond saw



## STEP 2: Initial Lapping of the Slab

The slab is labelled on one side and the other side is lapped flat and smooth first on a cast iron lap with 400grit carborundum, then finished on a glass plate with 600 grit carborundum



## STEP 3: Glass Slide is Added

After drying on a hot plate, a glass slide is glued to the lapped face of the slab with epoxy.



## STEP 4: Slab is sectioned

Using a thin section saw, the slab is cut-off close to the slide. The thickness is further reduced on a thin section grinder.



Powders are mixed with epoxy, then spread on a slide and allowed to cure. The surface is ground flat on the thin section grinder, then finished similarly to a thin sections

## STEP 5: Final Lapping

A finished thickness of 30 microns is achieved by lapping the section by hand on a glass plate with 600 grit carborundum. A fine grinding with 1000 grit prior to polishing is optional.



## STEP 6: Polishing

The section is placed in a holder and spun on a polishing machine using nylon cloth and diamond paste until a suitable polish is achieved for microscope or SEM studies,



## STEP 7: Final inspection



## Examples of finished thin sections

