**Scanning XRF**

Strategy – 1cm resolution, rapid scans. Generate composite sections with mag susceptibility when there are overlapping sections. 0.2mm - 1mm resolution. Will decide these based on lamination presence, others.

Xradiography goes along with it, goes into corewall.

Using Mo tube.

Some effort to quantify trace elements especially.

Perhaps high-resolution scans at multiple labs to test comparability? There is time drift to consider, so decide if this would actually be worth it. It maynot be necessary if LacCore is running everything.

**Major element and trace element quantitative analysis including REEs**

ACTLABS – complete suite of , 5g 1-month $70/sample.

Being done on full interval of samples for Olorgesailie and Magadi. Chew Bahir planning for tephra geochemistry. Turkana doing EMP glass shard geochemistry. Afar and Baringo tuffs. There is a need for CIA-style quantitative analysis of paleosols. Select calibration set of samples to calibrate scanning XRF with ICP-MS. But paleosol CIA etc would only need XRF majors. Geochemistry of

(4 inorganic issues – tuff chemistry, bulk chem, paleosol chem, calibrate XRF)

**Biogenic materials**

* stable isotopes of carbonate
* strontium isotopes
* ostracode geochemistry (
* biomarkers can inform
* ferromagnetic resonance spectroscopy (0.1g of fine grained material, non-sulfidic). Test for magnetotectic bacteria, sensitive to oxygen minimum zone. Send to Tim at st. Andrews.
* Clumped isotopes –

**Mineralogy**

* XRD of bulks. Chew Bahir will keep in touch , possibly someone look into this in the future, will keep in touch with our labs on our methods.
* SEM/Microprobe of zeolites
* Clay mineralogy
* Trona analysis

**Paleosols**

* need paleopedologist (Emily Beverly?), micromorphology
* need paleoichnolygist (Jenny Scott?),

**Rock Eval Pyrolysis**

* seek collaborators? NOCK? (Elizabeth Kimburi)

**DATA SHARING PROTOCOLS**

* Develop internal guidelines? Formalize data sharing agreements.
* E.g. Chew Bahir has a steering group that is informed if someone wants to use data produced by somebody. They discuss in between the best strategy.
* LacCore moratorium, and NSF data moratorium.

**Methodologies and Metadata**

* Standardize methods where possible, at least methods should be shared, include metadata files.
* In scientific Drilling volume – ICD, MSCL, downhole data only.
* E.g. In case of XRF – decision needs to be made on first publication appearance.
* NSF DMP – what are we supposed to be doing?
* In general data sharing is to help each other in the science, but it is all new data and not available for presentation or publication without proper discussion with colleagues.
* Some especially students depend on age model for timely production so PI’s should push on this.