



Request for Service for DGS UT Austin JEOL 8200 Electron Microprobe			
Job Title:		Analysis Type Check all applicable and fill out necessary data in categories	<input type="radio"/> Compositions <input type="radio"/> X-ray element maps <input type="radio"/> BSE Imaging <input type="radio"/> SE imaging <input type="radio"/> Qualitative data
Department/Group:			
Investigator/user information			
Name primary user:		Position	
Cell phone		Email	
Describe experience level	<input type="radio"/> None (novice) <input type="radio"/> Intermediate <input type="radio"/> Expert	Type of use desired	<input type="radio"/> Direct use <input type="radio"/> Indirect use <input type="radio"/> Contract use <input type="radio"/> Immediate need
Project information			
Brief abstract of project			
Physical sample description	<input type="radio"/> Thin section <input type="radio"/> Grain mount <input type="radio"/> Round <input type="radio"/> Other	# of samples	
		Polish quality	
		Coat type	
COMPLETE IF COMPOSITIONS ARE NEEDED			
List minerals/materials to be analyzed		Elements desired	<input type="radio"/> standard 10 element <input type="radio"/> carbonate <input type="radio"/> other (list below)
<input type="radio"/> A list of commonly encountered minerals and the set up (standards, peaks, backgrounds, beam conditions, and elements measured, spectrometer crystals used) are available in the lab. To ensure high quality data, access the analytical set up and conditions and complete the worksheet. An example has been worked for you. <input type="radio"/> Probe for Windows software includes standard information. Access this software on the computer outside the EPMA laboratory and identify relevant standards prior to analysis.			



COMPLETE IF X-RAY ELEMENT MAPS ARE NEEDED			
List minerals/materials to be analyzed		Elements desired	
Scheduling information			
Time frame desired. Indicate any scheduling issues.			
Reviewed By:		Date:	
Approved By:		Date:	

Email completed form to Dept. Geological Sciences: Dr. Donggao Zhao, Lab Director and Research Scientist, dzhao@jsg.utexas.edu. You will be contacted within 24 hours to schedule time for a consultation and scheduled for instrument time.



Instructions:

This form is required for any EPMA analyses prior to scheduling. Please fill completely, sign and date. Should be reviewed by your advisor or yourself, and approved by the Lab Director.

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- Job Title: Create a title for your project. Will be used for invoices.
- Analysis Type: Check all applicable for your analytical needs
- Dept/Group: DGS/Dept of Geological Sciences and/or name of faculty supervisor

User information

- Name of primary user.
- Position: specify if graduate or undergraduate student, faculty, researcher, postdoc.
- Please provide cell and email information.
- Describe experience level. Feel free to click boxes in between the levels. Experience can be qualitative. We would like to understand your level of comfort with the instrument.
- Type of use desired
 - **Direct use:** User is responsible for unsupervised operation
 - **Indirect use:** User instructs a member of the facility staff with both present during the session. Indirect use can naturally transition to direct use as knowledge is transferred during the session. Even if this is the case, please check indirect use as it will be necessary for staff to be present.
 - **Contract use:** User provides samples and instructs a microprobe staff member regarding the information they want or the problem they want solved.
 - **Immediate need** when results are needed rapidly. Describe in scheduling information.

Project information

- Abstract of the project. Provide a 1-2 sentence description of the project.
- Physical sample description. Describe the type of samples to be analyzed: thin section, round, grain mount. Include the number of samples, polish quality, and type of coat. If uncoated, please contact the Lab Manager or student assistant to coat sample.

Compositions

- List the minerals/materials to be analyzed.
- List the elements desired. Check standard 10 element silicate analysis if this would be sufficient. These elements are Si, Al, Fe, Mg, Mn, Ca, Cr, Na, K, and Ti.
- A list of commonly encountered minerals and standard information. The more information you can develop prior to analysis ensures efficiency. Access the computer outside the EPMA laboratory to download mineral specific information.

Scheduling information

- Please indicate any scheduling needs and time frames. We can be flexible in terms of scheduling if more than 1 block is required.



Mineral	Garnet	Mineral type	Silicate					
Formula	$X_3Y_2(SiO_4)_3$	Not analyzed	O					
Voltage	15 kV	Current	20nA					
Comments	Na, K usually not in garnet, but useful to identify inclusion (mica, feldspar) or bad analysis. Ti and Cr are optional, rarely present in large amount in garnet.							
Example ideal formula	SiO ₂ 37.9%, TiO ₂ 0.28%, Al ₂ O ₃ 10.08%, Cr ₂ O ₃ 0%, Fe ₂ O ₃ 16.95%, FeO 4.10%, MnO 0.14%, MgO 1.55%, CaO 29.63%, total 100.12%							
Suggested Set up								
El. (oxid.)	Std name Block	Line	Spectro. Crystal	Peak	Analysis order			
					Sp. 1	Sp. 2	Sp. 3	Sp. 4
Si (+4)	Microcline on A, Bence-Albee	K α 1,2	SP2 TAP	77.468	Mg Na	Si Al	Ca K Ti	Fe Mn Cr
Al (+3)	Anorthite on #4	K α 1,2	SP2 TAP	90.664				
Fe (+2)	Biotite 13 on A, #7	K α 1,2	SP4 LIF	134.715				
Mn (+2)	Garnet P-130 on A, Bence-Albee	K α 1,2	SP4 LIF	146.244				
Mg (+2)	Springwater Olivine on Bence-Albee	K α 1,2	SP1 TAP	107.513				
Ca (+2)	Anorthite on #4	K α 1,2	SP3 PET	107.602				
Na (+1)	Amelia Albite on A, Bence-Albee, #X	K α 1,2	SP1 TAP	129.473				
K (+1)	Microcline on A, Bence-Albee	K α 1,2	SP3 PET	119.867				
Ti (+4)	Ilmenite on A, Bence-Albee	K α 1,2	SP3 PET	88.072				
Cr (+3)	Chromite on #8	K α 1,2	SP4 LIF	159.307				



Mineral		Mineral type	
Formula		Not analyzed	
Voltage		Current	
Comments			
Example ideal formula			
Notes on suggested Set up			