

Equipment Training Sheet - FEI XL 30 SEM with SE, BSE and EDAX detectors

Name: _____

Position: _____

Department: _____

Phone: _____

e-mail: _____

Director: _____

Staff Initials	Trainee Initials	
		<p><u>Anyone needing access to MSE equipment needs to contact MSE tech staff:</u></p> <ul style="list-style-type: none"> • For initial training • For subsequent usage (will receive equipment card) • No secondary training of the equipment
		<p><u>Review of hazards, controls, personal protective equipment:</u></p> <ul style="list-style-type: none"> • Machine uses high voltage and high vacuum is present • Gloves should be worn to minimize oils from hands contaminating chamber • Any PPE and precautions should be followed for the specimens • Bring the MSDS for the material to be studied if hazardous • Generates X-rays • Cryogenic temperatures present due to the liquid nitrogen dewar used for EDAX detector
		<p><u>Review of standard operating procedure:</u></p> <ul style="list-style-type: none"> • http://www.mse.engin.umich.edu/internal/procedures/philips-xl-sem • Different imaging/collecting modes: <ul style="list-style-type: none"> ○ Secondary electron (SE) ○ Back-scattered electron (BSE) ○ Electron dispersive analysis of X-ray's(EDAX) • Samples need to be dry before beginning the pumping procedure • Make certain to have the sample at appropriate height for imaging, data collection and to prevent damage to the SEM's center column <ul style="list-style-type: none"> ○ 10mm for most applications, no closer than 5mm ○ Slightly closer than 10mm position for very high magnification ○ Further away to achieve a very low magnification image and greater depth of field • Usage time starts at the beginning of the pumping procedure
		<p><u>Available supplies to help in the procedure:</u></p> <ul style="list-style-type: none"> • Tweezers, gloves, spatulas (to minimize sample contamination) • Aluminum sample mounts in two sizes • Copper tape and upon request carbon paste and carbon tabs

Staff Signature/date: _____

Trainee Signature/date: _____