JEOL 6610 SEM Start Up

1. Turn on computer and log on as CEMMA User.

2. Open **SEM Main Menu** program.

3. Fill out the logbook with all required information.

4. Open the **IR** camera program to view specimen movement.

Loading/Changing the Specimen

6. Set the X to 0, Y to -50, R to 0, T to 0, Z to 80

7. Click the **VENT** button.

8. Measure sample height for offset setting

9. When **VENT** flashing stops, Insert specimen into the chamber using the specimen holder tool.

10. Select **Vac Mode** (high or low)

11. Close the chamber door and click the **EVAC** button

12. Go to the **Stage** tab

13. Select the **holder type**.

14. Enter the specimen **Protruding Height** (How much the specimen is above the holder)

15. Click the **SNS Capture** button

Specimen Observation

16. Select the **Accelerating Voltage** and **Signal**

17. Turn on the **HT** icon so that it displays **ON**

18. Go to the **Stage** tab.

19. Move the specimen to the field of view by clicking on the **SNS Switch** picture.

20. Adjust the **Z height** (WD) and specimen **Tilt** to desired amount.

21. Click the **ACB** button and adjust the **Focus**.

22. Go to the **Maintenance** tab.

23. Adjust the **Spot size**

24. Adjust the Alignment **Tilt** X and Y (maximize the brightness)

25. Adjust the Alignment **Shift** X and Y (maximize the brightness)

26. Click and adjust the **Wobble** icon (on top right)

27. Adjust the **Stigmator** X and Y (at higher magnification)

SEM Shut Down

28. Turn off the **HT** icon so that it displays **OFF**

29. Turn on the IR camera.

30. Set the X to 0, Y to -50, R to 0, T to 0, Z to 80,

31. Click the **Vent** button.

32. Remove specimen from the chamber using the specimen holder tool.

33. Close the chamber door.

34. Click the **EVAC** button. (always leave in **HIGH VACUUM)**

35. Go to **User Login** tab and click **Log Off** button

36. Close the **SEM** program.

37. Log off and shut down computer.

38. Complete log book.

EDS Start Up

39. Add Liquid Nitrogen to the EDS dewer 1 (one) hour before use.
40. Focus the WD to 10mm.
41. Turn EDAX computer on and log on as CEMMA User
42. Verify on the computer CPU that the HV BIAS light is green.
43. Turn off the **IR** camera. (red light goes off)
44. Open **EDAX Genesis** program.

Spectrum Scan

45. Press the **Collect** icon. (collection of a spectrum will start)
46. Adjust Spot Size (on SEM software) to change DT to 30%
47. Press the **Peak ID** icon (to indentify unknown peaks)
48. Press the **Quant** icon (report for Wt% and At%)

    Note: Go to the **File** pull down menu than **page setup** to select info on report.

Mapping and Line Scans

49. Go to the **Maps/Line** tap
50. Press the **Collect** icon. (collection of a spectrum will start)
51. Adjust Spot Size (on SEM software) to change DT to 30%
52. Press the **Peak ID** icon (to indentify unknown peaks)
53. Go to the Set up pull down menu and select the **ROI** (select elements)
54. Press the **Collect e⁻** (SEI)
55. Select Maps or Line.
56. Press Collect … X icon.
57. Press **"EXT XY"** icon to enable external scan (give back control to the SEM)

EDS Shut Down

58. Click **Exit** from the file pull down menu to close program.
59. Log off and shut down computer.

Ted Pella (800) 237-3526		
Product#	**Description**	**Unit**
16084-1	Carbon Conductive Tabs, 12mm OD	Pkg/100
16084-2	Carbon Conductive Tabs, 25mm OD	Pkg/54
16084-3	Carbon Conductive Tabs, 9mm OD	Pkg/98
16073	Carbon Tape 8mm	Each
16053	Graphite paint, Isopropanol base, 30gm	Each
16232	JEOL , aluminum sub, (12.5mm x10mm)	Pkg/50/100

EMS (800) 523-5874		
Product#	**Description**	**Unit**
77825-12	Carbon Conductive Tabs, 12mm OD	Pkg/100
77825-25	Carbon Conductive Tabs, 25mm OD	Pkg/54
77825-09	Carbon Conductive Tabs, 9mm OD	Pkg/98
77817-12	Carbon Tape 12mm	Each
12660	Graphite paint, Isopropanol base, 30gm	Each
75730/2/4	JEOL , aluminum sub, (12.5mm x10mm)	Pkg/50/100/250

SPI (800) 242-4774		
Product#	**Description**	**Unit**
05077-BA	Carbon Conductive Tabs, 12mm OD	Pkg/100
05074-BA	Carbon Conductive Tabs, 25mm OD	Pkg/54
05073-BA	Carbon Conductive Tabs, 9mm OD	Pkg/98
05082-AB	Carbon Tape 12mm	Each
05006-AB	Graphite paint, Isopropanol base, 30gm	Each