PROCESS BATCH SHEET (Boron Diffusion, BN975 source) **Issue 3 Page____of____**

ENSC Batch No._____Wafers Started_____Date_____
Material_____Orientation_____Size_____Thickness_____
Resistivity_____Type_____
Wafer Vendor_____Vendor Batch #_____SFU P.O._____

Process Step #	Process Conditions	Oper & Wafer #	Comments
			Wafers must receive a modified RCA clean just before diffusion .
_____A	**Prepare furnace (tube 2)** N2 @ 10 scfh. **O2 @ 0.** Ramp temp to 750/800C		Open O2 cylinder valve (top of bottle) in gowning area.
_____B	**Pull boat and load wafers** 2 wafers/ source, in slots next to source, facing it. Dummies in empty slots . Pull <4"/min.		
_____C	**Push boat into furnace (with oxygen)** N2 @ 5 scfh. **O2 @ 5 scfh.** Temp=800C. Push <4"/min.		Oxygen used on push in only.
_____D	**Stabilization** N2 @ 10 scfh. **O2 @ 0 scfh** Temp=800C. Time = 10 min		
_____E	**Ramp to operating temp** N2 @ 10 scfh. **O2 @ 0 scfh.**		Max operating temperature = 1000C. Suggest 950-975C..
_____F	**Diffusion** N2 @ 10 scfh. **O2 @ 0 scfh.** Temp = oper. Set timer.		Time = _____min Temp = _____C Time and temp determined from desired resistivity, concentration or depth
_____G	**Ramp furnace down** N2 @ 10 scfh. **O2 @ 0**. Set temp= 400C when diff'n over		
_____H	**Pull boat, unload, push in** Temp < 800C. N2 @ 10 scfh. Pull/push<4"/min. Dummies next to sources.		
_____I	**Return furnace to idle** N2 @ 0.5-1.0 scfh. **O2 @ 0.**		Close O2 cylinder valve (top of bottle) in gowning area.
_____J	**Inspect** Visual, resistivity, etc.		