PROCESS BATCH SHEET (Phosphorus Diffusion) **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 require a modified RCA clean immediately prior to diffusion .
_____A	**Prepare furnace (tube 3)** N2 @ 8 scfh. O2 @ 0. Ramp temp to 750/800C		
_____B	**Pull boat and load wafers** Pull <4”/min. 2 wafers/ source, in slots next to source, facing it. Dummies in empty slots .		
_____C	**Push boat into furnace** N2 @ 8 scfh. O2 @ 0 scfh. Temp = 800C. Push <4"/min.		
_____D	**Stabilization at 800C** N2 @ 8 scfh. O2 @ 0 scfh. Time = 10 min.		
_____E	**Ramp to operating temp** N2 @ 8 scfh. O2 @ 0 scfh.		
_____F	**Diffusion** N2 @ 8 scfh. O2 @ 0 scfh. Temp = oper. Set timer.		Time = ___________min Temp = ____________C Indicate desired resistivity, concentration or depth.
_____G	**Ramp furnace down** N2 @ 8 scfh. O2 @ 0. Set temp to 500C when diff'n over		
_____H	**Pull boat, unload** All zones < 800C. N2 @ 8 scfh. O2 @ 0. Pull <4"/min.		
_____I	**Push boat** N2 @ 8 scfh. Dummies next to sources. Push <4"/min.		
_____J	**Return furnace to idle** N2 @ 0.5-1.0 scfh. O2 @ 0.		
____K	**Inspect** Visual, resistivity, etc.		