Issue 4

| ENSC Batch No | Wafers Started |      | Date      |  |
|---------------|----------------|------|-----------|--|
| Material      | Orientation    | Size | Thickness |  |
| Resistivity   |                | Type |           |  |
| Wafer Vendor  | Vendor Batch # |      | SFU P.O   |  |

| Process<br>Step<br># | Process Conditions  | Oper<br>&<br>Wafer<br># | Comments  |
|----------------------|---|-------------------------|---|
|                      |   |                         | Note that all wafers normally must receive a thorough RCA clean per spec immediately prior to being placed in the furnace. In this case, this can be omitted if the wafers go straight from diffusion to LTO. |
| A                    | Prepare Furnace (Tube 1)<br>N2 flow 4 scfh. O2 at 0. Fill<br>bubbler with DI H2O. Ramp<br>temp to 750C. Turn on<br>bubbler and tapes. |                         |   |
| В                    | Load Wafers into Boat Use correct boat and white elephant. Use wafer forceps.   |                         |   |
| C                    | Push Boat into Furnace<br>Temp = 750C. Use gloves<br>and quartz rod. Max push<br>rate 4 in/min. N2 at 4 scfh                          |                         |   |
| D                    | Oxidation Furnace at temp. N2 at 4 scfh. O2 at about 0.5 scfh, for good bubbling action in bubbler. Open stopcock.                    |                         | Time = 30 -45 min. Temp = 750C  |
| Е                    | Ramp Furnace Down Close stopcock. Set temp to 400C. N2 at 4 scfh. O2 at 0 scfh. Bubbler and tapes off.                                |                         |   |
| F                    | Pull Boat and Unload Pull out (< 4 in/min) when all zones <750C.  |                         |   |
| G                    | Return Furnace to Idle O2 off. N2 at 0.5-1.0 scfh. Close O2 bottle valve.   |                         |   |
| Н                    | Inspect<br>Colour, ellipsometer, etc.   |                         |   |