

Anneal Procedure

Assumptions:

- Fridge running all pumps on

Prepare NMR:

- Stop beam, if necessary
- Turn off Microwaves, if necessary
- Put NMR into Monitor Mode

Prepare Fridge:

- Stop Roots Blower 3 by pressing the RB3 Stop Button (in electronics room)
- Wait 2 minutes for pump to spin down
- Stop Roots Blower 2 by pressing the RB2 Stop Button (in electronics room)
- Wait 2 minutes for pump to spin down
- Stop Roots Blower 1 by pressing the RB1 Stop Button (in electronics room)
- Open Main Gate Valve, PV91141, if necessary (in electronics room)
- Close Bypass RB3 Valve, PV91142, if necessary (in electronics room)
- Close Roughing Valve, PV91143, if necessary (in electronics room)
- Place Run Valve, EV91120, into Manual Mode (cryo computer)
- Close Run Valve by entering a manual setpoint of zero
- Close Bypass Valve, EV91121, if necessary, by entering a position of zero
- Put the Separator Valve, EV91127, into Computer Control (not Manual Mode)
- Enter a value of 60 into the Set Val box of the EV91127 control

Empty the Tail of Helium:

- DO NOT move the target without first informing MCC you?ll trip all Halls
- Move the target to the Top position, write in logbook
- Load the Anneal program (icon on desktop)
- Run the Anneal program (click white arrow on left of toolbar)
- Type in a setpoint of 60 (K) and hit "Send to ITC", write in logbook
- Hit the "Goto Setpoint" button to turn on the heater
- Observe the liquid level in the tail drop (7% is about the minimum reading)
- Wait 5 minutes after the liquid is gone
- Open the Run Valve to 0.3, write in logbook
- Move the target to Empty position, write in logbook
- (If Run Plan needs to do Carbon runs, this position is also OK)
- Use Lower camera to see the He4 pressure (Rack B, Device 5), write in logbook

Begin the Anneal:

- Wait until all three sensors stabilize at 60K, write in logbook
- Type the desired Anneal temperature into the setpoint, Hit "Send to ITC"
- Note in the logbook the time when the anneal temperature is reached
- Log Top Platinum, Top T/C, Bottom T/C, and He4 Pressure every 510 minutes
- Leave the target at the Anneal temperature for the desired number of minutes
- To stop the anneal, hit the "Stop Anneal" button, write in logbook
- Let the anneal program continue to run, to document the cooldown process
- Cool Down the Refrigerator:
- Change the setpoint of the Bypass Valve to 1.0
- Change the Manual setpoint of the Run Valve to 1.0
- Wait until the Nose Level, LL91112, reaches about 80%
- Change the setpoint of the Bypass Valve to 0.0

- Change the Run Valve back to computer control (not Manual Mode)
- Enter a value of 32 into the Set Val box of the EV91127 (Separator) control
- The the Stop button on the toolbar of the Anneal Program, and then close it
- Wait for the Nose Level to (mostly) stabilize
- Observe the He4 pressure
- If the pressure is not below 12 torr, temporarily close the Run Valve
- Once the pressure is below 12 torr, start RB1 (electronics room)
- Wait for the pressure to drop below 2.2 torr
- Start RB2
- Wait for the pressure to drop below 1.0 torr
- Start RB3
- If necessary, reopen the Run Valve or put it under computer control