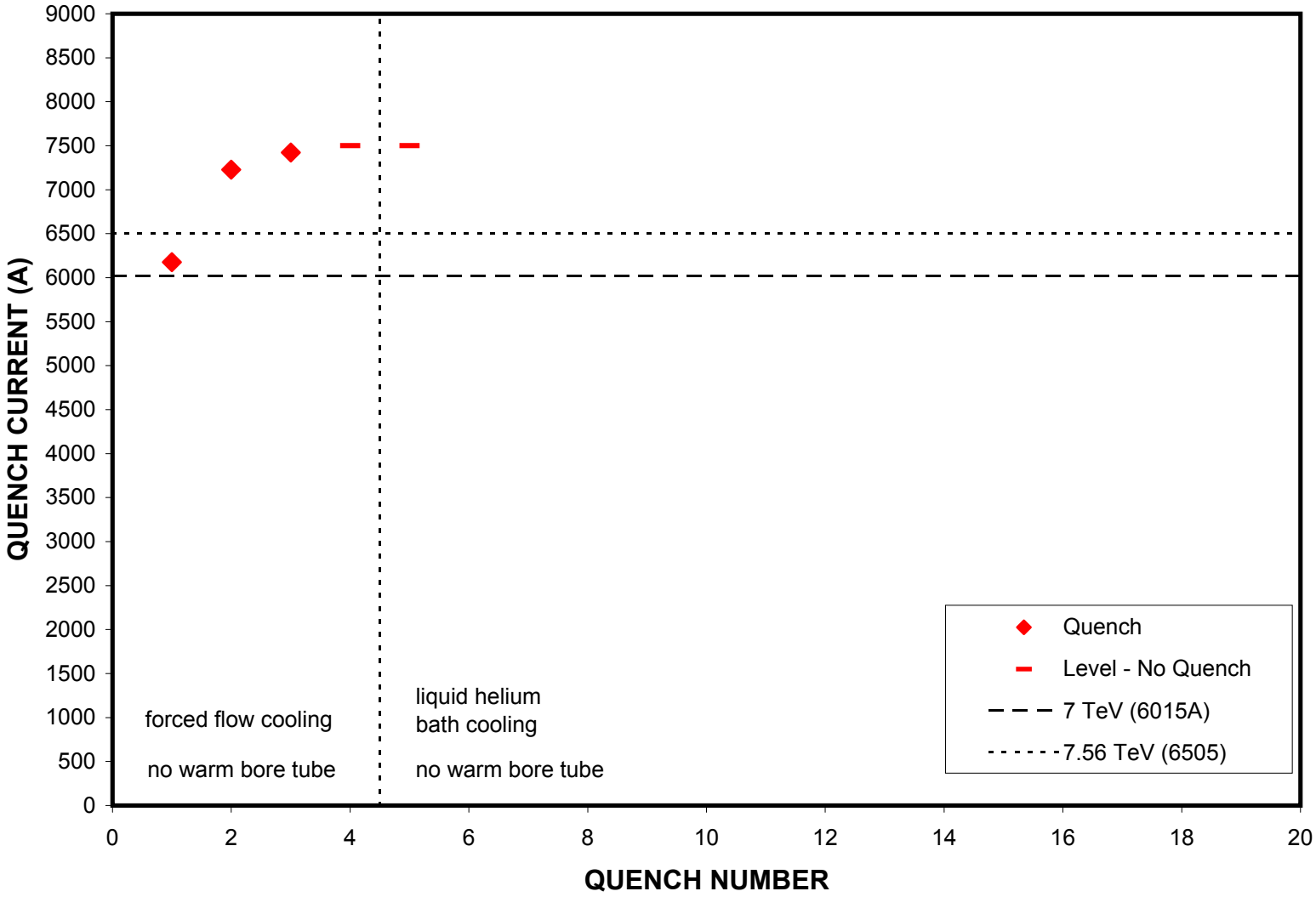
D2L103 QUENCH TESTS



8-Aug-2002
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D2L103 QUENCH SUMMARY

Magcool Bay C

QUENCH #	RUN #	CURRENT (A)	T1 (K)	T4 (K)	START (ms)	MIITS	COIL	COMMENTS
T = 4.5K (nom)								
No warm bore tube								
Forced flow cooling @ 12atm								
1	10	6176	5.008	5.338	-44	10.1	upper right	
2	11	7228	4.972	5.259	-15	9.6	lower right	
3	12	7423	4.920	5.238	-13	9.8	lower left	
*	13	7500	4.936	5.244				ramp to 7500A; NO QUENCH
	14	7500	4.907	5.214				4 cycles to 7500A; NO QUENCH
	15	7500	4.926	5.227				1 hour at 7500A; NO QUENCH
Liquid helium bath cooling @ 1.4atm								
*	16	7500	4.754	4.749				ramp to 7500A; NO QUENCH
	17	7500	4.766	4.766				4 cycles to 7500A; NO QUENCH
								20 min at 7500A; NO QUENCH

Notes:

a) Ramp rate for quenches was 20A/s.
b) Energy extraction used: 35mohms for all quenches. For Quench #1, SCR voltage was 1200V and SCR switch did not open; it should have been set at 1700V. It was not increased after the 4000A strip heater quench (Run #9), which is always done at 1200V. For all subsequent runs, SCR voltage was set to 1700V.
c) The temperature T4 is a diode sensor located in the helium return line tube which contains the superconducting bus; T1 is in the lower lead interconnect pot. Both have associated redundant sensors.
d) There were no auxiliary voltage taps in the magnet coils.
e) Data acquisition sampling rate was 1kHz for all quenches.
f) Strip heaters were fired at 475V (nom) and 96A (nom), with 1ms delay.
g) Voltage spikes were seen on the voltage difference signals for all three quenches. For the last quench #3, a spike occurred right before the quench start.