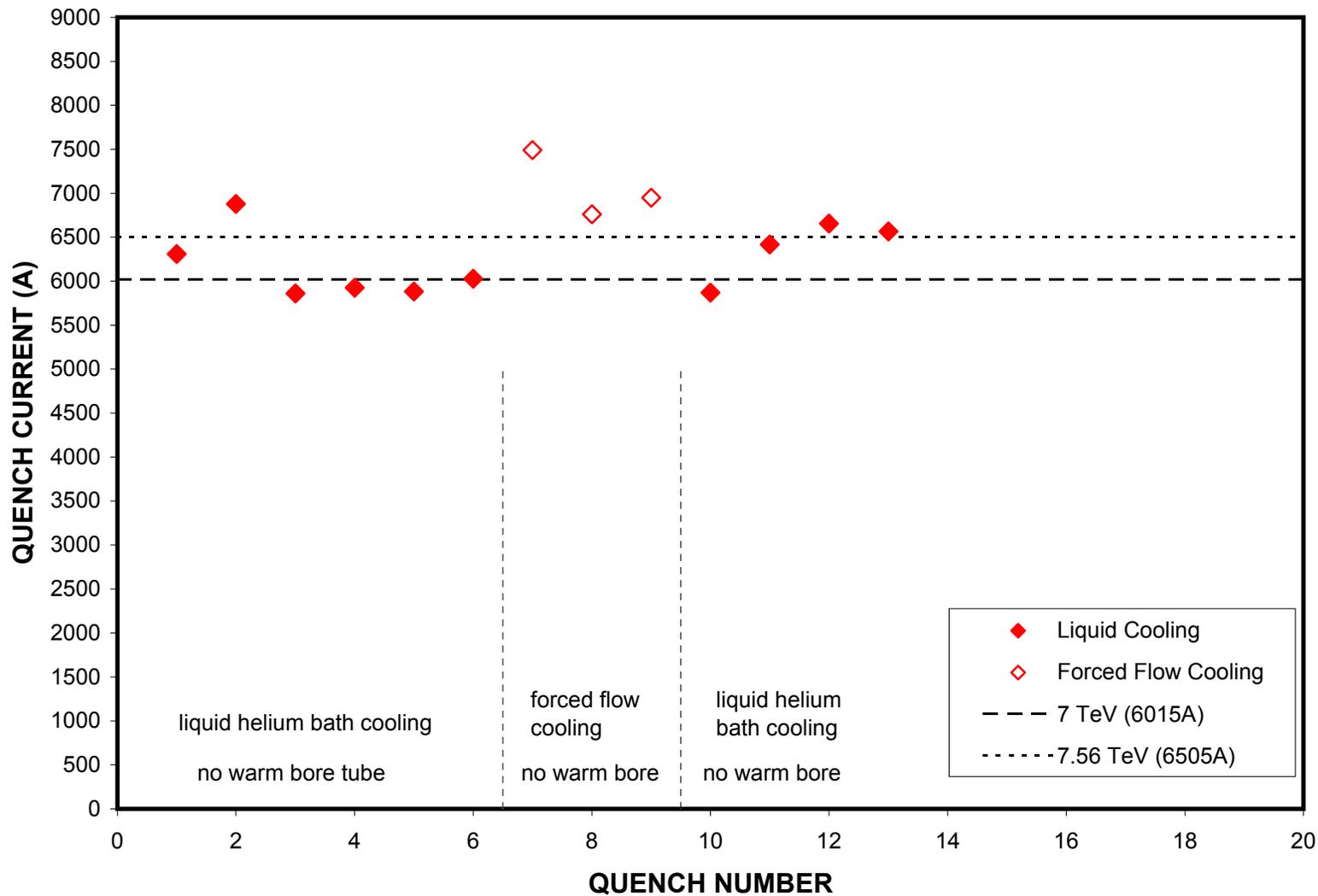


D2L101 QUENCH TESTS



19-April-2002
(revised 8-Jan-2003)
(revised 19-Dec-03)
(revised 9-Jan-04)
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D2L101 QUENCH SUMMARY

Magcool Bay C

QUENCH #	RUN #	CURRENT (A)	T1 (K)	T4 (K)	START (ms)	MIITS	COIL	COMMENTS
<hr/>								
T = 4.5K (nom)								
No warm bore tube								
Liquid helium bath cooling @ 1.4atm								
1	23	6309	4.632	4.696	-48	10.2	upper left	2:30pm 4-Apr
2	25	6877	4.579	4.629	-38	11.1	upper left	9:00am 5-Apr
3	27	5862	4.583	4.650	-50	10.0	upper left	2:00pm 5-Apr
4	33	5926	4.577	4.628	-53	10.4	upper left	1:30pm 9-Apr
5	36	5882	4.573	4.627	-50	10.2	upper (h)	8:00am 10-Apr
6	38	6027	4.729	4.776	-50	10.9	upper left	2:30pm 10-Apr
forced flow cooling @ 12atm								
7	41	7490	5.299	4.820	-31	11.7	upper left	9:00am 11-Apr
8	45	6762	5.322	4.832	-38	10.8	upper left	9:00am 12-Apr
9	47	6949	5.345	4.848	-42	11.4	upper left	3:30pm 12-Apr
Liquid helium bath cooling @ 1.4atm								
Quench detector and quench protection heater delays have been minimized to reduce miits and hot spot temperature								
10	58	5869	4.615	4.661	-29	8.4	upper left	10:15am17-Apr
11	60	6418	4.631	4.680	-17	8.7	upper left	3:30pm17-Apr
12	62	6657	4.614	4.674	-17	9.1	upper left	9:00pm18-Apr
13	64	6566	4.613	4.680	-18	8.8	upper left	3:00pm18-Apr

Notes:

a) Ramp rate for quenches was 20A/s.

- b) For quench #1 there were waits at 5500A and 6000A.
- 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) For quenches 1-9, the strip heaters were fired at 200V (nom) and 43A (nom), with 11ms delay. For quenches 10-13, strip heater delay was reduced to 1ms and delays on the quench detector were also minimized. This was done to reduce the number of miits and the hot spot temperatures.
- g) For quenches #2 and #6, small precursor spike seen at quench start. For Quench #9, a larger spike was seen at quench start. Spikes also seen at other times before the quench start in most quenches.
- h) For Quench #5, all outside loggers 2-4 malfunctioned during data acquisition, so there is no individual half coil information. We know the quench was in the left coil but cannot verify whether in the upper or lower. Logger 1 data, which was OK, closely matches that for the previous two quenches in the left upper, so #5 is most likely also in the same location as #3 and #4.