13th LARP Collaboration Meeting, November 4, 2009

LQ Coil Fabrication Status & Plans

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Outline:

- **Coil Fabrication Status**
- **FY10 Plans**

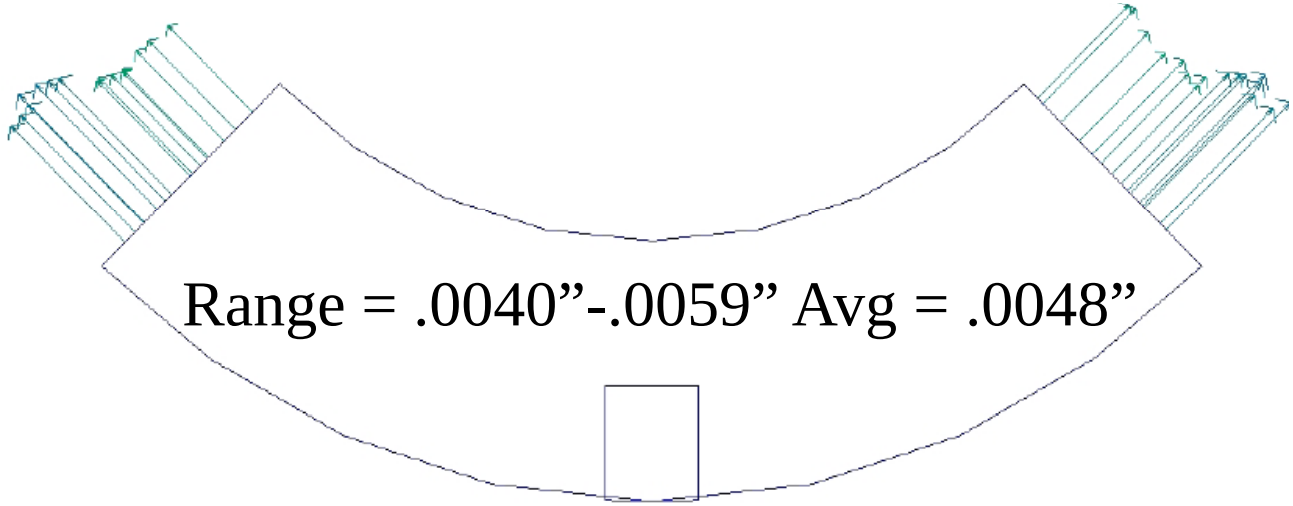
Status Summary

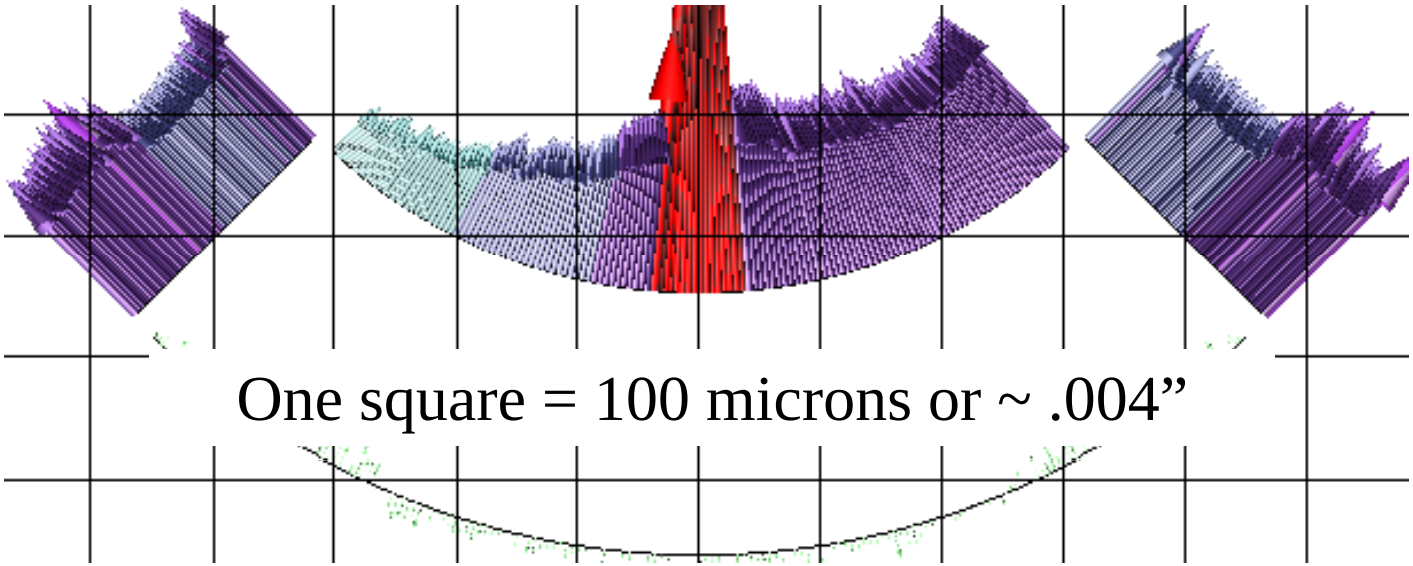
- **6+ production coils are ready**
  - » Wind & cure (FNAL)
  - » React. & Impr. (BNL & FNAL)
  - » Instrumentation (FNAL, BNL, LBL)

- **Coil fabrication is a labor intense work, using a lot of different tooling**
  - – Wind & Cure: 3 weeks
  - – Reaction: ~5 weeks
  - – Impregnation: 4 weeks
  - – Instrumentation: 2 weeks
  - – Shipment(s): 2 weeks each

16 weeks minimum

CMM Measurement Comparison BNL/FNAL



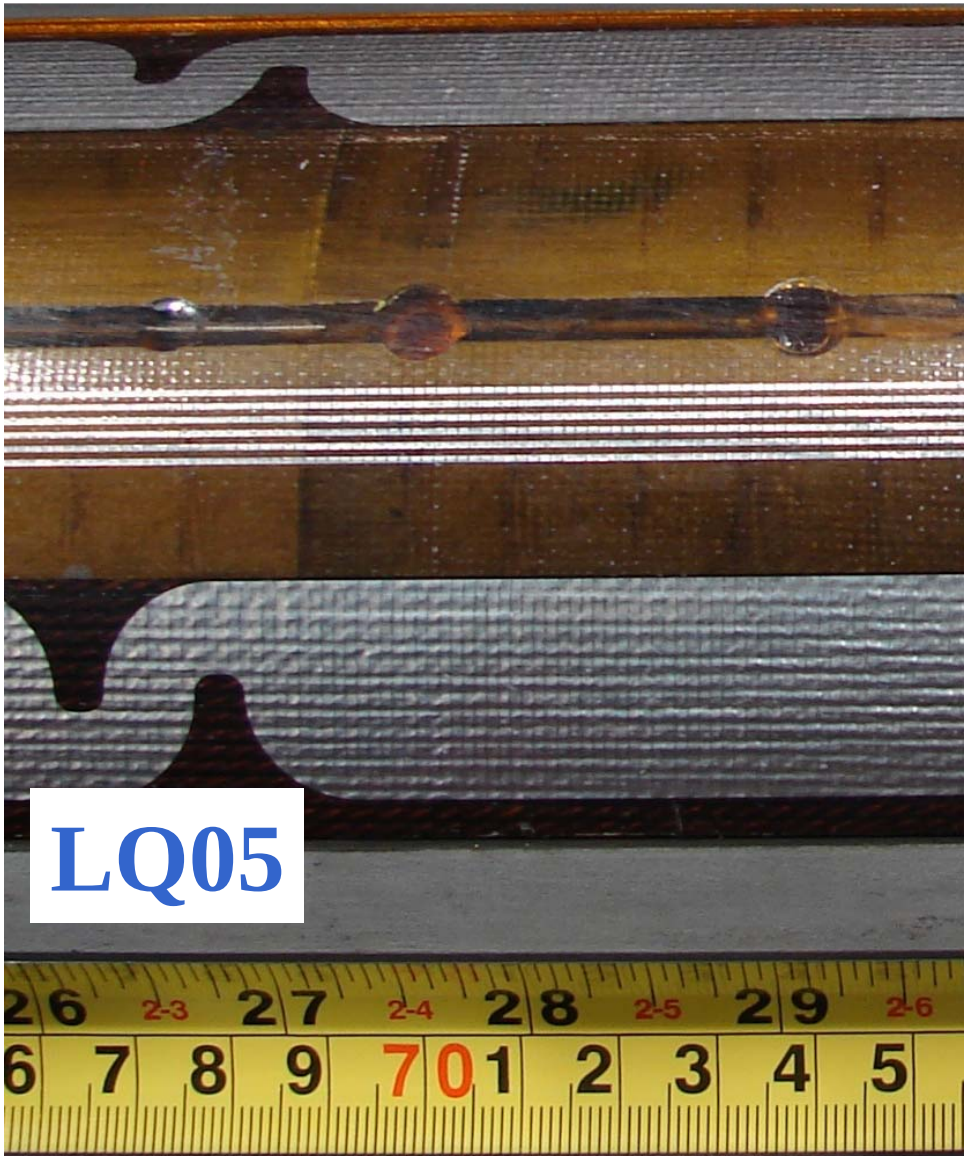


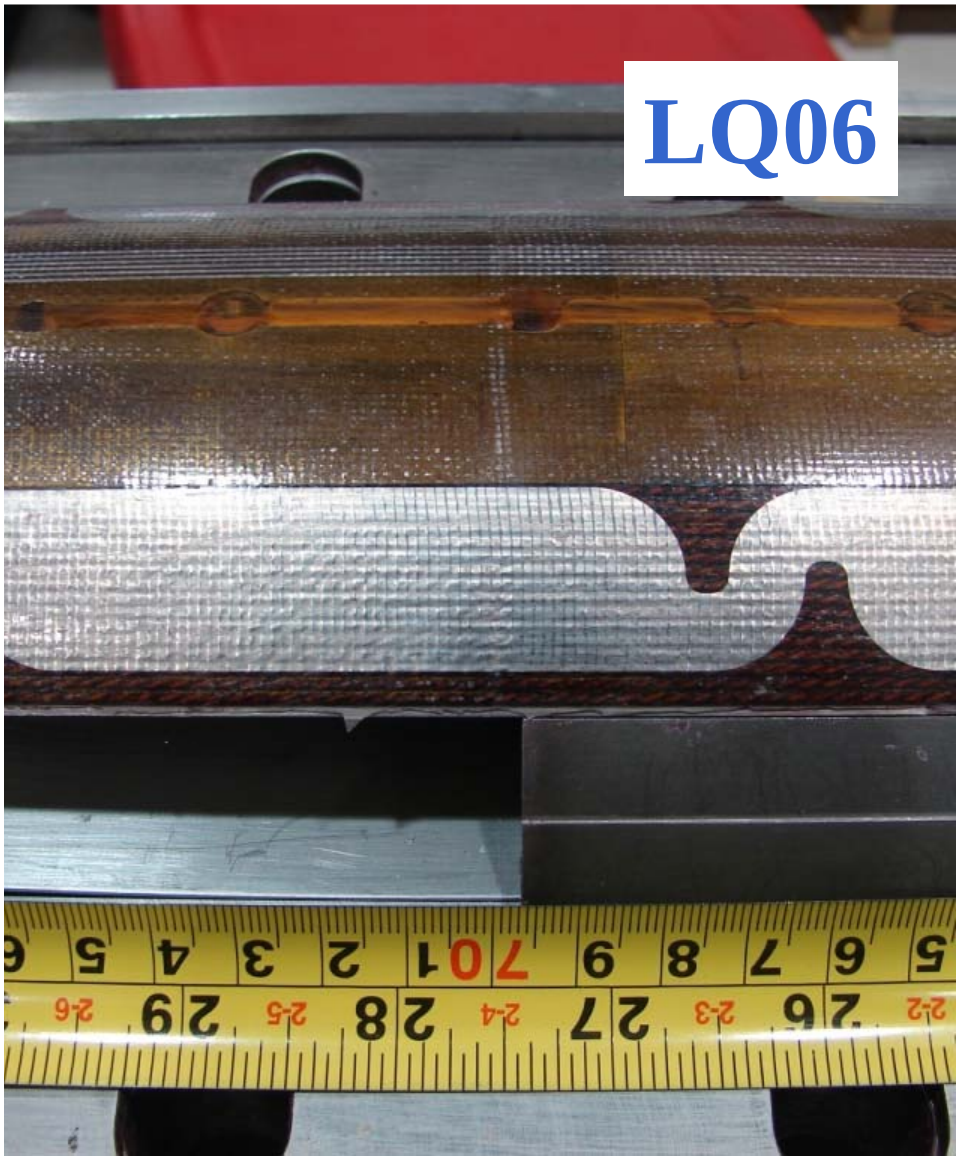
Production Coils Status

- **Coil #6:** dry spots on coil surface after impregnation
  - » Fixed by 2nd impregnation; added soak time under pressure after impregnation
- **Coil #7:** Power outage during HT ➔ stopped argon flow
  - » Witness samples are OK; removed valves
- **Coil #8:** No problem
- **Coil #9:** spots of midplane insulation glued to shim after impregn.
  - » Repaired with room-temperature epoxy; changed mold-release
- **Coil #10:** Instrumentation in progress – No problem so far
- **Coil #11:** Ready for impregnation – No problem so far
- **Coil #12:** Heat treatment in progress – No problem so far
- **Coil #13:** Wound & Cured – No problem so far

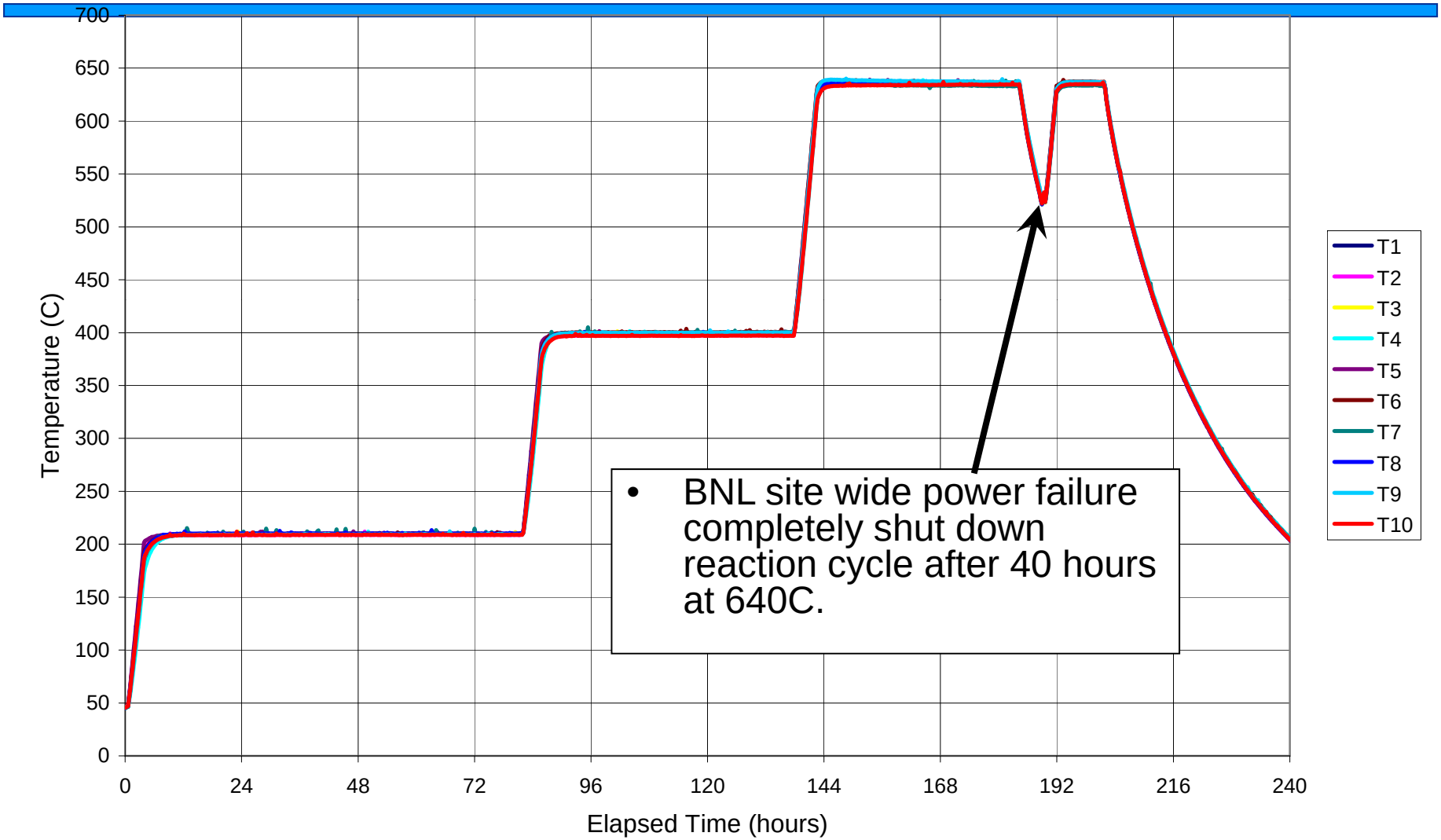
Coil #14 & #15 fabrication will start after LQS01 test

LQ05 & LQ06 2nd Impregnation





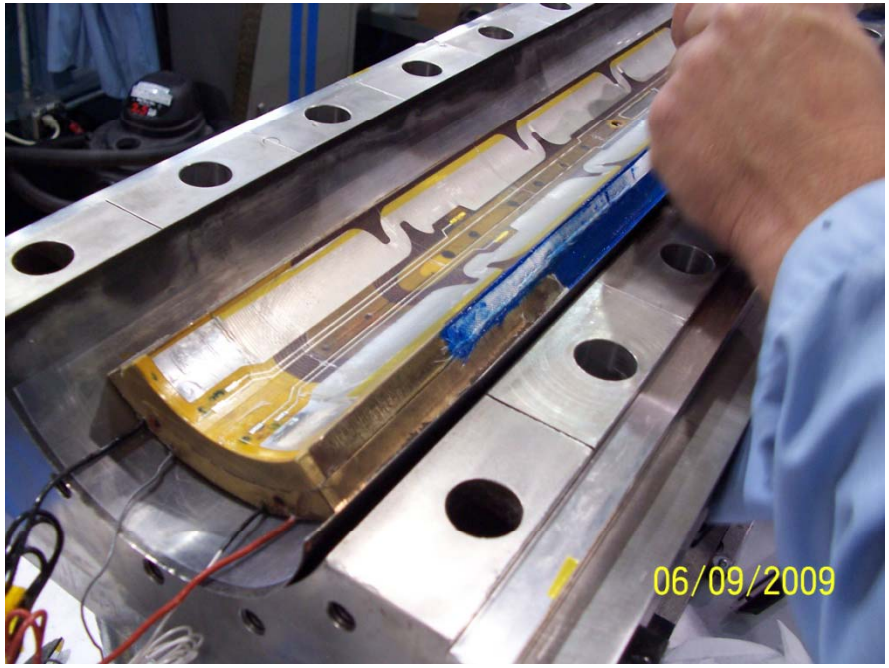
LQ07 Reaction

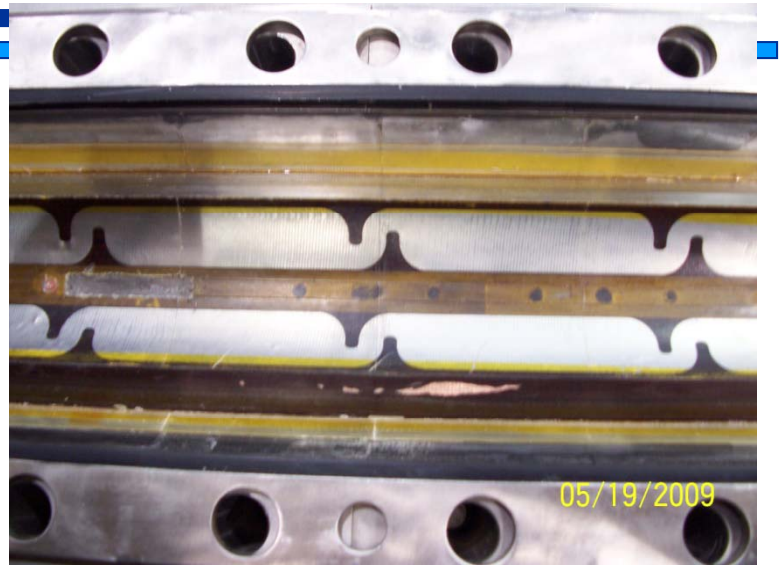


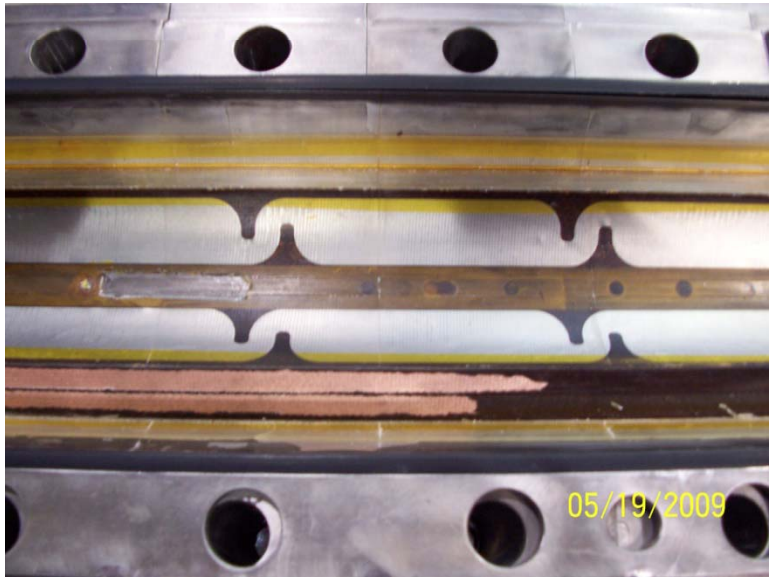
- BNL site wide power failure completely shut down reaction cycle after 40 hours at 640C.

LQ09

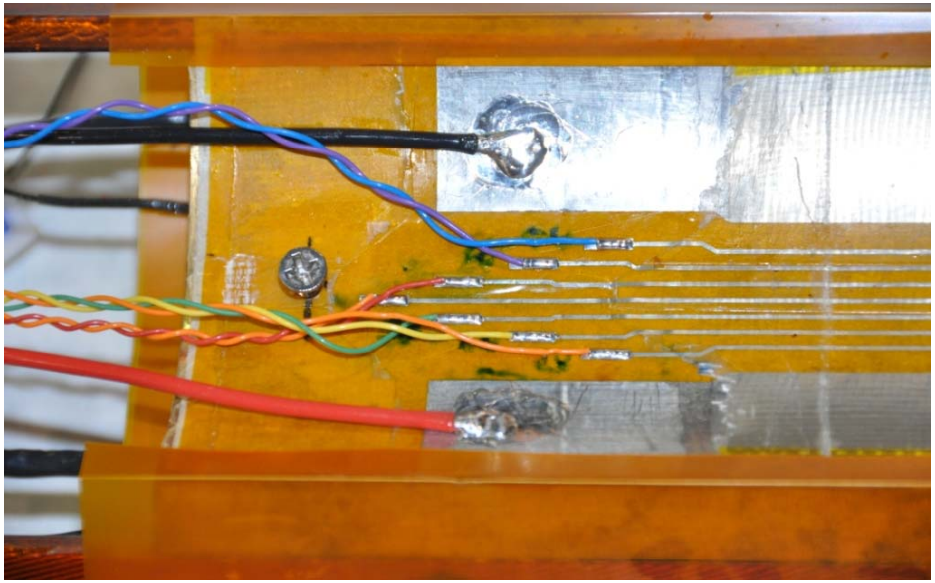
- Impregnation quality looks good…
- Epoxy delaminated from portions of one midplane.
  - Epoxy stuck to midplane shim – repaired using Stycast 2850FT epoxy and glass cloth.

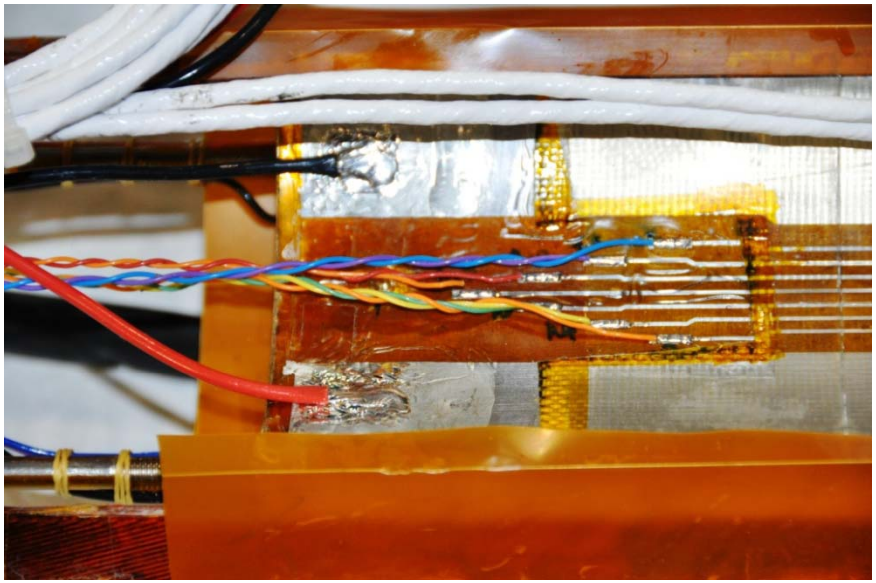


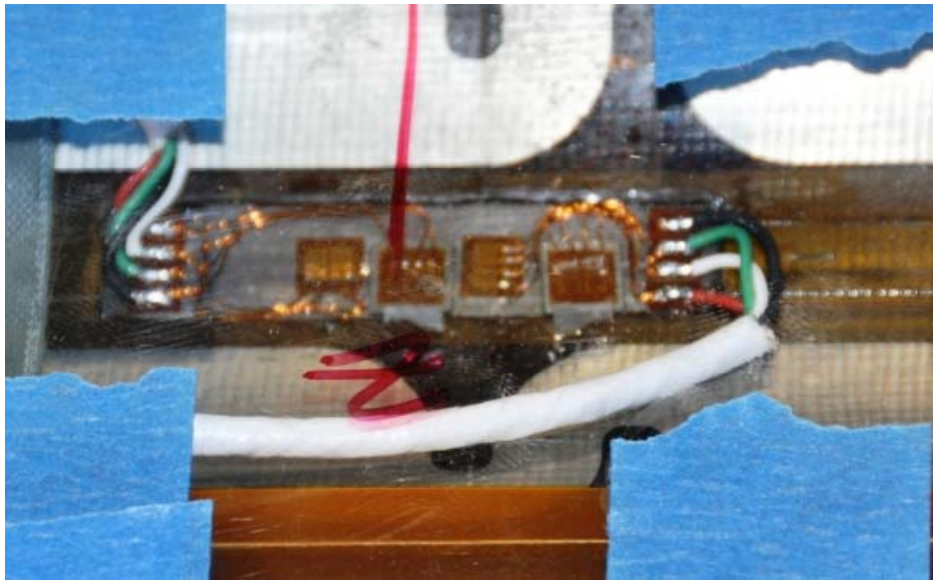




LQ Coil Instrumentation

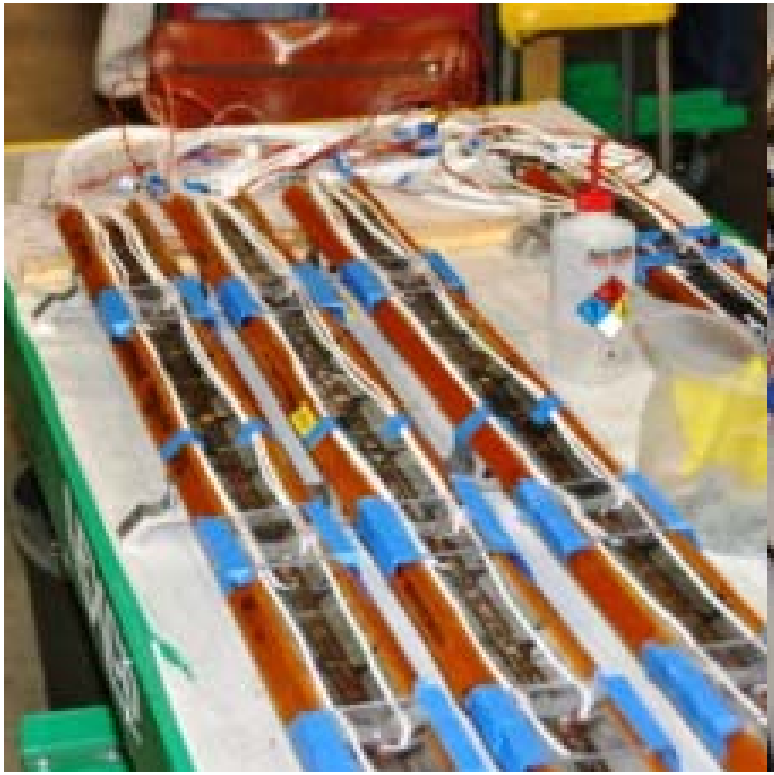




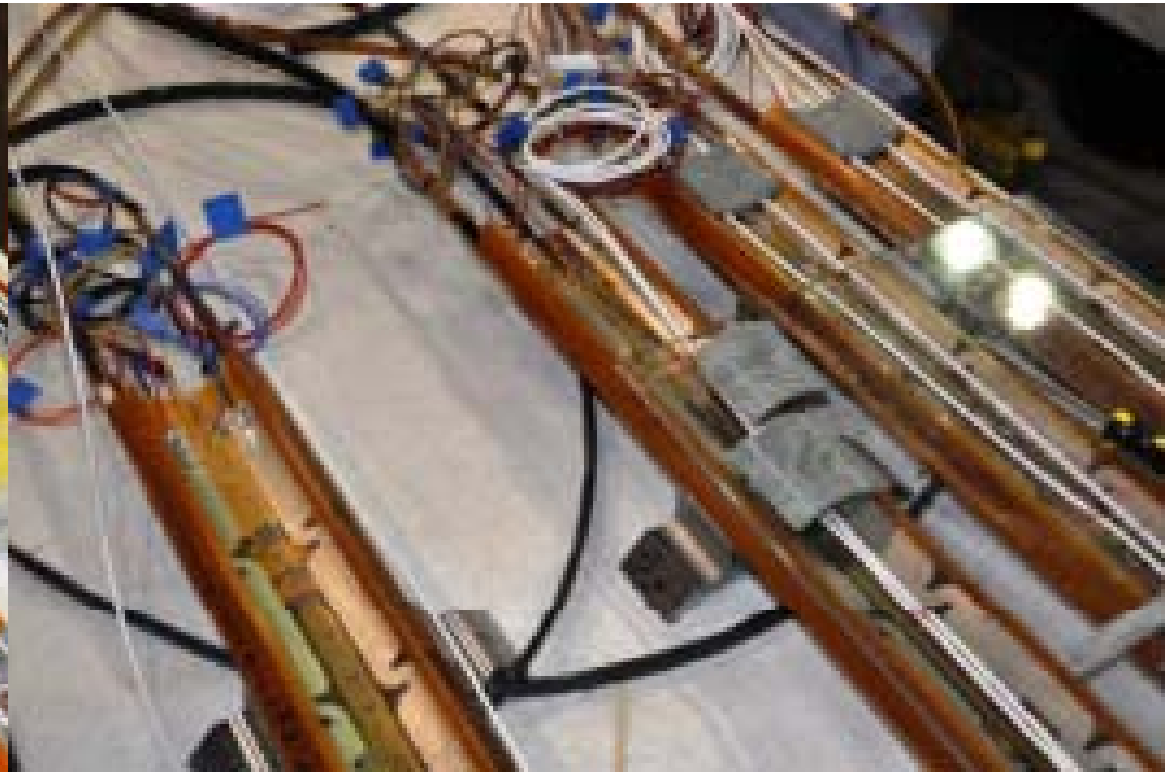


LQS01 Coils at LBL

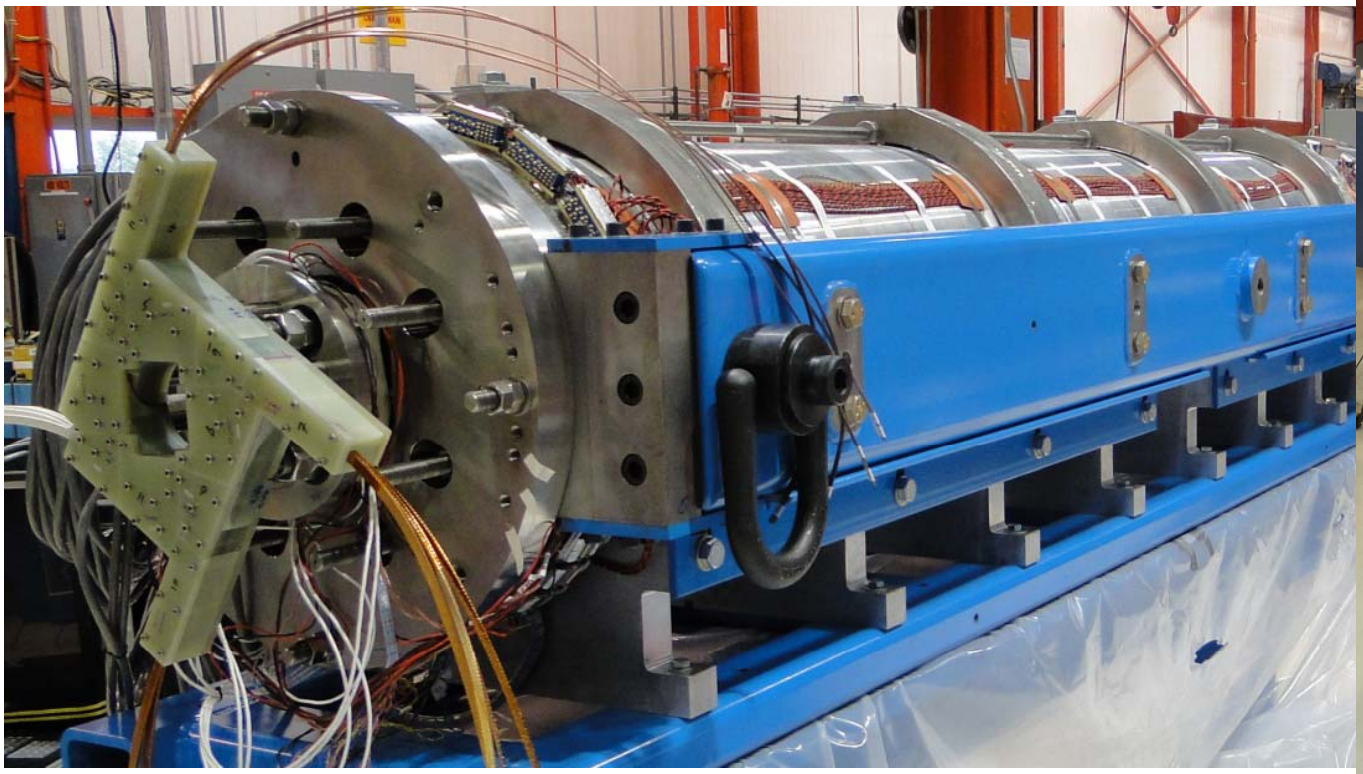
Return End



Lead End



LQS01 at Fermilab



IB3

MTF

FY10 Plans

- Complete Impregnation LQ12 BNL
- Complete Impregnation LQ13 FNAL
- Wind & Cure LQ14-15 FNAL
- React-Impreg. LQ14 BNL
- React-Impreg. LQ15 FNAL