# MOLLER Spectrometer Test Lab work update

10/28/2024

# Space increased again

- CDET moved out
- DOE Tour Friday ~noon, they remarked on nice progress
- Shower Max Counter assembled
  - Procedure developed
  - ePAS written and approved

# New Power Source

- Big Bertha secured (thanks to Hall D)
- Provides
  - 120V
  - 208V 3phase
  - 480V 3phase

# SC1 Coils

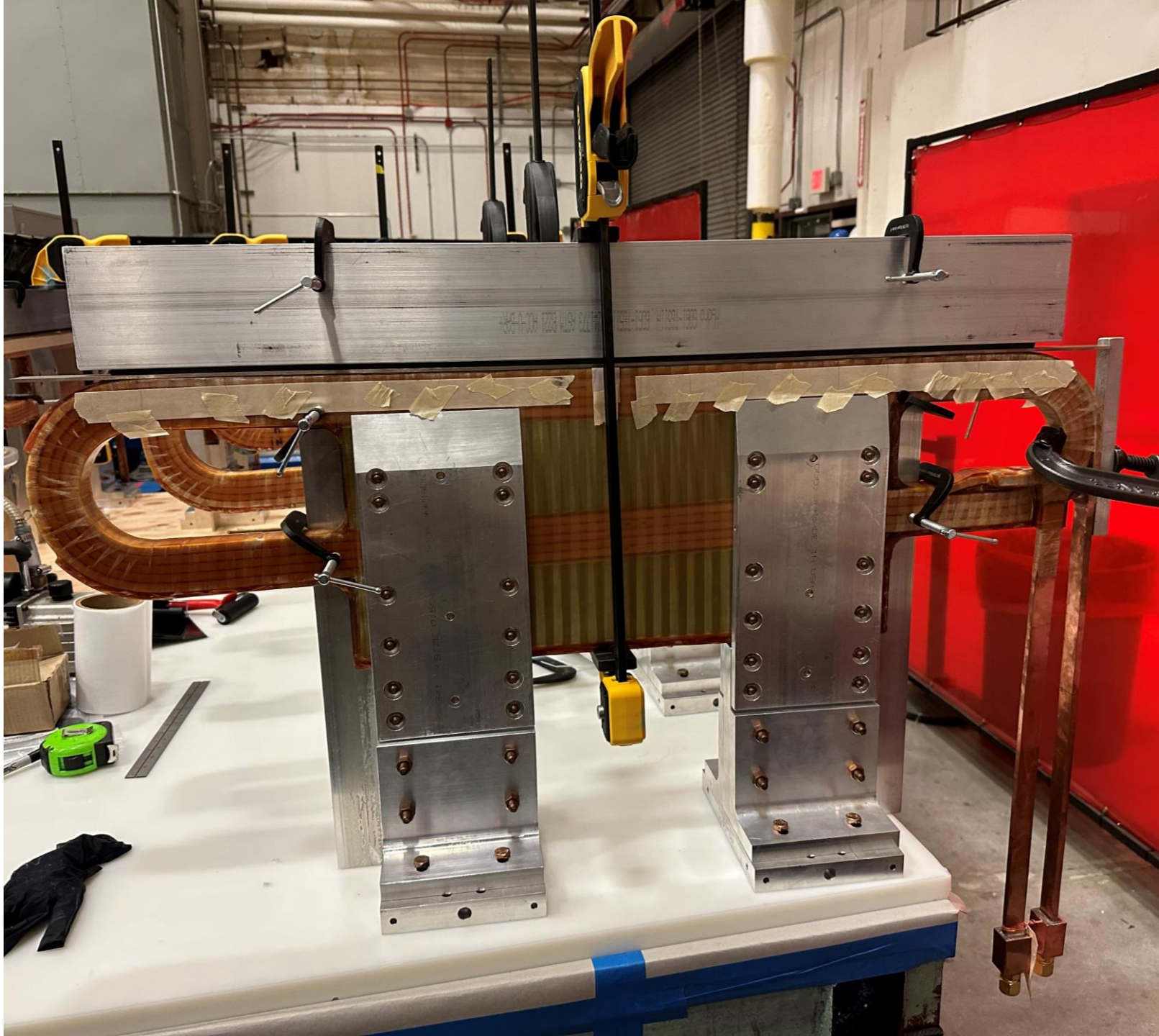
- Fully clamped and sanded
- 7 of 7 High potted w/o Belly plates

# SC2 Coils Fully clamped

- Fully clamped and sanded
- Belly plates positioned with spacer wires
- 2 of 7 hi-potted

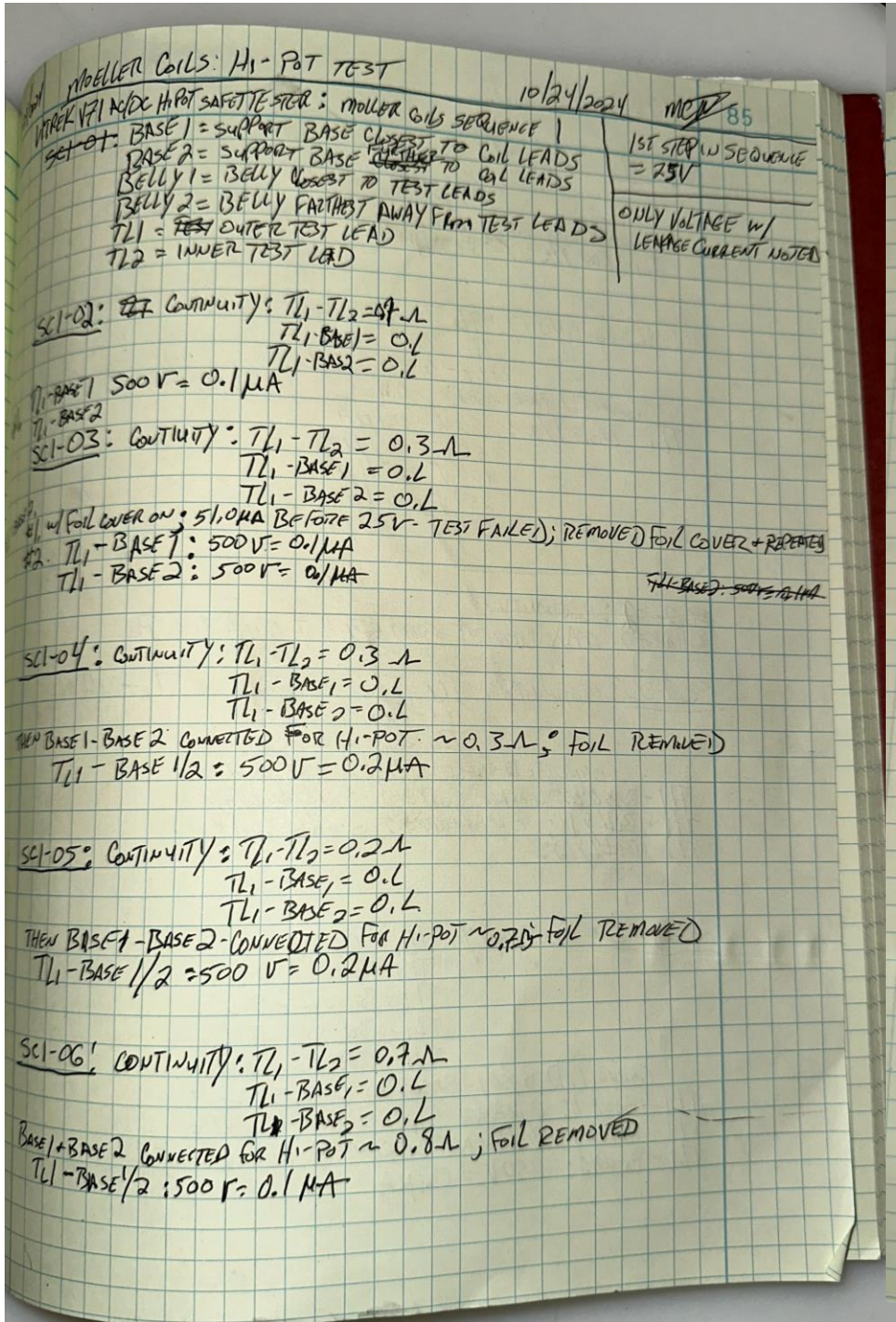
# SC2 coil zoom

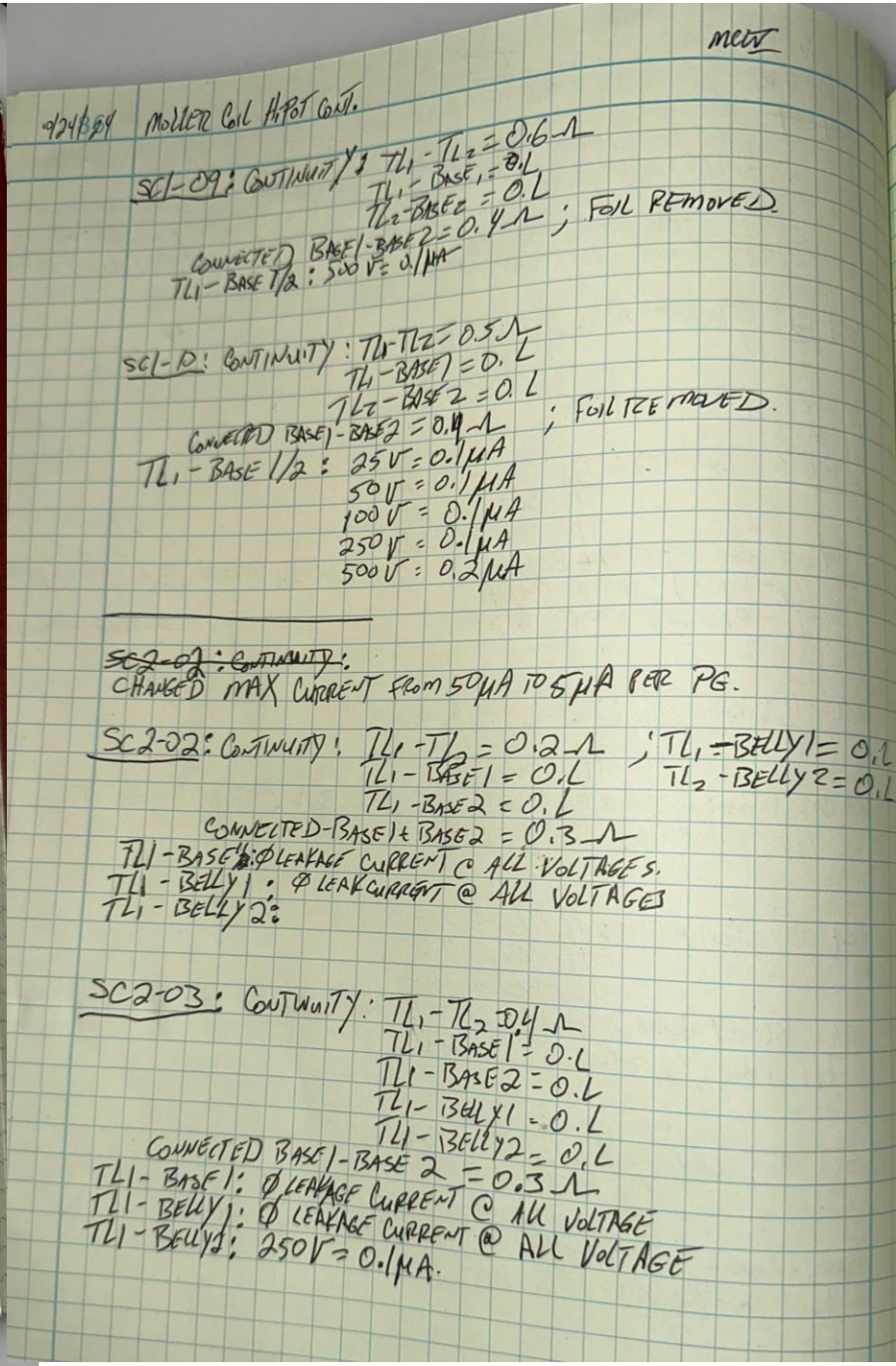
- Ready to Hi-pot and then epoxy on BP and TB
- Note
  - Z stop
  - Tape holding wires
  - Foam putting even pressure on BP
  - Tooling Balls not installed here.



# Hi-Pot Data

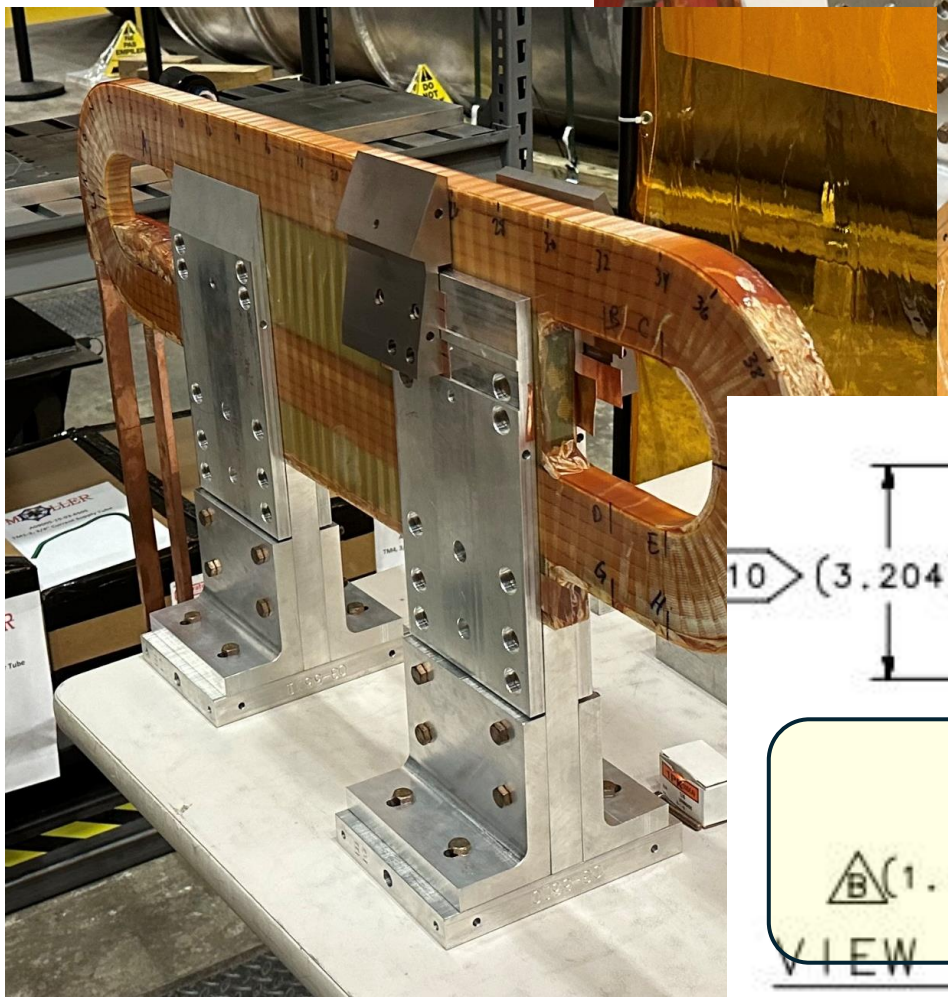
- All up to 1500V (not logged in logbook)
- At 500V peak leakage current 0.3micro amp
- Beyond 500V the leakage current dropped off (possibly due to coil drying out?)

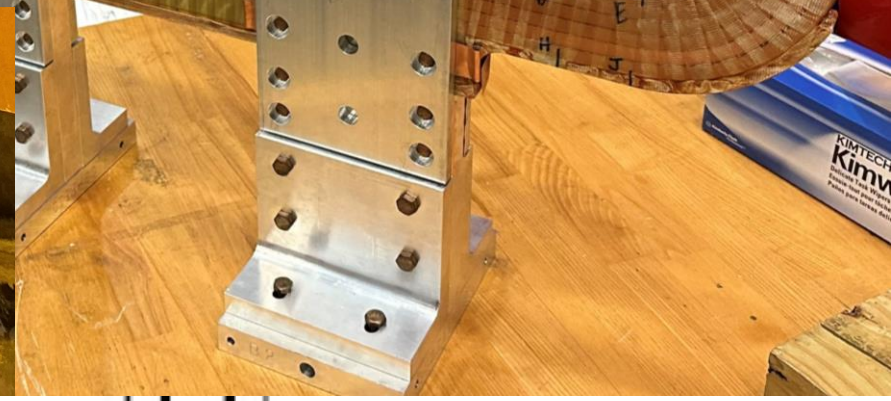


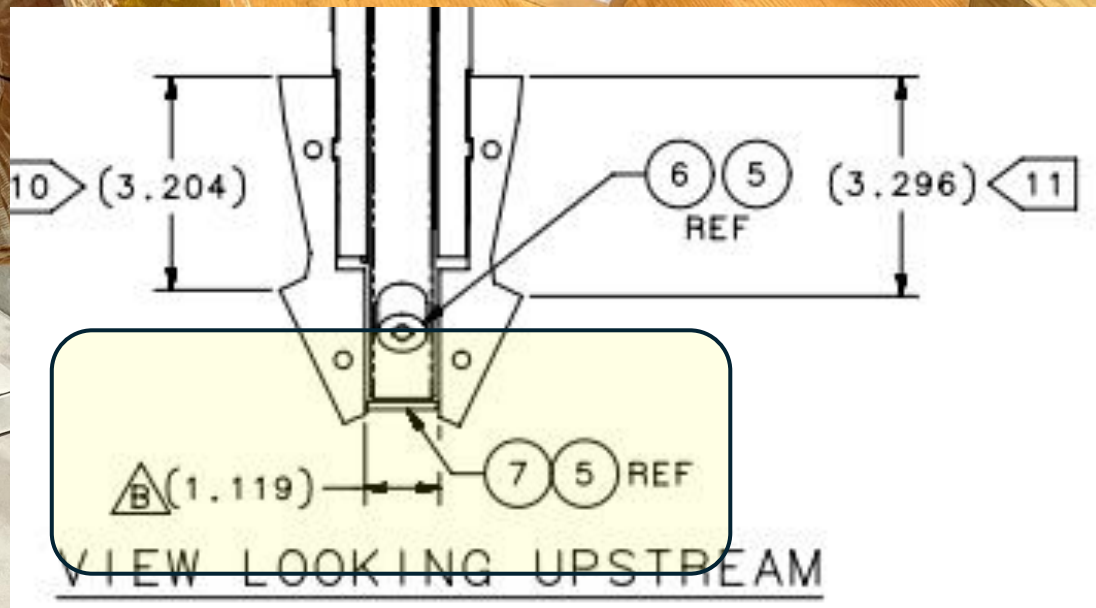



# TM3 coils

- Coils not yet pinned or clamped
- These require epoxy for cooling the collimators
- We Dry fit two coils to understand the process and accuracy
  - One with Collimator spacing 0.998” to 1.030” (needs review)
  - One with Collimator spacing 1.125 to1.126”(pretty good)
  - Nominal is 1.119”
  - Shim sizes used at collimator were 0.010” and 0.021”
  - Shim size 0.016” is available ~200$

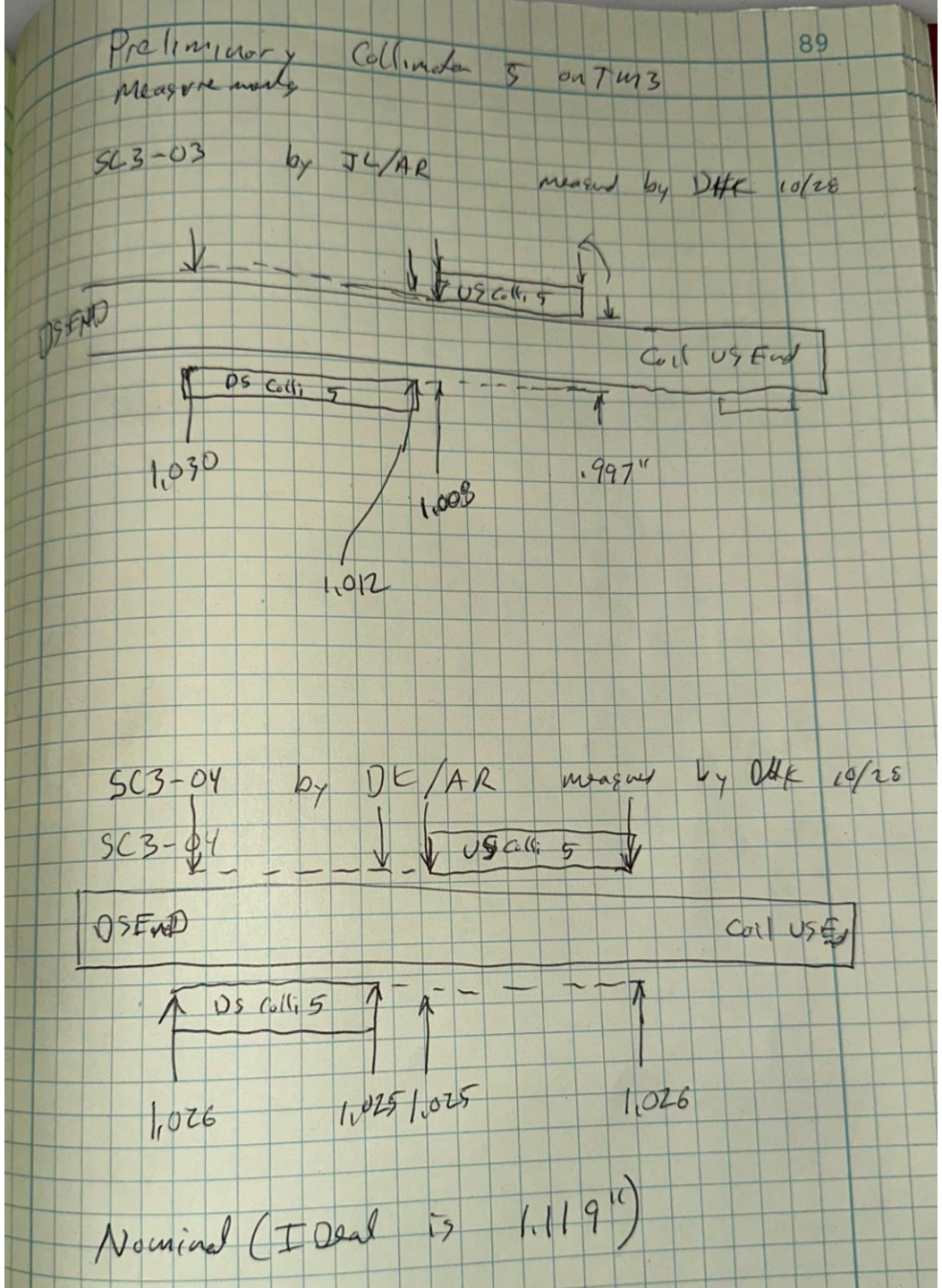






# Measurements in detail on TM3 coils

- We need to know the accuracy in width and precision in yaw for the Collimator 5's.
  - My thought is we can easily get to +/- .010" (0.25mm) but with the uncertainty of coil conductor placement, slight bow in coils, and actual coil positioning accuracy we might want to do better, and +/-0.006" should be possible. So if it is agreed we should order the 0.016" foil too.



# Water Header

- Setting up
- Purpose is to remove flux prior to leak testing
- Requires 208V 3phase

# Water headers

- Inlets and outlets of coils connected.
- Working to get mains connected to flushing system

# DOE Tour - Friday November 25, 2024

- Toured Hall A  (DK presented MOLLER)
- Toured the TL MOLLER area (DK Presented current progress and hardware including the 3d model)
- Tour included
  - Jlab Folks
    - Lab director
    - COO
    - AD for Physics and Facilities
    - Others
  - DOE folks
- They were impressed with our progress