MERIT Hg System
Fabrication Status

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Muon Collaboration Friday Meeting
January 13, 2006
Fabrication Packages

- Syringe pump (in fabrication)
- Baseplates
- Primary containment attached to cylinders (sump tank, Hg inlet/discharge piping)
- Secondary containment box
- Target module (includes primary and secondary containment components)
- Beam windows
Syringe Pump

- Consists of 3 hydraulic cylinders, hydraulic pump, and manual controls
- Awarded to Airline Hydraulics Corporation (AHC), with cylinders manufactured by Hanna
- Cylinders scheduled for delivery to AHC Feb 13
- AHC to integrate & test complete syringe system
Primary Containment

- This package only includes Hg-wetted hardware inside secondary box
- Primarily a field-fit fabrication, advantageous for syringe vendor to complete
- Drawing package being finalized
- Will forward to AHC for quote
- Probably delay syringe delivery to ORNL, but still faster than involving another fabricator
Baseplates

- Majority of components AL 6061-T6
- Provides mobility, alignment, and assembly functions of magnet and Hg system
- Multiple components
  - Common baseplate
  - Target transporter
  - Hg system cart
  - Magnet elevation beam
- Bids currently being obtained from Oak Ridge & Princeton area shops as well as University of Mississippi
Secondary Containment Box

- Approx 58" x 38" x 39" overall
- SS plates for bottom & sides, lexan cover
- Hg vapor filter assembly by Airfiltronix
- Current plan includes fabrication by Princeton University
Target Module & Windows

- Box-like primary fabricated from 1/4" plate
- Circular sheet metal secondary tube
- Original design was SS316, but fabrication issues (welding SS to Ti6Al4V) leading towards all titanium fabrication
- Discussions underway with Ti fabricator regarding design details
- Fab package will include beam windows
Summary

- Syringe pump in fabrication
- Detailed design drawings for other hardware being completed and checked
- Estimates being obtained for baseplates
- Secondary containment box may be fabricated by Princeton
- Converting target module to an all-titanium configuration
- Current schedule requires all hardware to be delivered to ORNL by end of April