UT-BATTELLE

# Baseplate Testing

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**MERIT VRVS Meeting**

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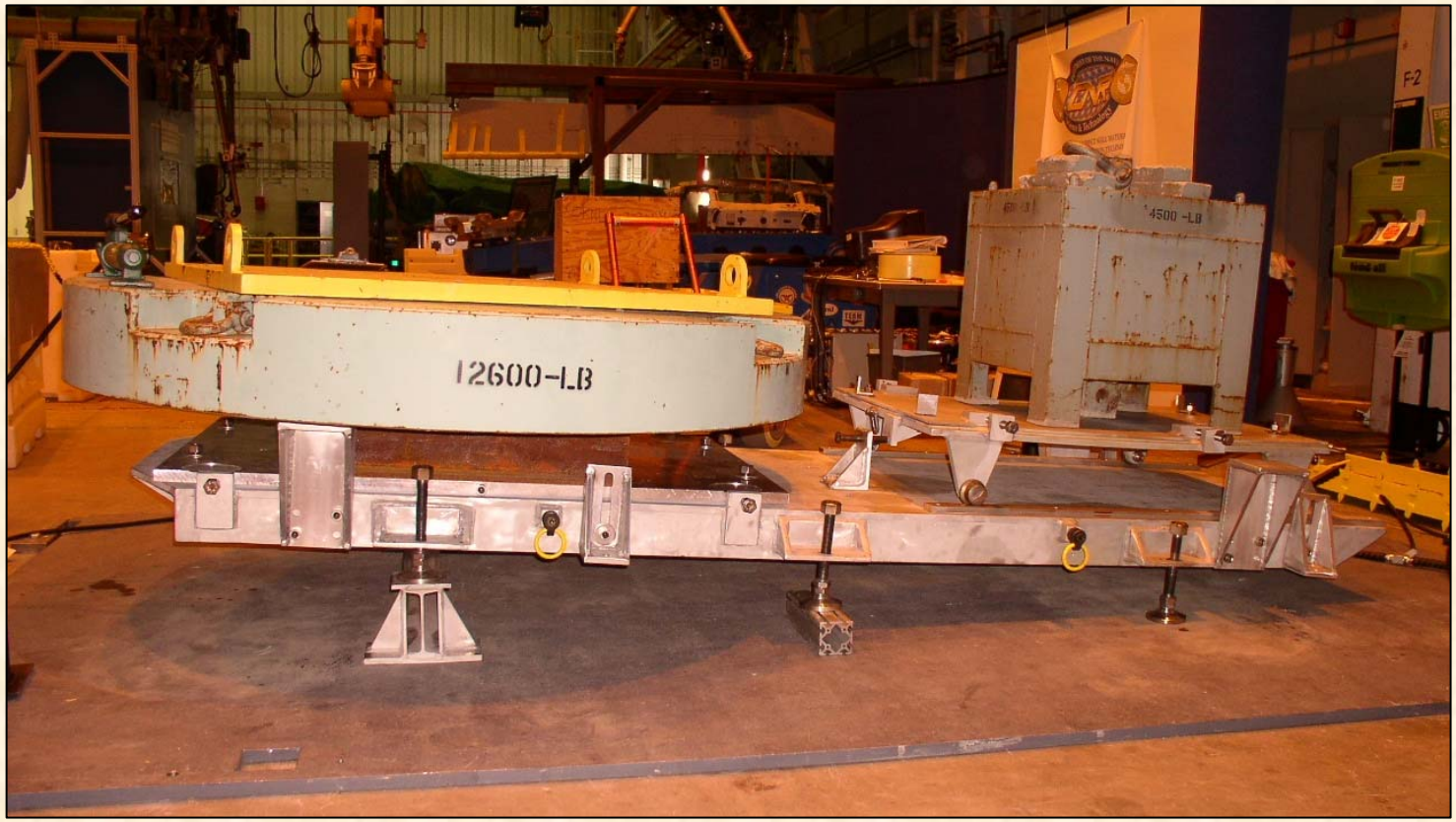
U. S. DEPARTMENT OF ENERGY

# Load Testing of Common Baseplate & Target Cart


- **CERN Safety Commission voiced concerns regarding analysis performed on common baseplate design**
- **Load test performed on structures to verify strength and test adjusting mechanisms**
- **Estimated component weights**
  - **Magnet: 12000 lbs (5440 kg)**
  - **Hg system (with 23liters Hg): 4000 lbs (1810 kg)**
- **Test weights**
  - **Magnet: 13600 lbs (6170 kg) = 113% estimated weight**
  - **Hg system: 4500 lbs (2040 kg) = 113% estimated weight**

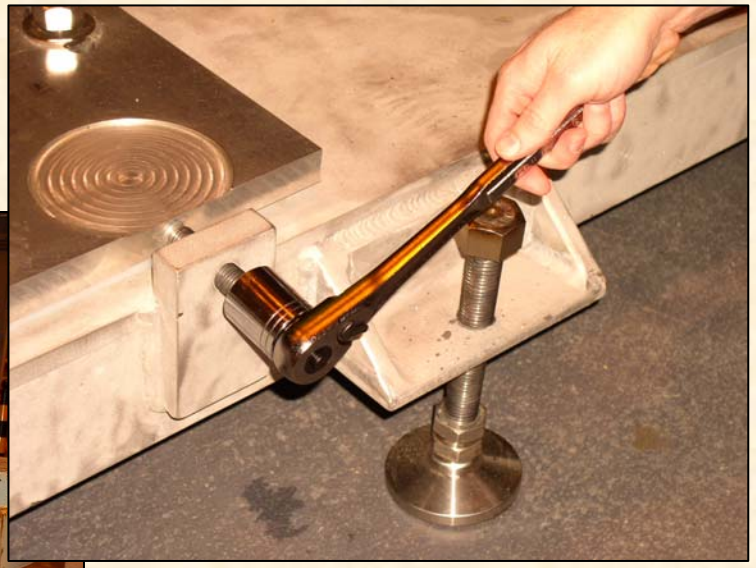
# In Nominal Test Position

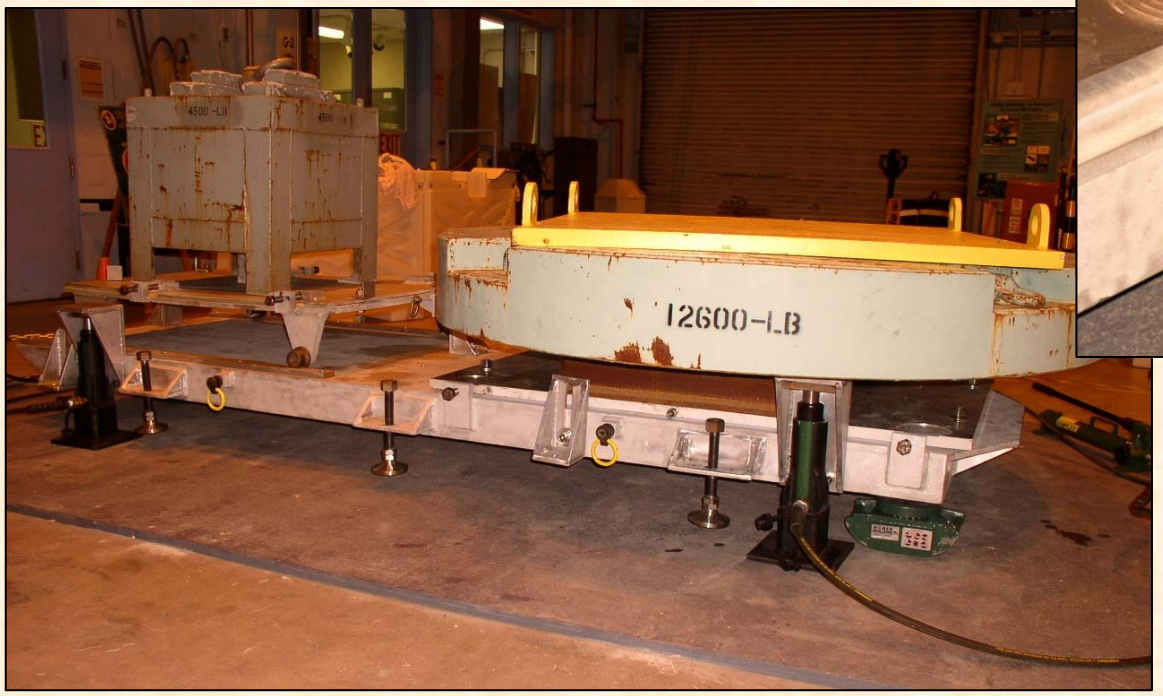
- **Baseplate tilt ~ 66mrad**
- **Elevation matches CAD models**



# Operational Testing

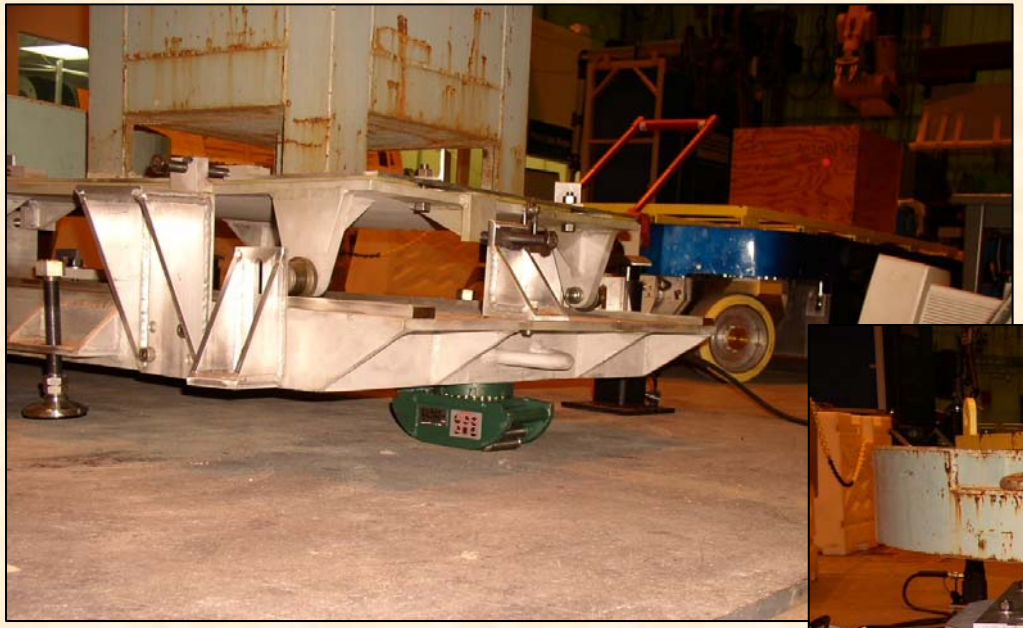
- **Lifting jacks and lateral position adjustment mechanisms tested**

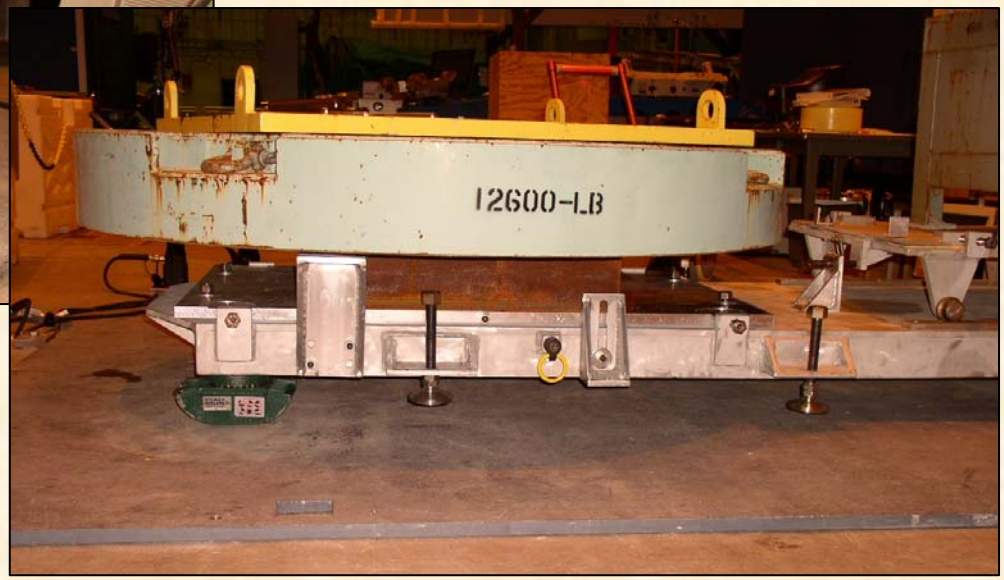




# Roller Testing

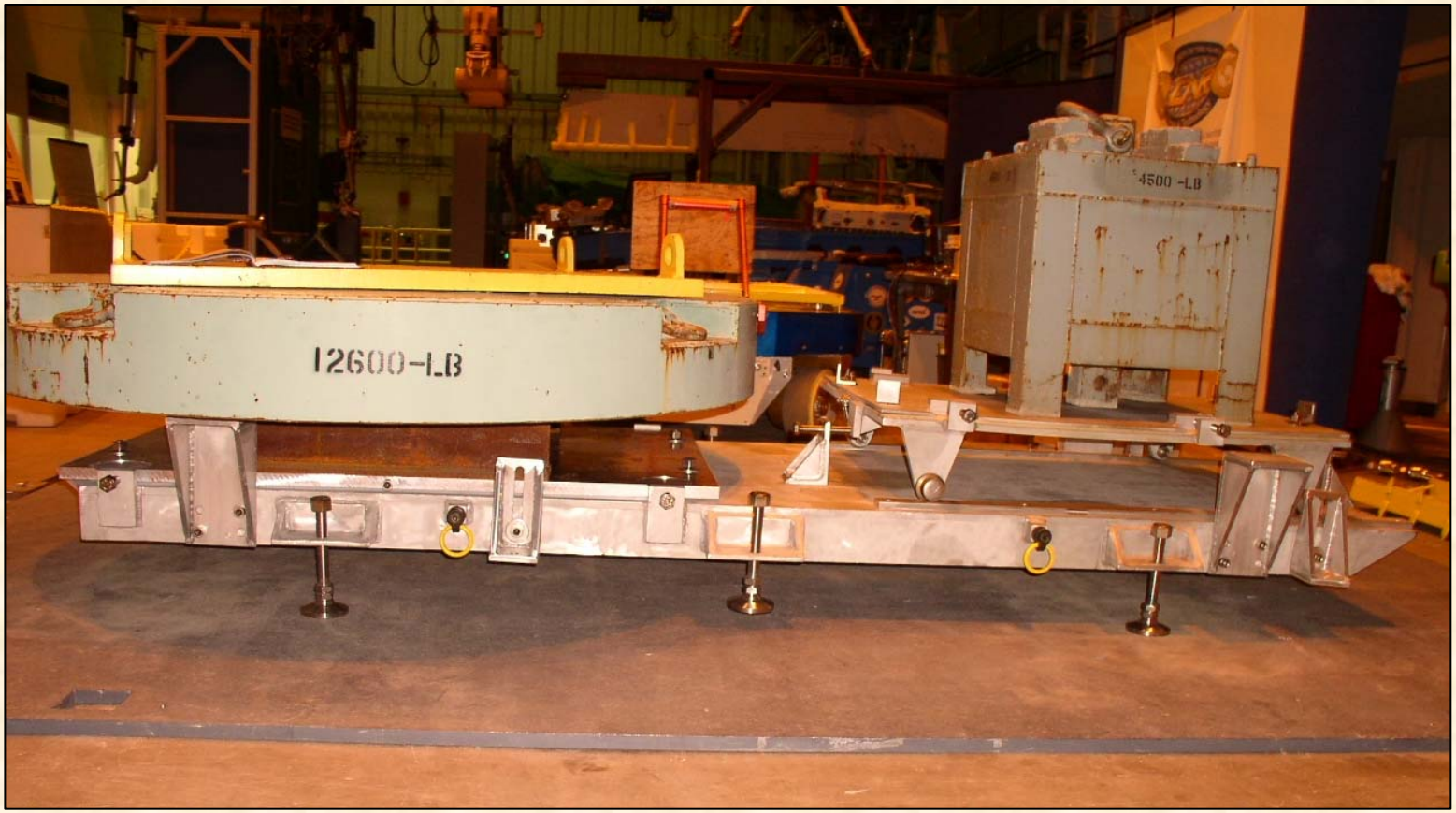
- **Loaded baseplate pushed with pallet jack while on three Hilman rollers**





# Leveling Jack Testing

- **Baseplate adequately supported by four leveling jacks**



# Conclusions

- **MERIT Common Baseplate has been successfully tested with 113% expected loading**
- **All adjustment mechanisms successfully tested**
- **Structural design verified and will be presented to CERN Safety Commission at next review**