

Apollo Laboratory Report

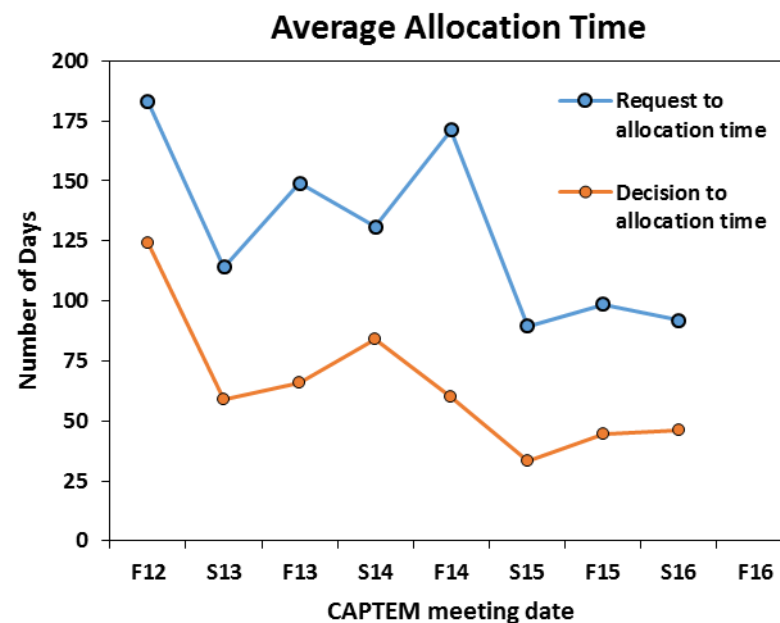
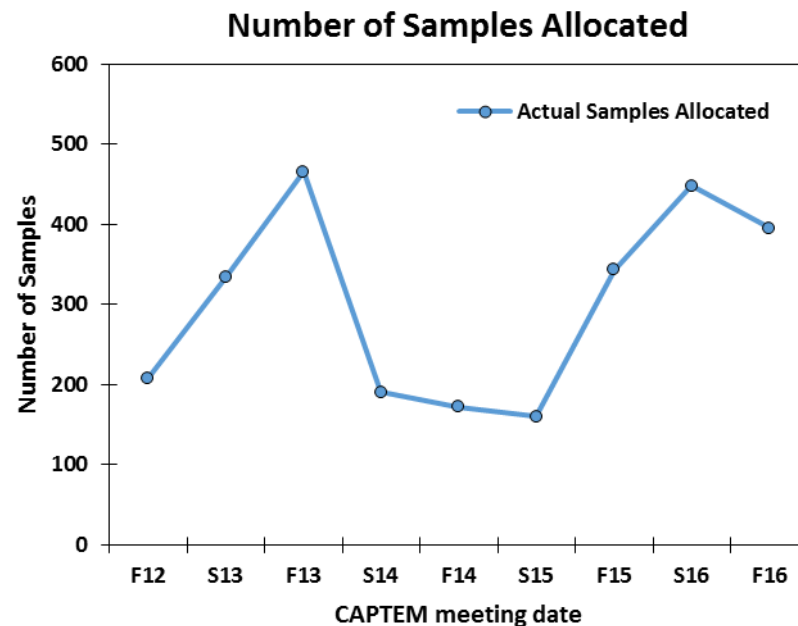
Fall 2016 CAPTEM meeting

Ryan Zeigler

Apollo Sample Curator

Allocations

- Between 03/23 and 10/1, we have allocated the following:
 - 395 Apollo Samples sent to PIs
 - 181 Thin Sections
 - 214 Samples (chips, fines, etc.)
- That brings the total # of lunar allocations for FY16 to 843.
- PI visits – 1 visit, 2 days
 - Katie Joy
- We processed 722 return samples back into the lunar collection.
- Thin Section Lab activity
 - 27 new sections made, including 21 new specialty potted butts for SIMS work.



Sample Requests

- All sample requests not awaiting PI action completed
 - Two Spring 2015 requests are still awaiting PI action.
 - Four Spring 2016 requests are awaiting PI action*
- There were 33 requests for the Fall 2016 CAPTEM deadline:
 - 16 Curatorial, 17 CAPTEM
- Of the 17 requests considered by the LSS for Fall 2016:
 - 11 passed, 6 passed with modifications; 0 were denied
 - 265 samples were requested and 190 samples were approved.



Outreach

- Lunar Thin Section Sets + Education Disk Program
 - 16 TS sets; 191 disks to K-12
- Lunar lab has hosted 131 tours for 999 people (346 inside lab)
 - Students/Interns/Teachers
 - Astronauts/Cosmonauts
 - Gareth Edwards – Rogue One Director
 - Congressional Reps. (Culberson)
- Media Events
 - Filming for NBC
 - Filming for ABC digital
 - Filming for a Grace Potter Video
 - Wired Magazine Article



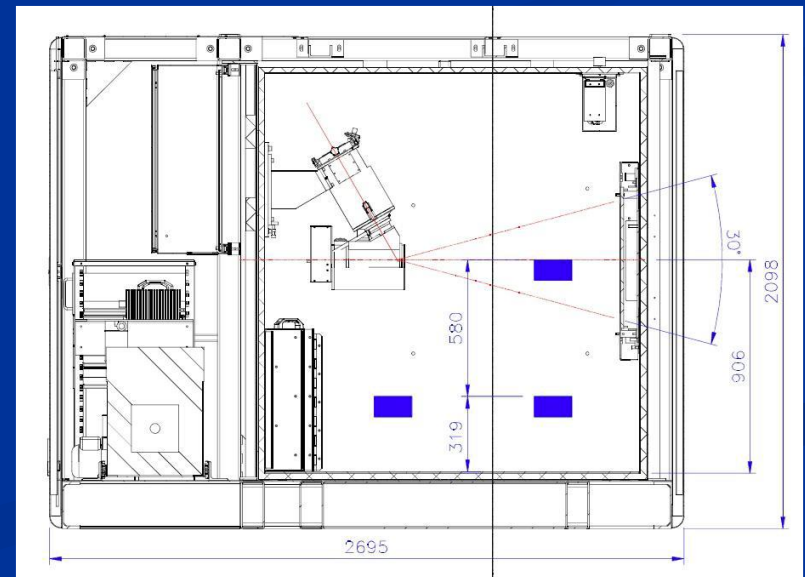
Thin Section Reorg

- Currently lunar thin sections are stored in the lunar vault in a variety of locations/containers.
 - Ideally all would be centralized.
- We recently built 20 new thin section cases, giving us capacity for 18,000 sections, plus >3,000 more in SCC
- There are currently ~15,500 flagged sections; >3,000 are in SCC
 - Great, this all fits no problem!
- Sadly, sections that predate our digital data base are not flagged.
 - We found and identified >5750 samples in the return vault ([Juliane Rocks!!](#))
 - Among these, we identified 5799 sections, of which nearly 4500 are what we call “polybag multiples” (multiple sections with a single number)
- We will continue to chip away...



Micro-CT Lab

- We purchased a Nikon XTH 320 micro-CT system.
 - 4 interchangeable x-ray sources (180 kV, 225 kV, 225 kV rotating, 320 kV)
 - A 2000 pixel, 16-bit detector
 - Ability to handle large samples (100 kg, 300 mm diameter)
 - Bit of a monster (8000 kg, 9' x 7' x 6')
- The large lunar thin section lab will be renovated to house it.
- Timeline of the instrument
 - Demolition – March-April 2016
 - New construction – April-May 2016
 - Casework installed – June 2016
 - Hire a technician – July/August 2016
 - Instrument arrival – August 2016
 - System acceptance – September 2016
 - Data produced – Fall CAPTEM



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- Timeline of the instrument
 - Demolition – March-April 2016
 - New construction – April-May 2016
 - Casework installed – July 2016
 - Hire a technician – October 2016
 - Factory Instr. Insp. – January 2016
 - Instrument arrival – February 2016
 - System acceptance – March 2016
 - Data produced – Spring CAPTEM



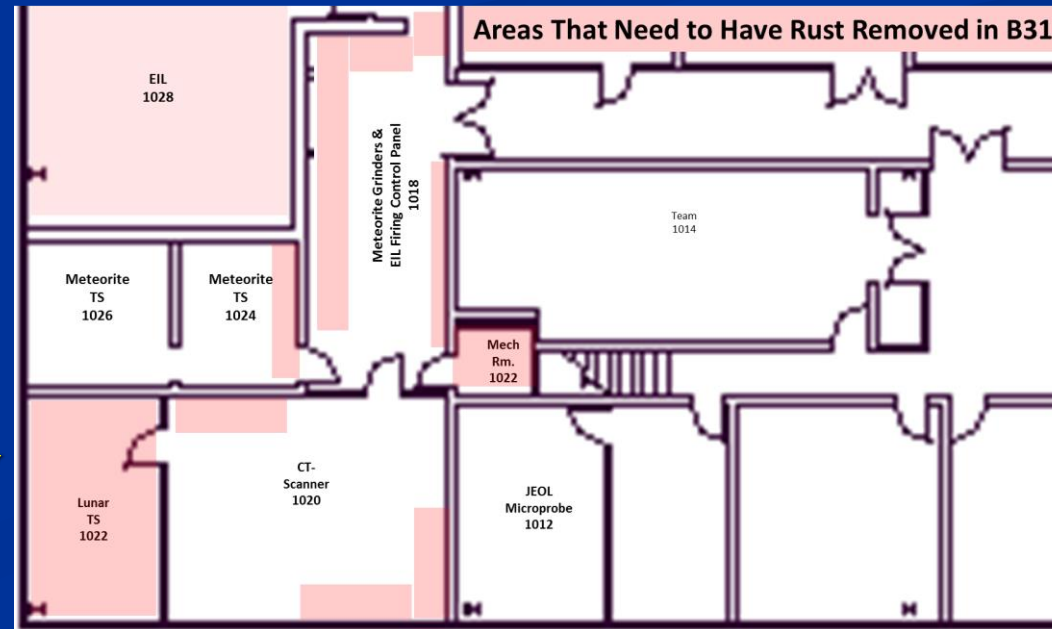
Water Leak

- On September 15, 2016 a water line supply to a chiller burst overnight (after 6 pm, before 6 am).
- Flooded the new CT labs, lunar and (part) of meteorite TS, and the EIL with rusty water.
- No samples were damaged, the water was quickly cleaned up, and the area was dried out.



Water Leak

- Accessible areas were cleaned, but the rust remained in inaccessible areas.
- Work is about to begin to gut lunar TS, the CT lab, and the hallway to clean and replace the cabinets.
- Meteorite TS & EIL can be cleaned without major construction.
- The new floor in the CT lab heaved, and a plan to level the CT scanner is now in place.
- Plans to keep a flood like this from happening again are now being enacted.



Summary

Priorities for the next 4 months

1. Complete all new allocations (336 samples)
2. Clear six“old” allocations (need PI feedback)
3. Reorganize the thin sections into the new cases.
4. Bring the new micro-CT laboratory online and begin to produce data.
5. Make inroads into processing return samples, especially large return collections
6. Figure out how to fill time in the new year