**CEBAF 6 Month Summer SAD 2017 : 24 Weeks of Fun**

**Week #1: March 20-April 26 –**

**Week #2: March 27-April 2 –**

**Week #3: April 3-April 9 –**

**Week #4: April 10-April 16 – Prep beam tests for coming weeks…**

* Wed – Lock-up, check for 1mA to FC1 w/ choppers OFF
  + => Made ~450uA
* Thu – PQB check : Hall A @ 499 MHz for 100uA to FC1
  + => Done

**Week #5: April 17-April 23 – pos differences vs. laser size at PC w/ GaAs/GaAsP**

* Mon-Wed – Laser room work and INJ=BP on Day/Swing for beam to FC1
  + Laser room + 4 beam setups tests, about 25uA to fc#1
* Thu-Fri – Laser room work and INJ/NL=BP on Day/Swing for beam to FC2
  + => Did not need beam to fc#2
* #11: 1146-4: GaAsSb/AlGaAsP: blow off arsenic cap?
  + => Successful on 4/24
* HighP 75104/DBR 75105: prepare in Suitcase
  + => Deferred to Docking bakeout later on

**Week #6: April 24-April 30 – Baseline GaAs/GaAsP in Gun2**

* Mon: Heat/activate GaAs/GaAsP
  + => Successful 1.4% QE @ 130keV, uniform QE
* Tue-Wed: Characterize – Measure (QE, SCL, Pol, AP) vs. Charge at high current
  + => Successful checkout of 1mA to FC#1 (no SCL, POL, AP)
* Thu: Activate 1146-4: GaAsSb/AlGaAsP, and if not successful return to GaAs/GaAsP
  + => 500C for ~10min, no photocathode QE after 35 min Cs
* Fri: Measure QE and Pol, plan to use for next week’s test
  + Did not lock-up, but removed Gun HV Switch Software + Tested OK

**Week #7: May 1-May 7 – Radio-isotope measurement 18.5 MeV @ 50uA to 4D**

* Mon – setup beam and calibrate new diagnostics
  + => Checkout of 4D line, 18.5 MeV @ 4K, B/C tune mode issues
* Tue – Open for installation
  + => Needed another ~12h setup, align to viewers + spot
* Wed-Sat – Radiate Ga target
  + => Install Ga target, set P w/ HMIN=2, Sx=Sy=1.2mm, 50uA good tune
* Sun – while tunnel locked up, Measure 1146-4: GaAsSb/AlGaAsP QE and Pol
  + => Run extended to Monday 8am, + no puck#11 test

**Week #8: May 8-May 14 – Gun3 Removal + PSS Certification (HVPS locked out)**

* Radio-isotope run ends
  + => SRF @ 4K, 18.5 MeV, produced 70 micro-gram Cu-67 and didn’t break CEBAF
  + => Separation at VCU unsuccessful
* Mott (0-1000uA) + Mott vs. QE
  + => P vs. I : <https://logbooks.jlab.org/entry/3472394>
  + => P vs. QE : <https://logbooks.jlab.org/entry/3472417>
* PSS Lockups on Swing shift
* Gun3 : remove gun, add vacuum diagnostics chamber
  + => http://devweb.acc.jlab.org/CSUEApps/atlis/task/17327
* LLRF: firmware, board component swap, UPS
  + => Completed, but took all week long
* Co-align ABCD, 4 tune generators, B RTP
  + => Tune mode electronics issue solved/addressed
  + => Laser work deferred (no RF available)

**Week #9: May 15-May 21 – Gun2 Photocathodes + PSS Cert (HVPS locked out)**

* PSS Certifications (Lock-up on Swing shift)
  + => Completed, next PSS certification end of August after Bubble run
* U Va PQB laser profile measurements (Mon-Wed)
  + Measured divergence and astigmatism of A/C lasers
  + => <https://logbooks.jlab.org/entry/3473100>
  + => <https://logbooks.jlab.org/entry/3473180>
* Gun2: Remove: Bad-DBR, Bad-GaAsSb; Add: HighP+75104, DBR+75105
  + => Suitcase/Docking station bake successful
  + => Gun2 photocathode swap deferred until after 200kV HV job
* Gun3: Vacuum check, remove VBV3I02 from valve anti-collision interlock inhibit
  + => Leaky valve <http://opsweb.acc.jlab.org/CSUEApps/atlis/task/17278>
  + => Defer 3I/2I valve inhibit work until reasonable time
* Laser Work : Co-align ABCD, Align Hall B RTP
  + ABC co-aligned (D blocked); different ABC focal length => diff. spot size
  + Hall B RTP installed, aligned

**Week #10: May 22-May 28 – Beam Studies to FC#1**

* Phase reproducibility vs. LLRF off/on
  + => https://logbooks.jlab.org/entry/3473504
* Beam position drift vs. Ross probe used/not used
  + => https://logbooks.jlab.org/entry/3473848
* Commission Radmon w/ nA’s of beam
  + => <https://logbooks.jlab.org/entry/3473519>
* Check IHA1I07, IHA0I02 harps; measure emittance for C-big, C-small
  + => did not do, could have
* Lifetime tests
  + => <https://logbooks.jlab.org/entry/3473908>
* QE Tool Upgrade
  + => Two files, Difference, Analyzing Power and GUI improvements
  + => https://logbooks.jlab.org/entry/3352680

**Week #11: May 29-June 4 –PSS INJ PM (Tunnel Work)**

* PSS PM, no beam at the injector
* Gun3 : Replace right angle valve, bake 3I chamber, anti-collision circuit
  + => Bake in progress
* GPIB Keithley DVM relocated
  + => Keithley separate from picoammeters (might prevent HV lockup)
  + => Pete identified ‘bad’ pico on A4, replaced w/ cal’d unit
* Capture valve replacement
  + => ???
* Electricians add (2) 208VAC circuits for Spellman
  + John completed already
* Bubble Run Update …
  + => Still TBD, won’t know until end of July

**Week #12: June 5-June 11 – Injector Group Beam Studies**

* Capture HCO in Power Permit ???
* Injector group tests (bunch length, Wien)

**Week #13: June 12-June 18 – TBD / Spellman & TOSP**

* TBD: Move Spellman to CEBAF injector
* Complete 225kV TOSP, inspections

**Week #14: June 19-June 25 – High Current Studies**

* Mon : Heat/Activate
* Tue (Day) : Setup for C laser lens IN/OUT + emittance measurement
* Wed-Fri (Day/Swing): (0.5,1,1.5 mA) @ IN=big + (0.5,1,2 mA) @ OUT=small

**Week #15: June 26-July 2 – High Current Studies**

* Mon : Brock visit, Swap steering lines for different pair of IN/OUT
* Tue (Day) : Setup for C laser lens IN/OUT + emittance measurement
* Wed-Fri (Day/Swing): (0.5,1,1.5 mA) @ IN=big + (0.5,1,2 mA) @ OUT=small

**Week #16: July 3-July 9 – 200kV Gun Installation**

* As-found survey of HV + NEG ?
* Move HV chamber to CEBAF
* Replace HV + NEG
* 2A alignment

**Week #17: July 10-July 16 – 200kV Gun Bake & Leak Check**

* Bake, leak check
* Early 2B + laser alignment

**Week #18: July 17-July 23 – 200kV Gun HV Conditioning**

* 2B + laser alignment
* HV conditioning

**Week #19: July 24-July 30 – 200kV Gun Beam Tests**

* Bubble Installation TBD (Swing)

**Week #20: July 31-August 6 – Bubble Installation**

* Bubble Installation

**Week #21-22: August 7-August 20 – Two weeks of Bubble Eng. Run**

**Week #23-24: August 21-Sepember 3 – Two weeks of PSS Certification**