

Stacking

- Held on to the 45mA during the MI access.
- When turning on stacking further held off by problems with the MI-52 Kicker
- Stacking Numbers - slip-stacked
 - <stack rate> = 19.7 mA
 - <production> = 22 e-6/p
 - <protons on target> = 6.2
- Stacking Numbers - not slip-stacked
 - <stack rate> = 12.9 mA
 - <production> = 24 e-6/p
 - <protons on target> = 3.5 e12
- While in standby, the transverse emittances climbed to about 1.8 pi-mm-mrad, and then to almost 2.5 pi-mm-mrad when stacking resumed before transfers.
- Reason is unclear, will investigate today.
- We still do have AP2 BPM issues that prevent us from using the 8 GeV portion of the overthruster.
 - Target tune has drifted, so do an old fashion target tune and Debuncher injection closure.
- Proton Torpedo shows bunch length for non-slip stacked beam is about 1.5 to 1.6, normally 1.0 to 1.2

Transfers

Column 1 Number _0_Pbar Transfer Shot #	Column 4 Number_3_ Transfer Time	Column 21 Number _20_A:J BEAMB sampled on \$91 (A:BEA M7), E10	Column 22 Number _21_A:J BEAMB sampled on \$94 (A:BEA M9), E10	Unstacked (mA)	Column 23 Number _22_R: BEAMS (R:BEA ME0[0]) pre sfer E10	Column 24 Number _23_R: BEAM (R:BEA ME0[1]) post sfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Trans fers	Set s	Column 5 Number_4 _Acc Horizontal Emittanc e	Column 6 Number_5 _Acc Vertical Emittanc e	Column 8 Number_7 _Acc Longitu dinal Emittanc e	
Totals =>				122.76			106.18	86.49%	92.89%	93.14%	10	5	8.755	8.4978	1.798	
13866	Thursday, September 24, 2009	6:17	26.42	5.35	21.69	47.80	67.54	19.92	91.83%	97.54%	96.36%	2	1	6.633	6.86	1.798
13865	Thursday, September 24, 2009	4:37	25.78	5.27	21.15	28.44	47.94	19.60	92.68%	97.49%	97.49%	2	1	6.01	6.765	1.795
13864	Thursday, September 24, 2009	2:28	46.55	6.66	39.94	0.08	29.00	29.37	73.55%	85.83%	85.91%	2	1	19.488	15.985	1.713
13863	Wednesday, September 23, 2009	8:45	28.56	8.07	21.46	177.09	196.96	19.86	92.50%	95.76%	96.02%	2	1	6.512	6.869	1.838
13862	Wednesday, September 23, 2009	7:39	25.15	7.60	18.52	160.21	177.59	17.43	94.11%	94.12%	96.63%	2	1	5.132	6.01	1.846

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Totals =>				64.30			59.37	92.34%	96.93%	96.62%	8	3	6.385	6.8313	1.8103	
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- Unstacked only 123mA in ten transfers over 5 sets.
 - <Overall Efficiency> = 87%
 - This number is brought down by the owl shift transfer where we had emittance problems. Take that transfer out of the calculation and the number becomes

- 92.3%. Still a little low.
- The beamline orbit for transfers changed a lot after the MI access. We are missing the desired position at ELAM by nearly 10mm.
 - We will fix the orbit on the first set of transfers.

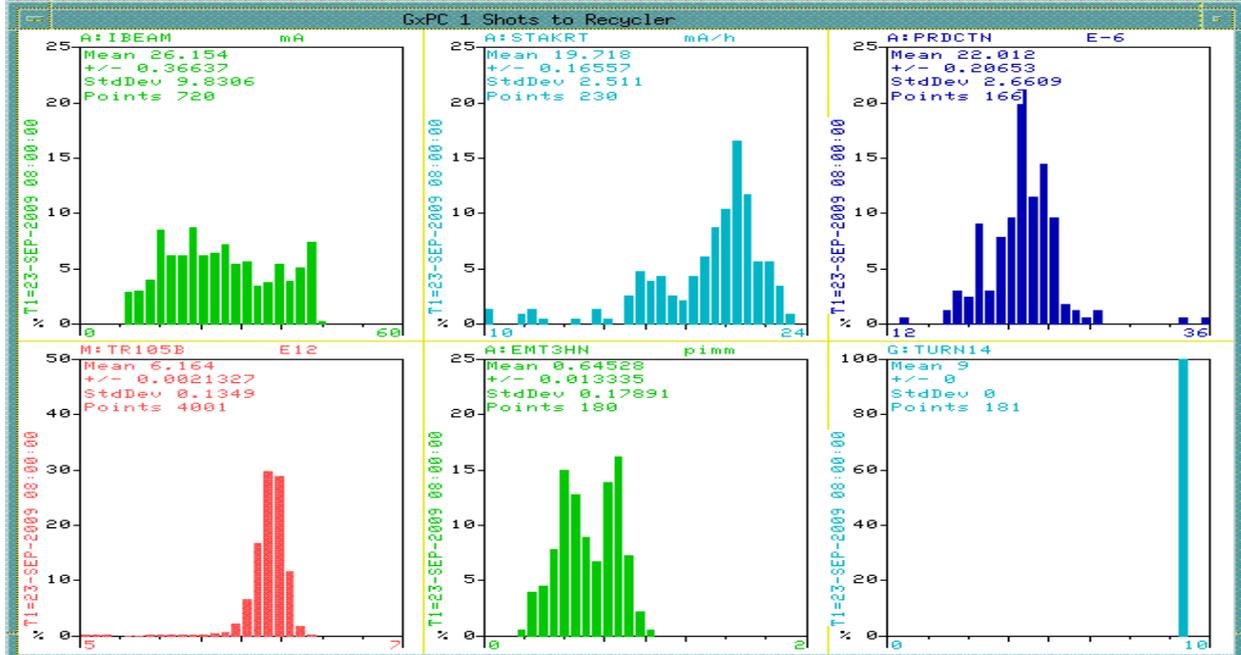
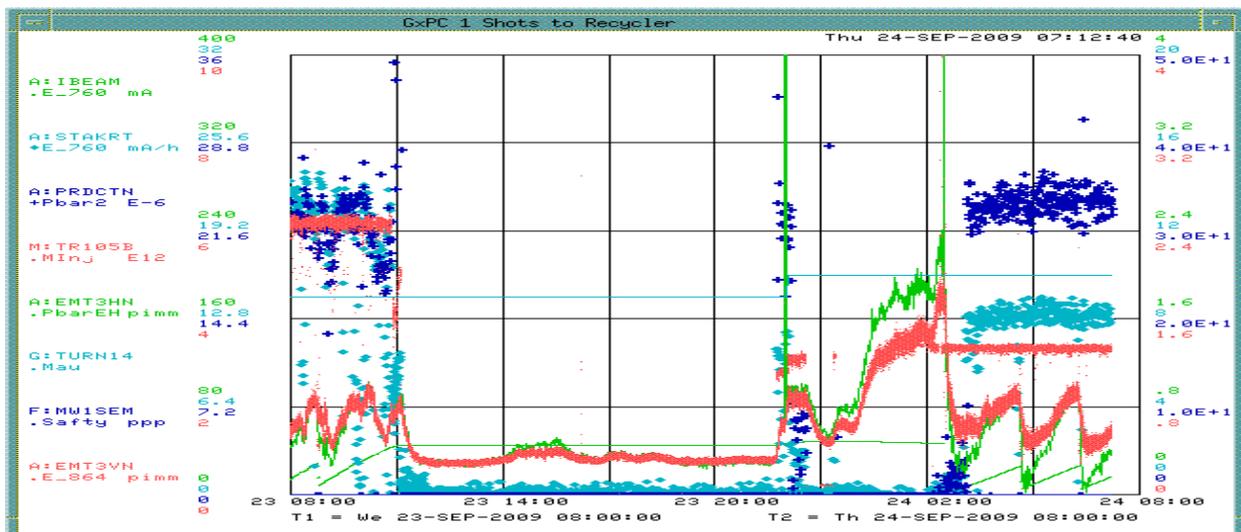
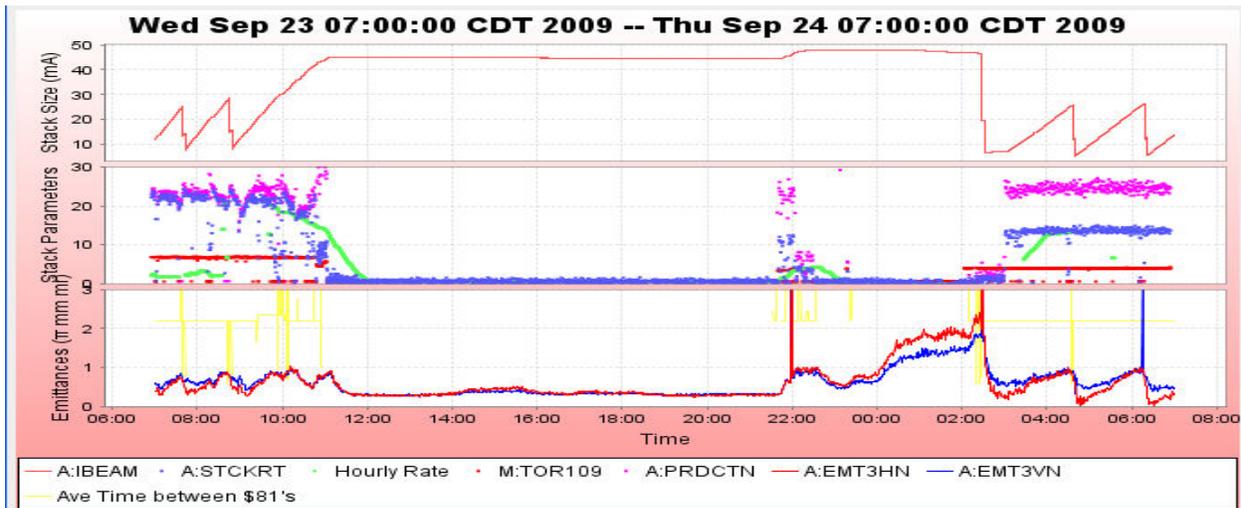
Requests

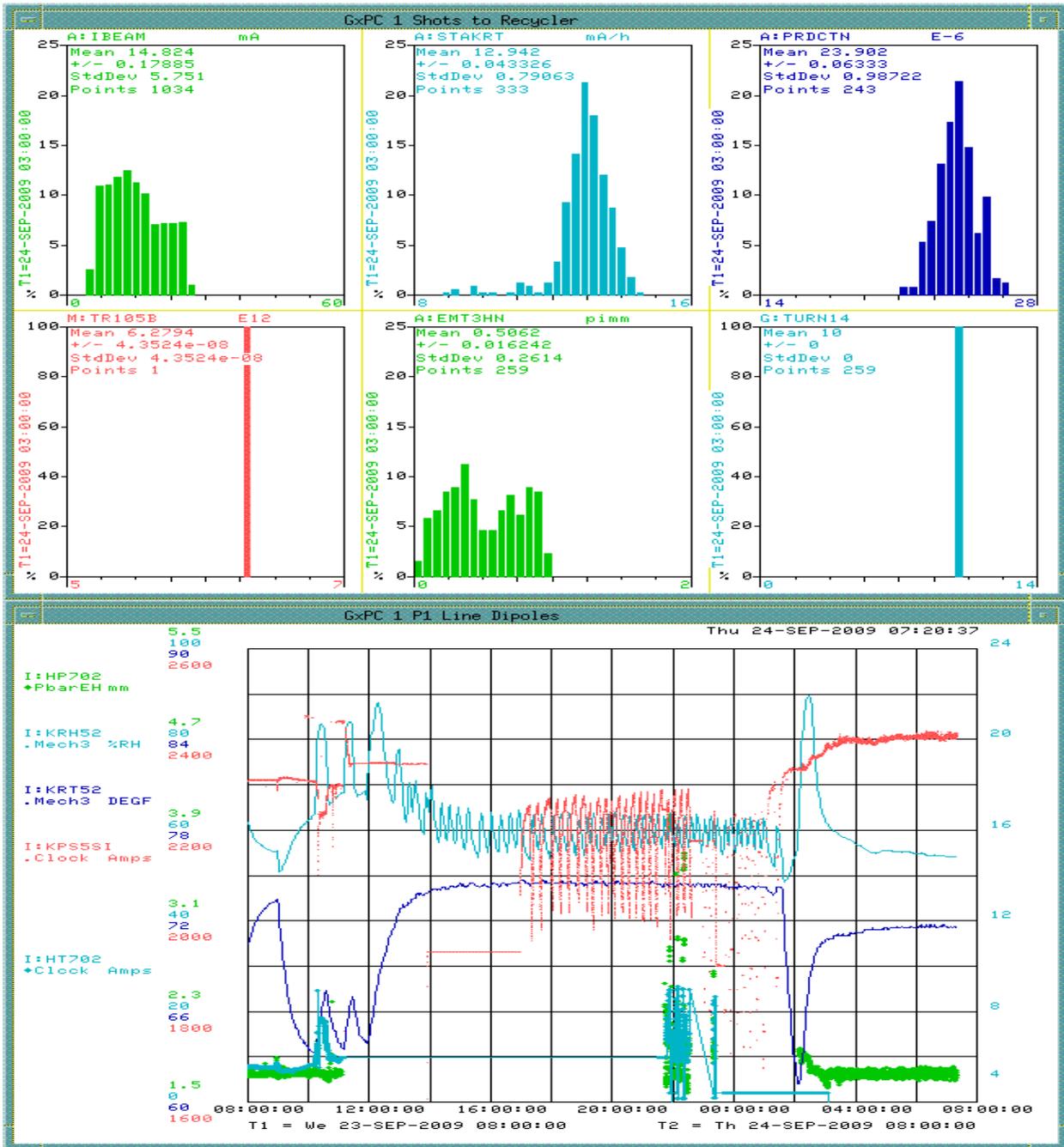
- Once stacking is back to normal, phase in the Debuncher cooling systems.
 - Total of 16 hours which can be spread out over 2-4 hour chunks.
 - This interrupts stacking.

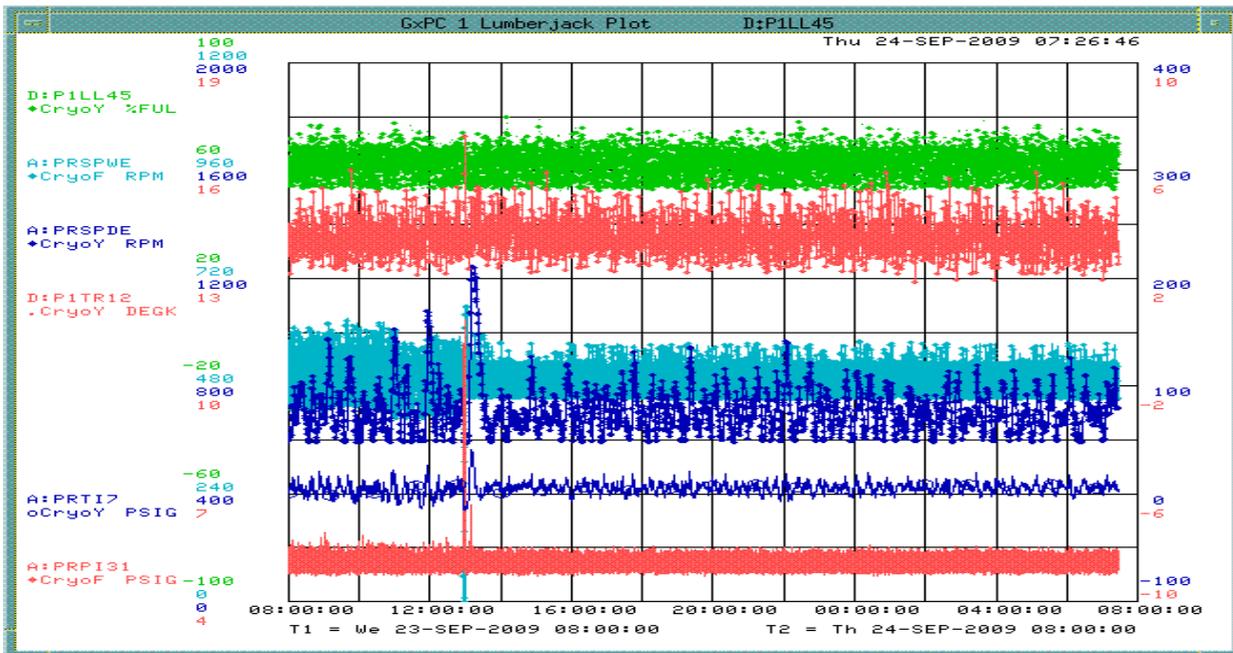
The Numbers

- Stacking
 - Pbars stacked: 134.32 E10
 - Time stacking: 08.25 Hr
 - Average stacking rate: 16.28 E10/Hr
- Uptime
 - Number of pulses while in stacking mode: 15650
 - Number of pulses with beam: 14191
 - Fraction of up pulses was: 90.68%
- The uptime's effect on the stacking numbers
 - Corrected time stacking: 07.48 Hr
 - Possible average stacking rate: 17.95 E10/Hr
 - Could have stacked: 148.13 E10/Hr
- Recycler Transfers
 - Pbars sent to the Recycler: 121.92 E10
 - Number of transfers : 10
 - Number of transfer sets: 5
 - Average Number of transfer per set: 2.00
 - Time taken to shoot including reverse proton tuneup: 01.77 Hr
 - Transfer efficiency: 46.44%
- Other Info
 - Average POT : 4.44 E12
 - Average production: 21.34 pbars/E6 protons
- * Missed one or more A:IBEAM9 events somewhere in the middle of the user selected time span. Calculated time shot using 13 secs per transfer.
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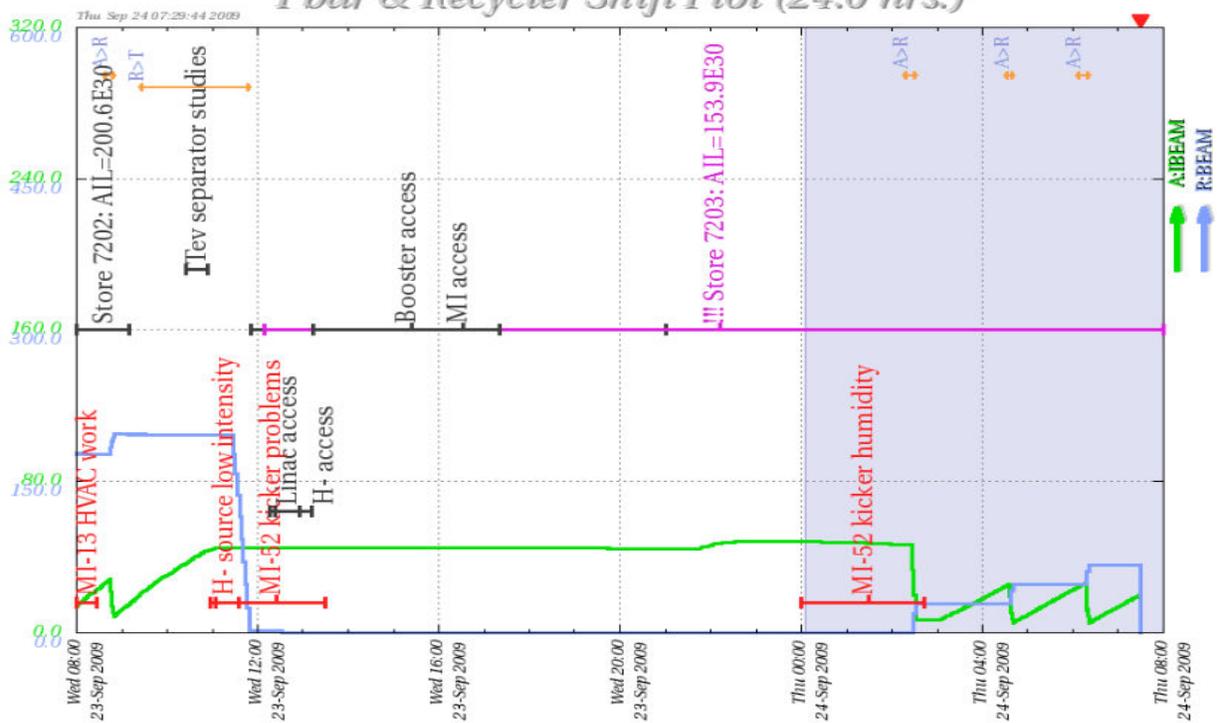
Plots

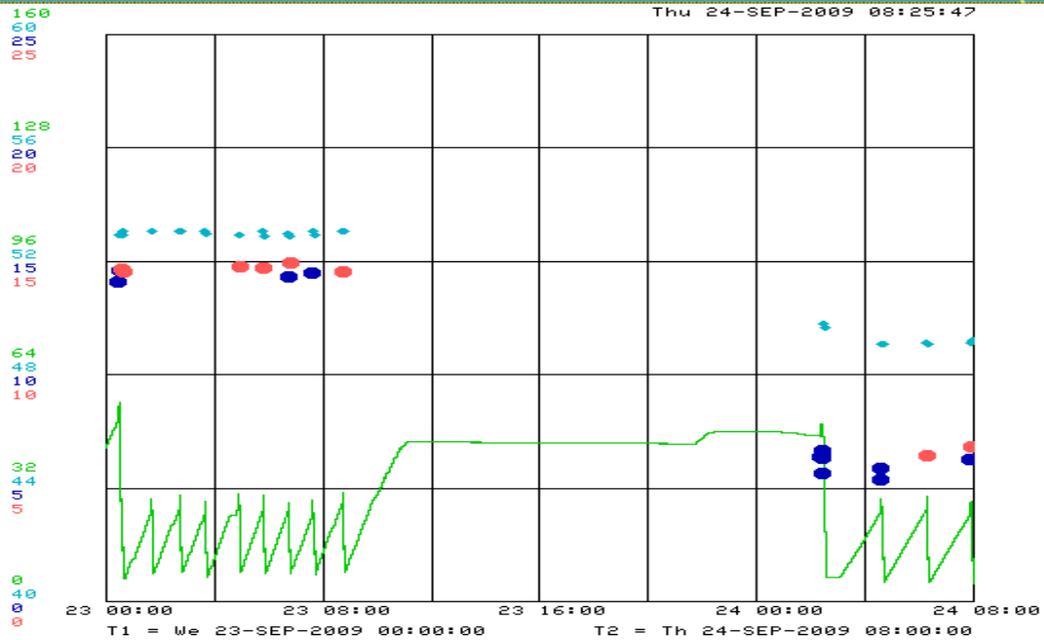
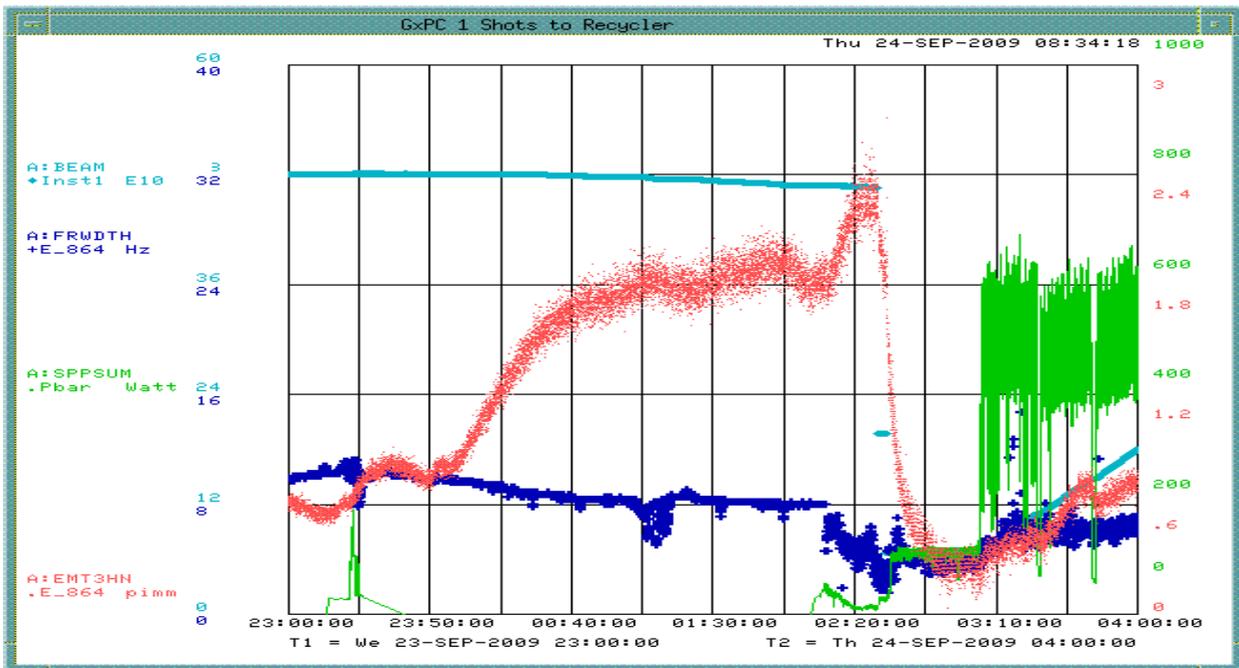


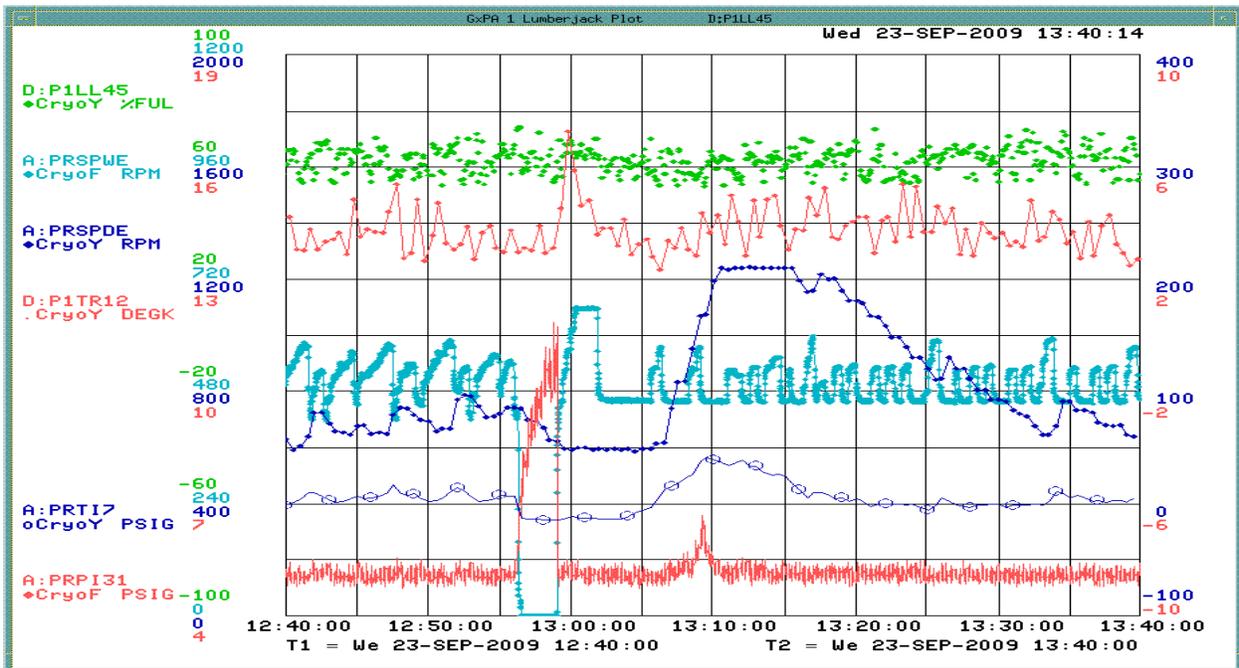
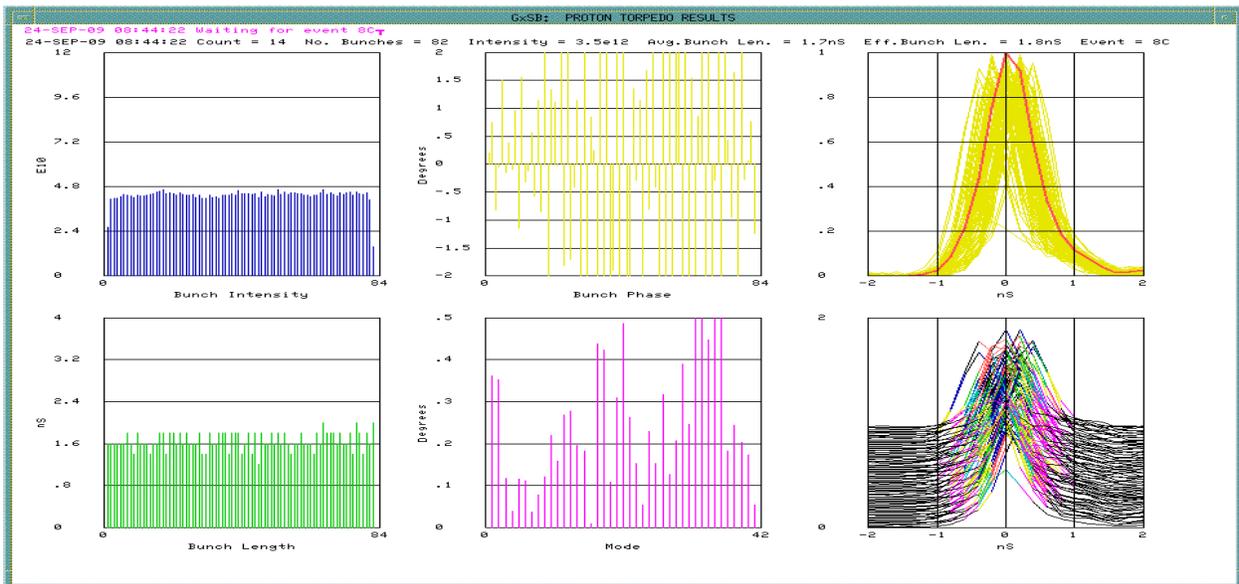




Pbar & Recycler Shift Plot (24.0 hrs.)







Elog