

# 2010-10-08 Friday Morning Notes

Thursday, October 07, 2010

1:04 PM

## Stacking

- Chuck reports DS AP50 feels warmer than upstream
- Stacktail Gain Ramping Studies (<http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar10&action=view&page=264&scroll=false&load=>)
  - Ramping the attenuator on Leg 1 down as the beam is being dropped off by ARF1 helped both peak stacking rate as well as reduced the rate of decline.
  - Quick review
  - Decelerate beam 150MeV from injection orbit to core. ARF1 decelerates 60MeV
  - Stacktail Legs
    - Leg 1: +13.7MeV (256 pickups)
    - Leg 2: -6.4MeV (48 pickups),
    - Leg 3: -22.9MeV (16 pickups)
    - -30MeV, -90MeV are the core pickups.
  - We left the stacktail gain ramping on since it's helping stacking. To turn it off, turn off the two timers A:SRP11 and A:SRP21 and send an "off" command to A:SPPA04 to switch back to manual. Note that the stacktail looks a little different because we're clearing beam off the injection orbit more efficiently.
- Stacking Numbers
  - <stacking rate> = 26.0mA/hr
  - <production>=24.9 pbar/e6 p
  - <pot> = 8.32 Tp
  - Numbers brought down by larger stacks on evening shift
- After stacktail gain ramping studies, not including shot setup,
  - <stacking rate>=27.7 mA/hr
  - <production>=25.9 pbar/r6 p
  - <pot> = 8.25 Tp

## Transfers

- Unstacked 590e10 in 69 transfers over 21 sets
- Overall efficiency = 95.2%, 96% if you take out the two evening shift transfers from large stacks.

## The Numbers

- Stacking
- Pbars stacked: 599.32 E10
- Time stacking: 23.76 Hr
- Average stacking rate: 25.22 E10/Hr
  
- Uptime
- Number of pulses while in stacking mode: 29635
- Number of pulses with beam: 28859
- Fraction of up pulses was: 97.38%
  
- The uptime's effect on the stacking numbers
- Corrected time stacking: 23.14 Hr
- Possible average stacking rate: 25.90 E10/Hr
- Could have stacked: 615.43 E10/Hr

- Recycler Transfers
- Pbars sent to the Recycler: 584.09 E10
- Number of transfers : 68
- Number of transfer sets: 21
- Average Number of transfer per set: 3.24
- Time taken to shoot including reverse proton tuneup: 00.24 Hr
- Transfer efficiency: 95.45%
  
- Other Info
- Average POT : 8.29 E12
- Average production: 25.04 pbars/E6 protons

## The Weekly numbers

- Stacking
- Pbars stacked: 3484.15 E10
- Time stacking: 140.34 Hr
- Average stacking rate: 24.83 E10/Hr
  
- Uptime
- Number of pulses while in stacking mode: 177741
- Number of pulses with beam: 169343
- Fraction of up pulses was: 95.28%
  
- The uptime's effect on the stacking numbers
- Corrected time stacking: 133.71 Hr
- Possible average stacking rate: 26.06 E10/Hr
- Could have stacked: 3656.93 E10/Hr
  
- Recycler Transfers
- Pbars sent to the Recycler: 3490.43 E10
- Number of transfers : 427
- Number of transfer sets: 139
- Average Number of transfer per set: 3.07
- Time taken to shoot including reverse proton tuneup: 01.49 Hr
- Transfer efficiency: 95.47%
  
- Other Info
- Average POT : 8.37 E12
- Average production: 24.57 pbars/E6 protons
  
- 

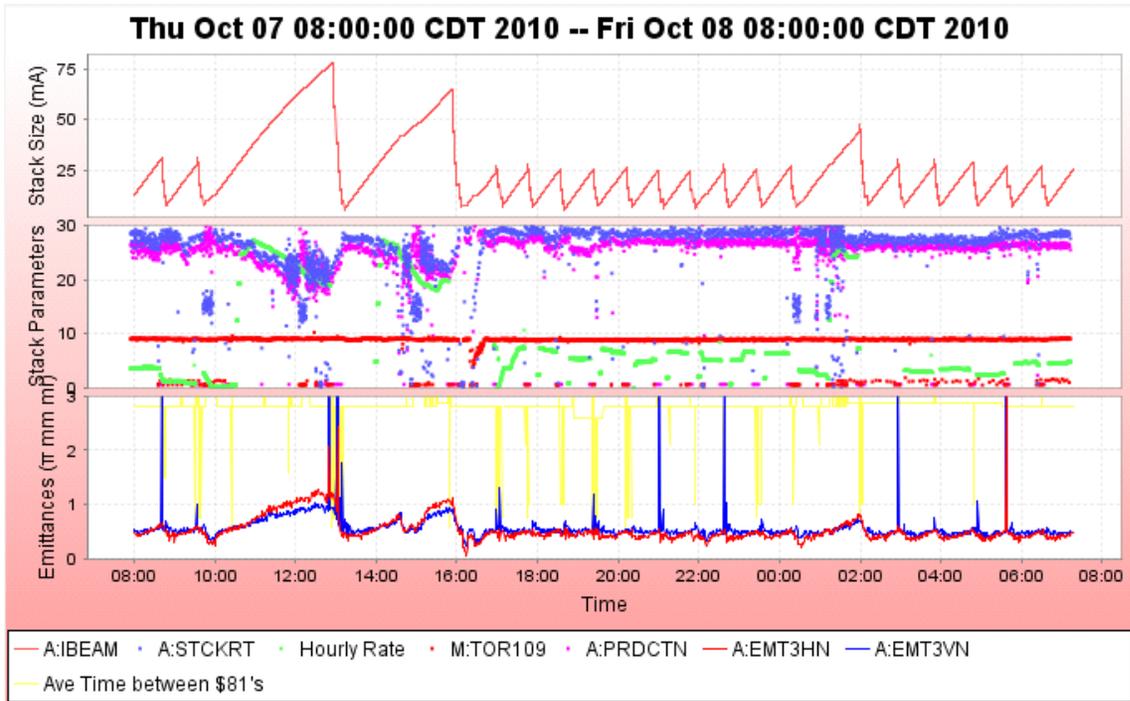
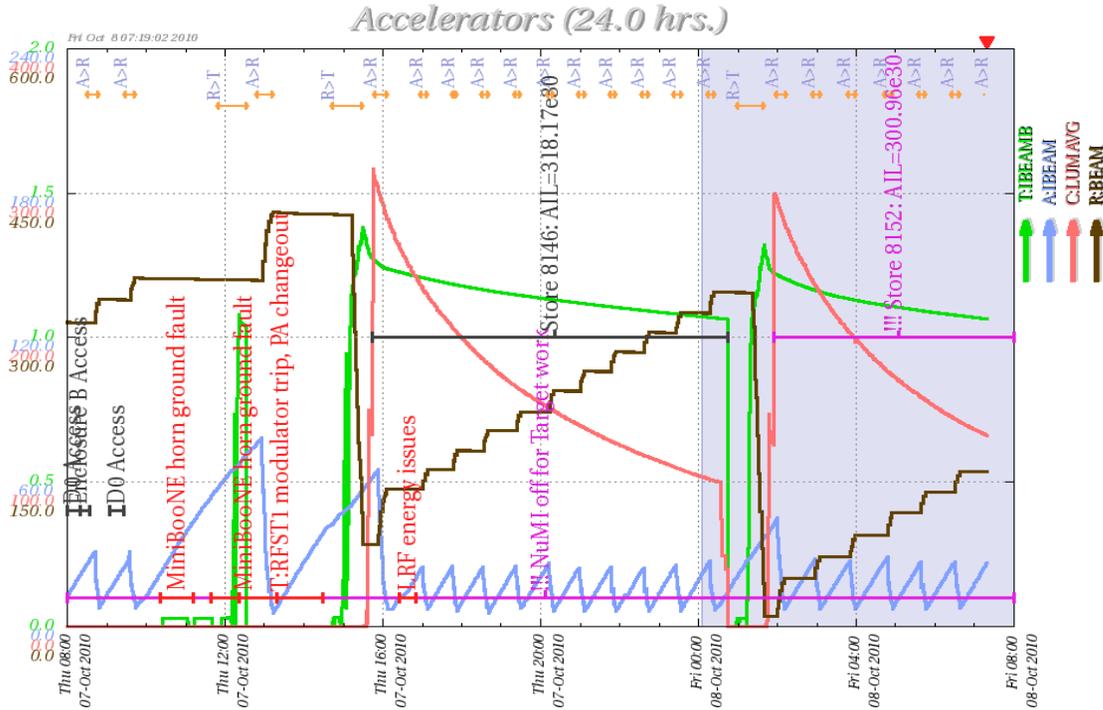
## Electronic Worklist

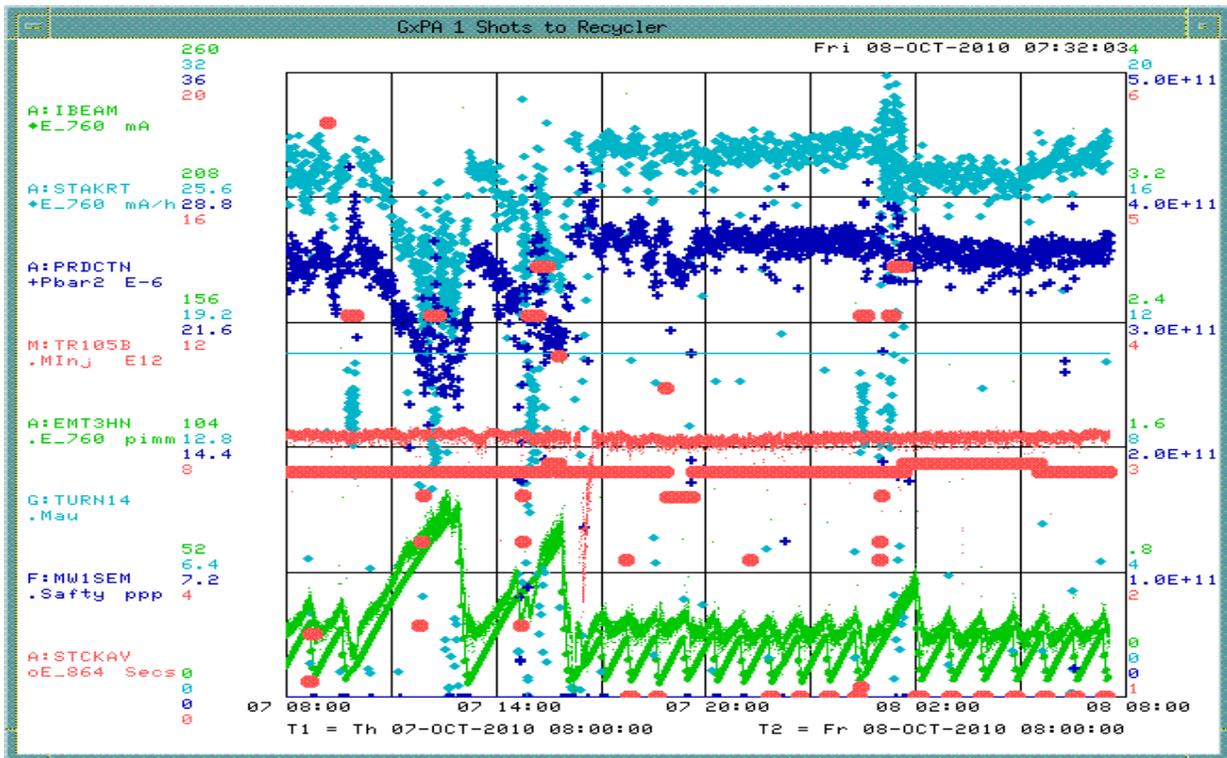
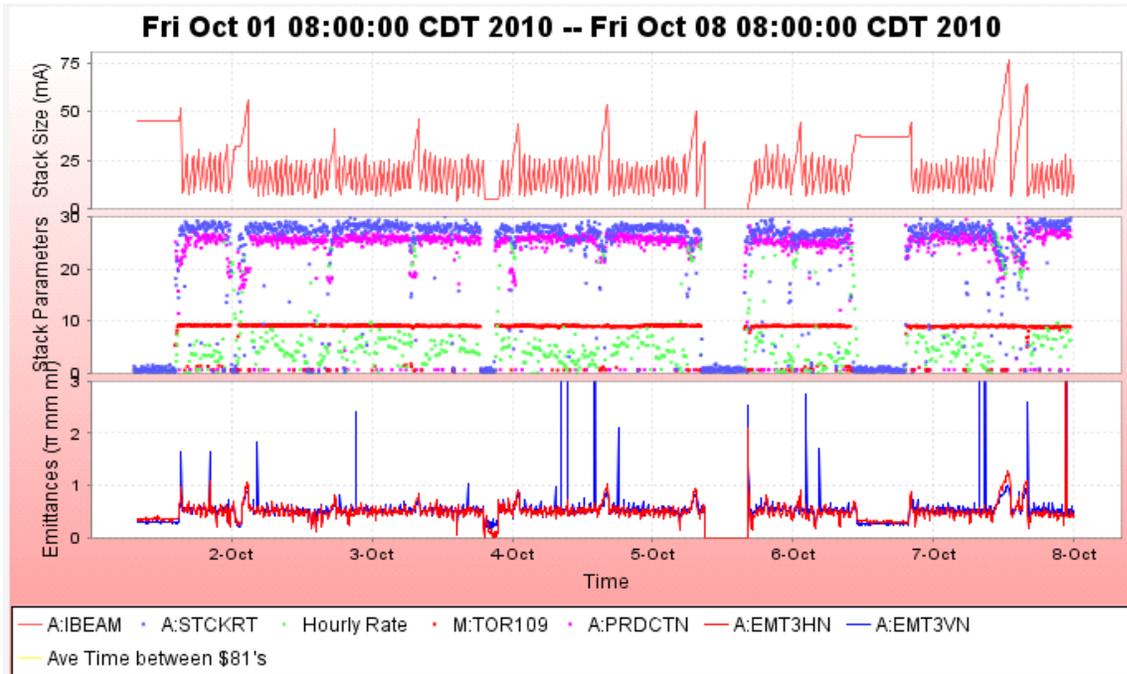
ID	Requestor	Title	Location	Type
<a href="#">12491</a>	Sprosty, Susan	ODH EXH FANS QUARTERLY MAINT.PM.FOR ODH EXH FANS FESS ASSET #AP183,AP184,AP185,AP186,AP187	PBAR TUNNEL	FESS / Utilities
<a href="#">12474</a>	Drendel, Brian	LCW Manifold Leak on A1B3 A1B3 has an LCW leak on the LCW manifold. The leak can be	Pbar Rings	Water

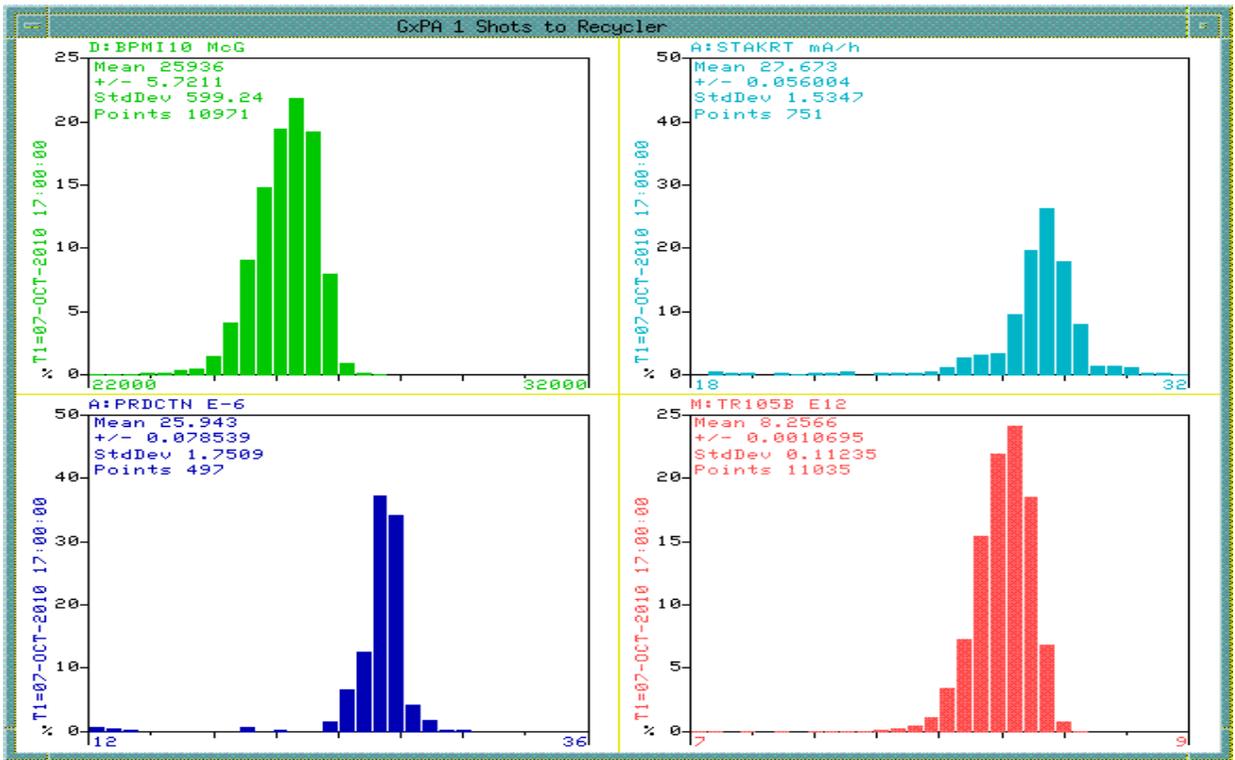
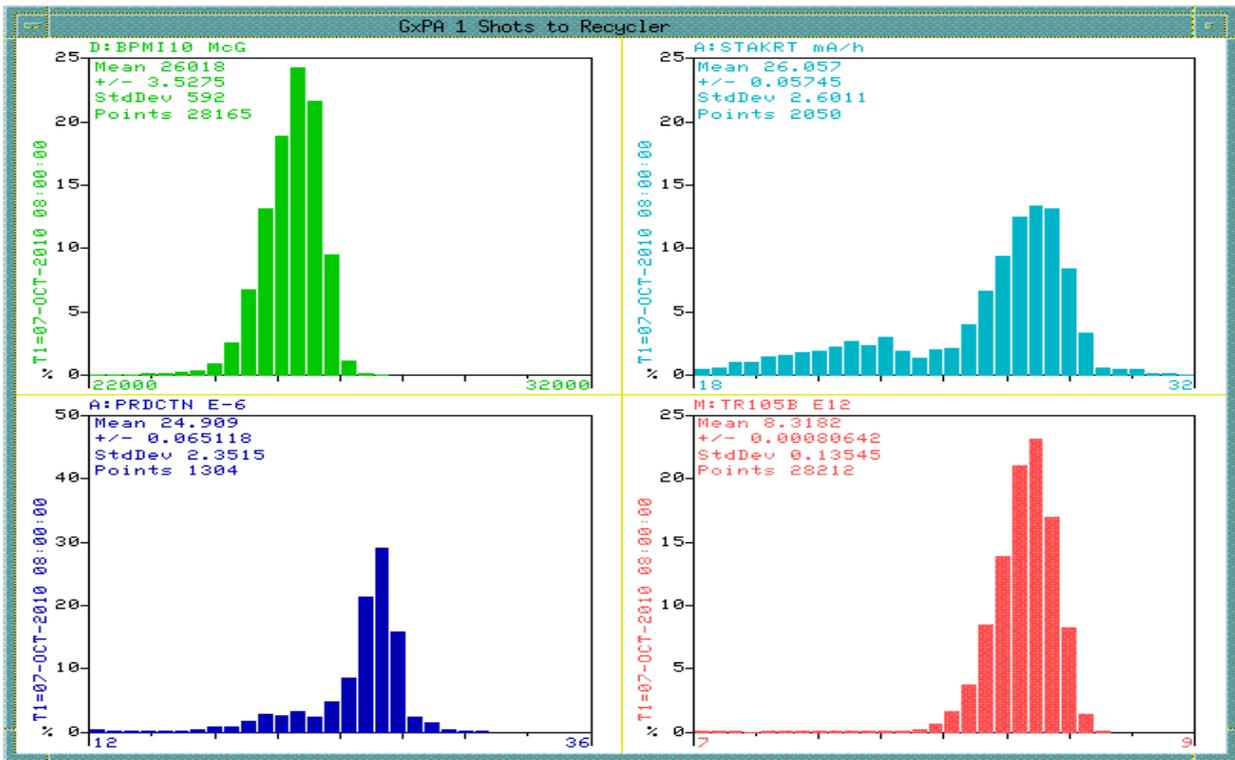
		seen if you look at the manifold from the downstream end of the magnet. Under the 3" in the center of the manifold, there is a very slow LCW weeper coming from the threads on that connection. This is just above the small orange hose connector labeled "9."		
<a href="#">12471</a>	Drendel, Brian	D1Q5 LCW hose replacement  D1Q5 has a slow dripper on the fitting for the orange hose that goes to the LCW return header.	Pbar Rings	Water
<a href="#">12470</a>	Gollwitzer, Keith	Inspection of Pbar Rings  Inspection of Pbar tunnel; search for water leaks and ground water etc.	Rings enclosure	Misc
<a href="#">12469</a>	Drendel, Brian	Rollaround Console Doesnt Work  Stochastic Cooling guys report that the Thinwire Ethernet rollaround cart console was not working when they tried to use it in the tunnel in the A30 region. The Thinnet repeater in the AP30 service building was power cycled, which did not fix the problem. We need the Network Guys to look at the Thinnet to see if it is operational.	Pbar Rings	Controls
<a href="#">12468</a>	Leveling, Anthony	Store 10 mm-7 in coffin  10 mm-7 lens/transformer was removed from service on 8/21 following development of a transformer ground fault. While installing 10mm-1 on lens module #2, discovered that the upstream lens water line needs to be reworked so that the module water line can be connected. Drop 10 mm-1 from module #2, rework upstream water line, and finish installation of 10 mm-1 onto lens module #2.	APO upper vault	Target Station
<a href="#">12450</a>	Leveling, Anthony	November target air blower check  Perform periodic maintenance on target blower in November 2010. Last maintenance was on October 4.	APO Target Hall	Target Station
<a href="#">12406</a>	Drendel, Brian	ARF1 calibration  After changing out the Acopian +5V power supply in the ARF1 LLRF, the output of the ARF1 amplitude curve is saturated. One hour of no stacking time is needed to recalibrate the output.	AP50	Low Level RF
<a href="#">12378</a>	Drendel, Brian	D:EKIK Module #1 Power Supplies  D:EKIK module #1 is starting to show some timing drift. During a shutdown of a day or longer, it would be nice to open up the oil-filled thyratron tank and check the brick power supplies.	AP10 Service Building	Power Supply
<a href="#">12345</a>	Vander Meulen, David	D:V4TW01 Tripps  D:V4TW01 is tripping on reverse power. A bad cable was replaced in the tunnel, but the problem is in the tank, which means we have to let up vacuum. The job including vacuum pump down is a minimum of 6 hours.	D30 Tunnel	Stochastic Cooling
<a href="#">12253</a>	Leveling, Anthony	Install new shielding blocks  New concrete shielding blocks are to be installed for the JASMIN experiment. Install shield blocks at some opportunistic access when the shield blocks become available. Estimated arrival is now late August/early September.	APO upper vault	Target Station
<a href="#">12240</a>	Sievert, Ken	Connect BV500H to A50 CIA Crate  Terminate cable and connector on valve, modify crate to accept valve status.	A50	Vacuum
<a href="#">9310</a>	Obrycki,	Sled drawings/ panel schedules	AP-10	ES&H /

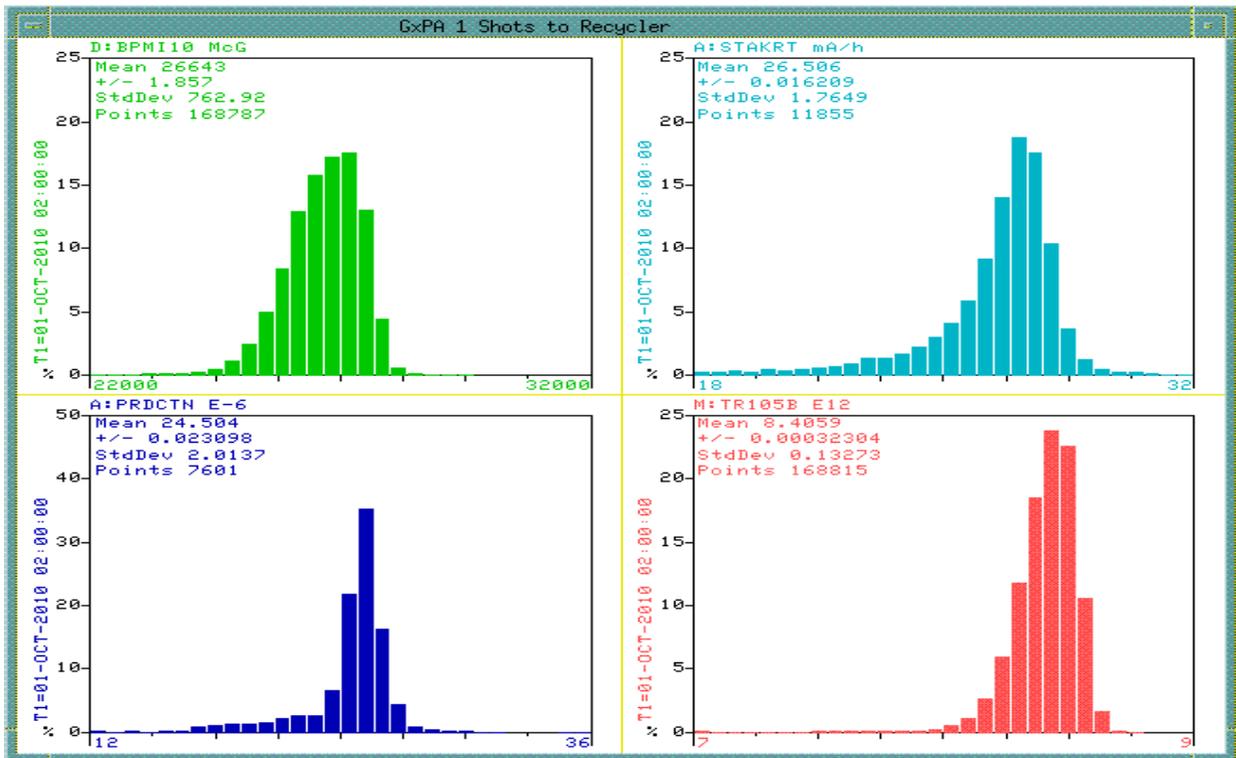
	Mark		tunnel	Interlocks
		Inspect breaker panels in tunnel		
Total Requests:				
13				

**The Plots**









Column 1 Number _0_Pbar Transfer Shot #	Column 4 Number_3 Transfer Time	Column 21 Number _20_A1 BEAMB sampled on \$91 (A-BEA M7), E10	Column 22 Number _21_A1 BEAMB sampled on \$94 (A-BEA M9), E10	Unstacked (mA)	Column 23 Number _22_R: BEAMS (R-BEA ME0[0]) pre xfer E10	Column 24 Number _23_R: BEAM (R-BEA ME0[1]) post xfer, E10	Stacked	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Acc to MI * Acc to MI2 Efficiency	Trans fers	Sets	Column 5 Number _4_Acc Horizontal Emittance	Column 6 Number _5_Acc Vertical Emittance	Column 8 Number _7_Acc Longitudinal Emittance	
<b>Totals =&gt;</b>				590.74			562.81	95.27%	97.15%	97.27%	94.50%	69	21	4.7619	4.9398	1.934	
<b>Daily Average =&gt;</b>				590.74			562.81					69	21				
21127	Friday, October 08, 2010	6:30	26.98	7.00	22.56	139.55	161.11	21.64	95.94%	96.84%	96.53%	93.48%	3	1	4.164	4.473	1.982
21126	Friday, October 08, 2010	5:38	26.96	6.77	22.76	117.90	139.75	21.89	96.20%	99.16%	99.19%	98.35%	3	1	4.618	4.633	1.966
21125	Friday, October 08, 2010	4:47	28.92	7.16	24.28	94.77	118.00	23.22	95.61%	95.31%	96.21%	91.69%	3	1	4.414	4.697	1.926
21124	Friday, October 08, 2010	3:51	27.79	7.02	23.32	72.57	94.96	22.52	96.58%	97.02%	96.60%	93.72%	3	1	4.48	4.753	1.897
21123	Friday, October 08, 2010	2:57	28.07	6.88	23.72	50.37	72.74	22.41	94.48%	96.18%	96.65%	92.95%	3	1	4.335	4.755	1.965
21122	Friday, October 08, 2010	2:00	45.09	6.95	41.97	11.04	50.46	39.54	94.20%	96.33%	96.97%	93.41%	4	1	5.475	5.505	1.897
21121	Friday, October 08, 2010	0:17	27.09	6.68	23.03	325.54	347.50	22.14	96.11%	99.01%	99.12%	98.15%	3	1	4.547	4.545	1.919
21120	Thursday, October 07, 2010	23:26	25.72	6.42	21.95	305.08	326.07	21.18	96.47%	98.90%	98.97%	97.88%	3	1	4.339	4.912	1.96
21119	Thursday, October 07, 2010	22:38	25.08	6.11	21.60	284.87	305.55	20.92	96.85%	98.25%	99.73%	97.99%	3	1	4.154	4.665	1.941
21118	Thursday, October 07, 2010	21:47	24.92	5.99	21.50	264.76	285.32	20.71	96.34%	97.30%	97.85%	95.21%	3	1	4.192	4.289	1.965
21117	Thursday, October 07, 2010	21:00	25.01	6.05	21.57	244.50	265.13	20.81	96.48%	97.63%	96.93%	94.63%	3	1	4.166	4.666	1.962
21116	Thursday, October 07, 2010	20:13	26.58	6.34	22.85	222.91	244.83	22.00	96.29%	97.07%	97.47%	94.62%	3	1	4.258	5.059	1.964
21115	Thursday, October 07, 2010	19:23	25.29	7.15	20.60	203.44	223.16	19.85	96.35%	99.52%	97.56%	97.09%	3	1	4.617	4.739	2.002
21114	Thursday, October 07, 2010	18:33	25.20	5.24	21.85	182.58	203.69	21.20	97.04%	98.44%	98.67%	97.14%	3	1	4.302	4.621	1.923
21112	Thursday, October 07, 2010	17:46	25.06	6.50	21.13	162.59	182.84	20.39	96.52%	98.04%	97.72%	95.80%	3	1	4.483	4.861	1.978
21111	Thursday, October 07, 2010	17:01	25.11	6.90	20.85	142.74	162.78	20.14	96.58%	98.17%	98.71%	96.91%	3	1	4.402	4.915	1.888
21110	Thursday, October 07, 2010	15:53	65.15	6.40	63.19	84.81	143.11	58.88	93.17%	96.35%	96.20%	92.69%	5	1	6.749	6.048	1.835
21109	Thursday, October 07, 2010	12:56	78.52	5.28	78.59	359.58	430.85	73.02	92.91%	95.38%	95.07%	90.68%	6	1	7.211	6.201	1.839
21108	Thursday, October 07, 2010	9:36	28.61	7.22	23.95	339.24	362.06	23.06	96.26%	97.25%	98.35%	95.65%	3	1	5.011	4.948	1.9
21107	Thursday, October 07, 2010	8:42	31.22	7.40	25.94	315.54	340.02	24.76	95.45%	97.92%	98.33%	96.28%	3	1	5.133	5.299	1.952
21106	Thursday, October 07, 2010	7:42	28.33	6.92	23.53	293.88	316.21	22.55	95.87%	97.14%	97.72%	94.92%	3	1	4.95	5.152	1.952

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<b>Totals =&gt;</b>				<b>448.95</b>			<b>430.92</b>	<b>95.98%</b>	<b>97.57%</b>	<b>97.81%</b>	<b>95.43%</b>	<b>69</b>	<b>19</b>	<b>4.5284</b>	<b>4.8151</b>	<b>1.9442</b>	
<b>Daily Average =&gt;</b>				<b>448.95</b>			<b>430.92</b>					<b>69</b>	<b>19</b>				
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<b>Totals =&gt;</b>				<b>3518.06</b>			<b>3353.42</b>	<b>95.32%</b>	<b>96.95%</b>	<b>97.01%</b>	<b>94.06%</b>	<b>430</b>	<b>139</b>	<b>5.0447</b>	<b>5.086</b>	<b>1.9362</b>
<b>Daily Average =&gt;</b>				<b>502.58</b>			<b>479.06</b>					<b>61</b>	<b>20</b>			

