

2010-05-24 Monday Morning Notes

Monday, May 24, 2010

7:00 AM

Stacking

- Stacking Numbers
 - <stacking rate> = 25.1ma/hr
 - <production> = 20.8 pbars/Mp
 - <beam on target> = 8Tp
- D:POVTMP
 - Debuncher momentum notch filter oven temperature readback got very noisy.
 - Investigation showed it was not real
 - Widened alarm limit to keep off of alarm screen
 - Enabled alarms on the thermistor readbacks
 - Settled down over the weekend.
- D:BJ708
 - Off limit switch, but datalogger shows no movement
- In the warm weather on Sunday, the temperature regulation valve for the HE U:PBFCV1 ran out of regulation room. The results was LCW temperatures were up 3 or so degrees.

Transfers

- Unstacked 1365 (ave. 455) in 164 transfers over 55 sets with an average efficiency of 95.5%
- Transfer 19172. Friday 13:26. Stacktail didn't gate off.

Studies

- Stacktail Phasing with 30e10 - looking for opportunistic non-stacking time
- Stacktail tank moving - parasitic
- Jim Morgan would like to change beamline C204 limits based on calculations using the model. We will be doing one plane of one beamline at a time.

Access & Maintenance

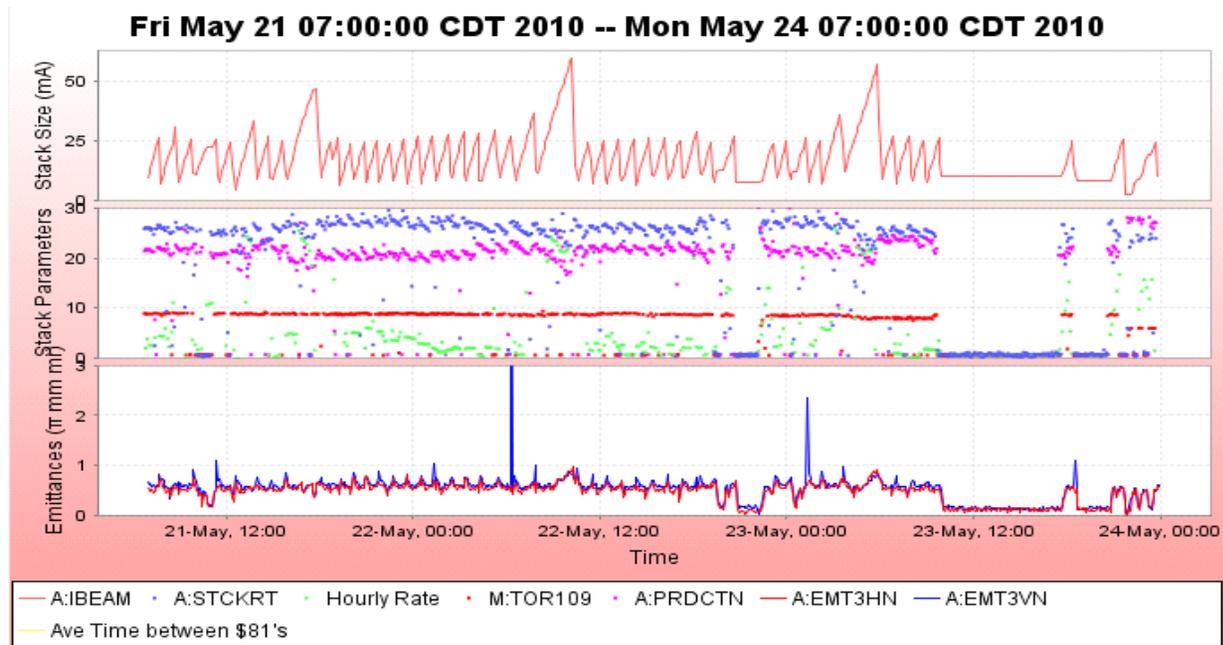
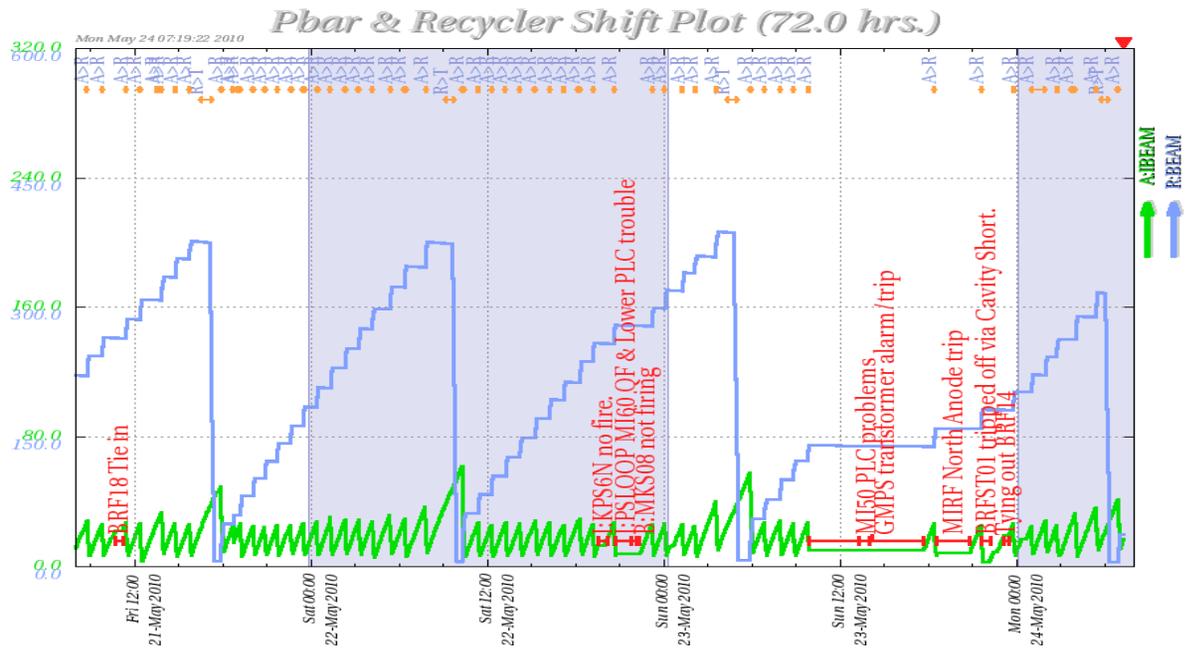
- Pbar Dry Engine maintenance - Cryo needs to change the flywheel, which is a two hour job. We will try to complete this job today.
- Increase power in 4-8 GHz TWTs by 10 W each. Requires tunnel measurements.
- Repair D:POTMF
- D:H1AL1 regulator replacement (http://www-bd.fnal.gov/cgi-worklist/worklist_form.pl?id=11905)

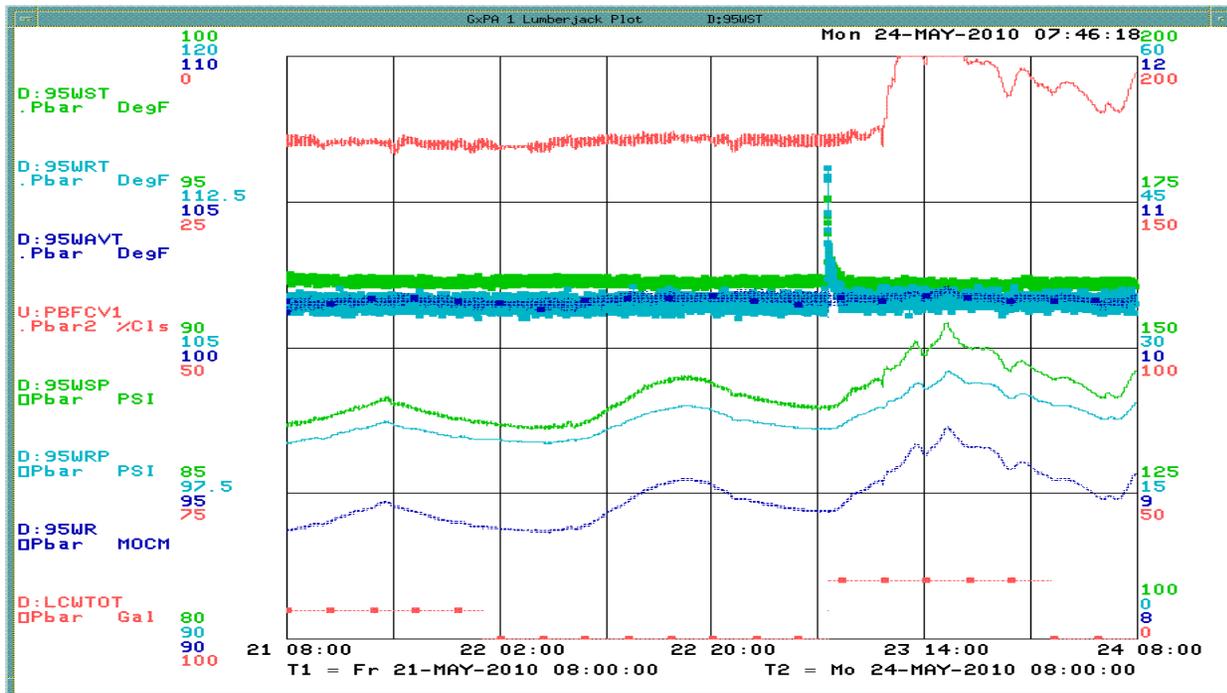
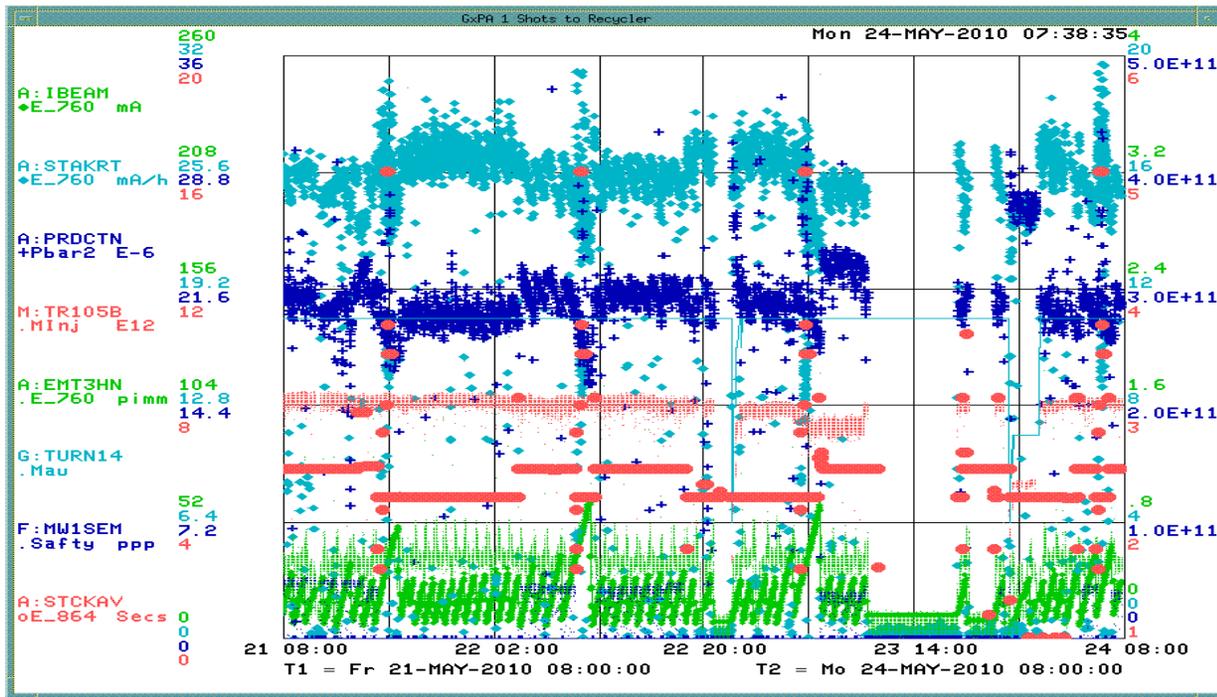
The Numbers

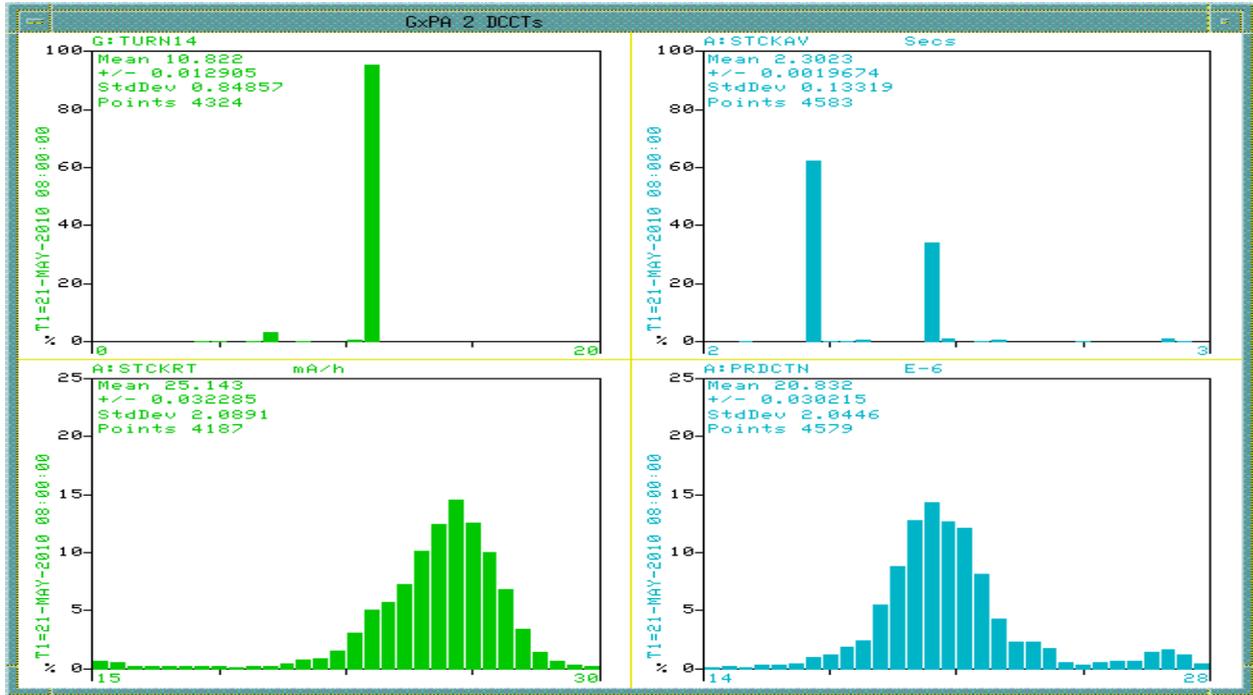
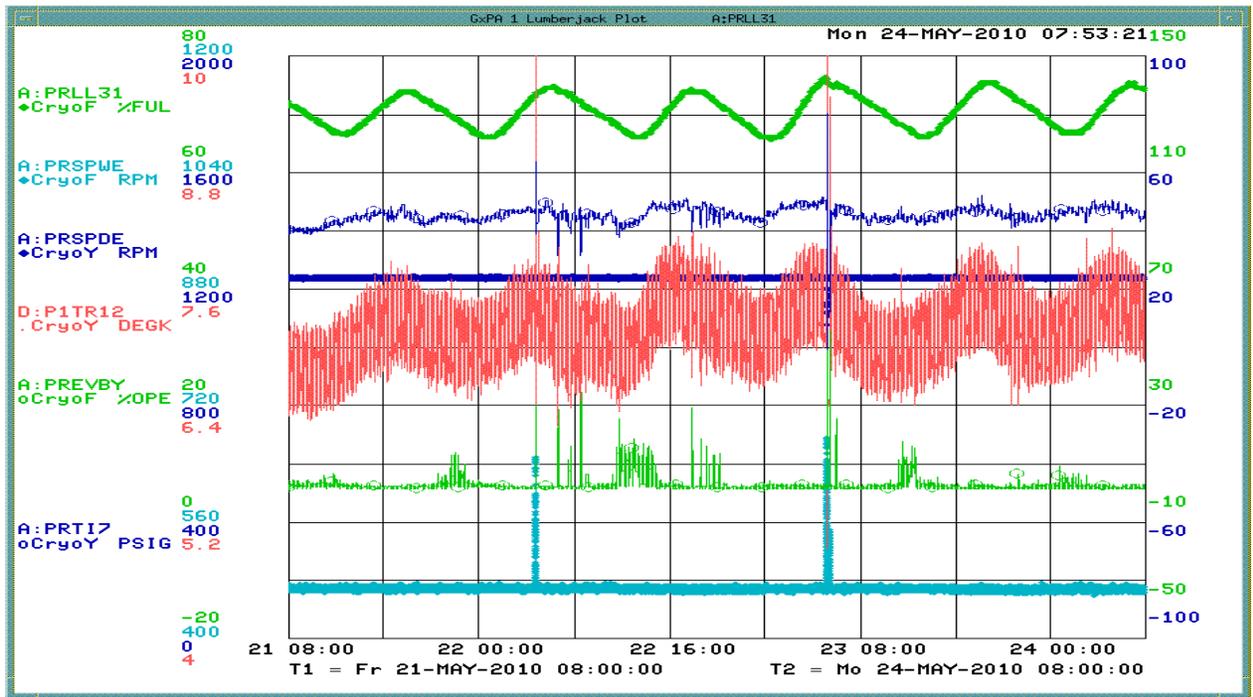
- Stacking
 - Pbars stacked: 1357.55 E10
 - Time stacking: 60.77 Hr
 - Average stacking rate: 22.34 E10/Hr
- Uptime
 - Number of pulses while in stacking mode: 92281
 - Number of pulses with beam: 83318
 - Fraction of up pulses was: 90.29%
- The uptime's effect on the stacking numbers
 - Corrected time stacking: 54.87 Hr
 - Possible average stacking rate: 24.74 E10/Hr
 - Could have stacked: 1503.59 E10/Hr
- Recycler Transfers
 - Pbars sent to the Recycler: 1334.49 E10
 - Number of transfers : 160
 - Number of transfer sets: 55
 - Average Number of transfer per set: 2.91

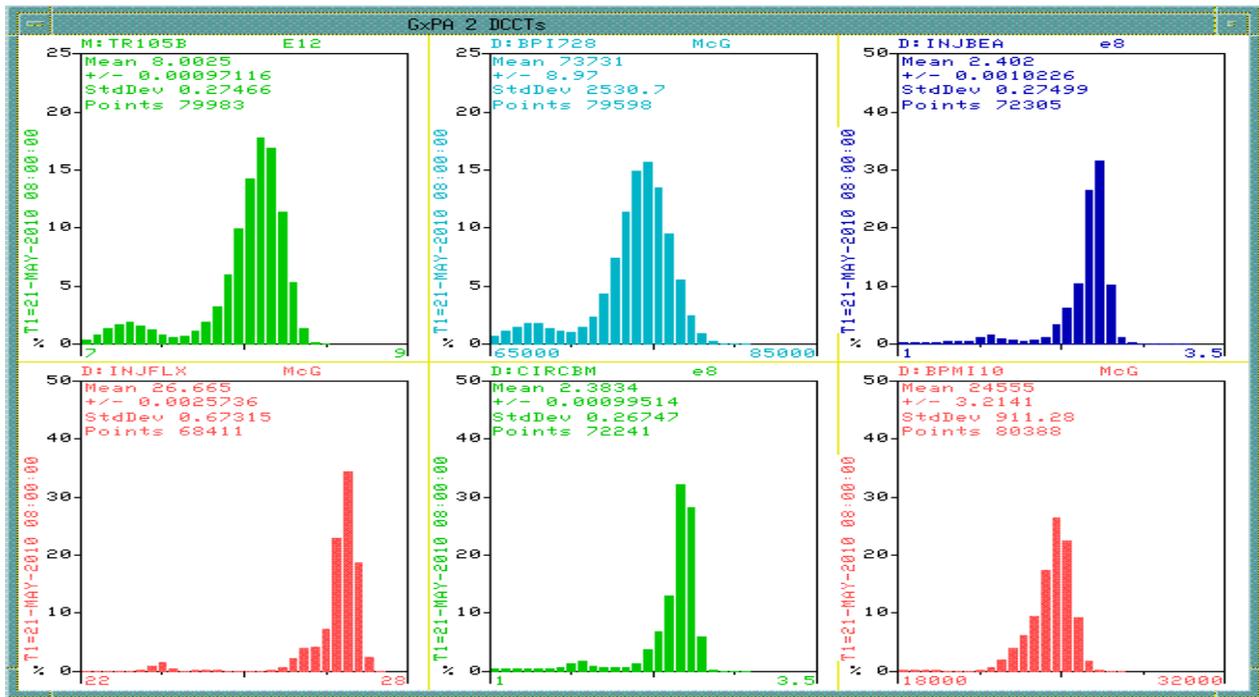
- Time taken to shoot including reverse proton tuneup: 00.56 Hr
- Transfer efficiency: 95.40%
- Other Info
 - Average POT : 7.90 E12
 - Average production: 20.63 pbars/E6 protons
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The Plots

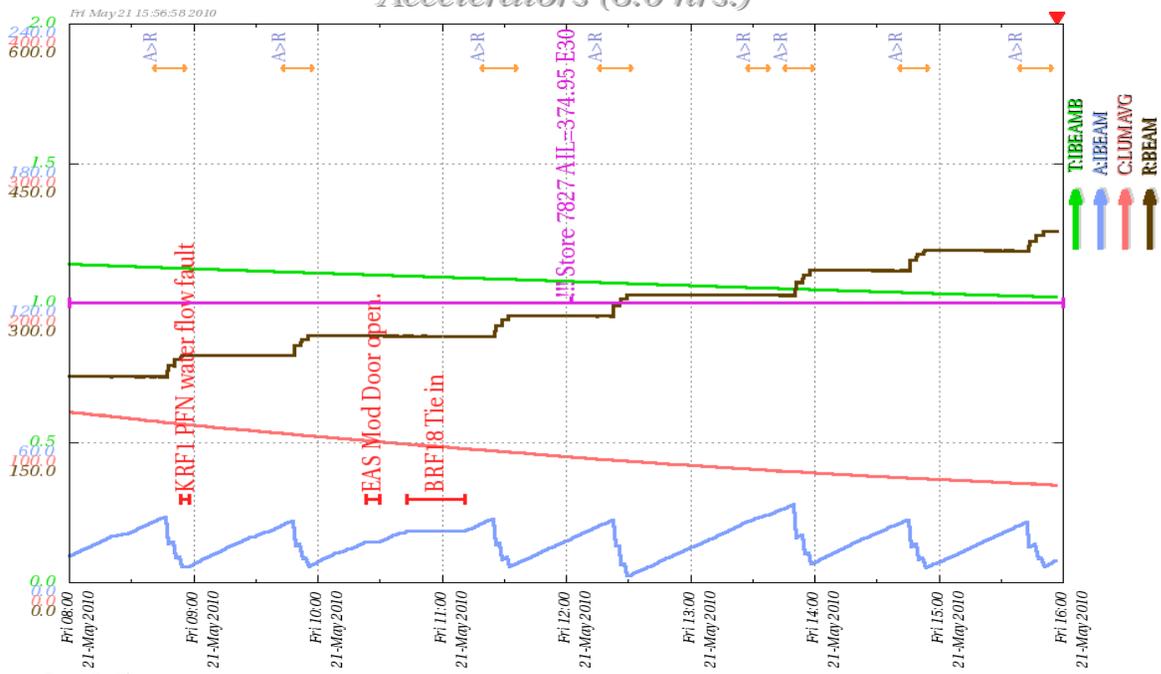






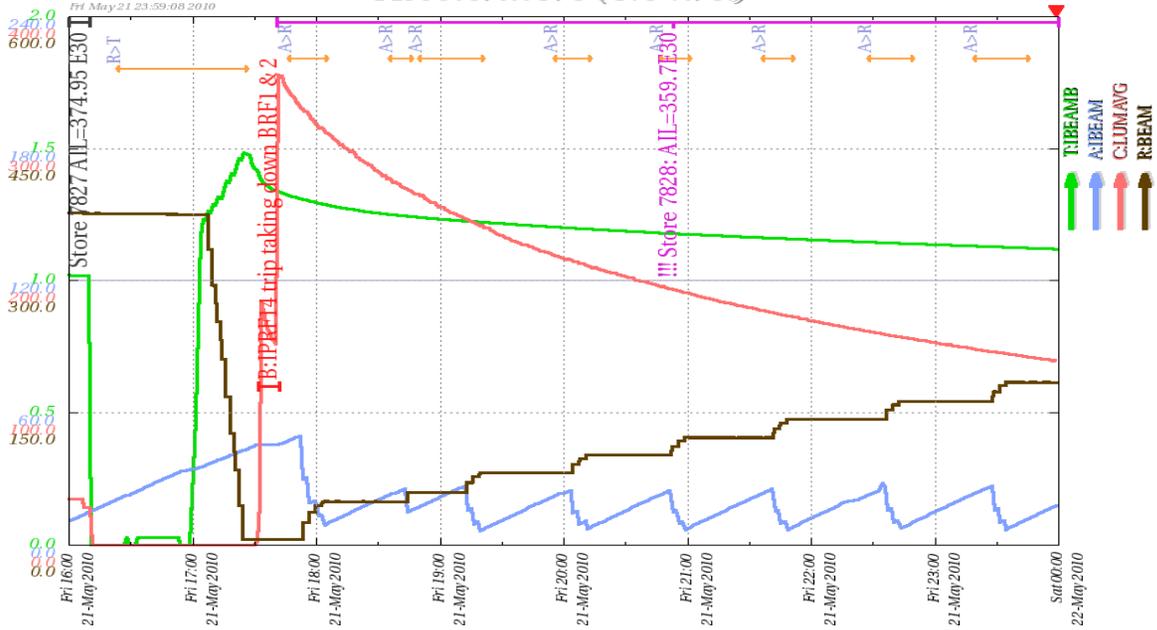


Accelerators (8.0 hrs.)



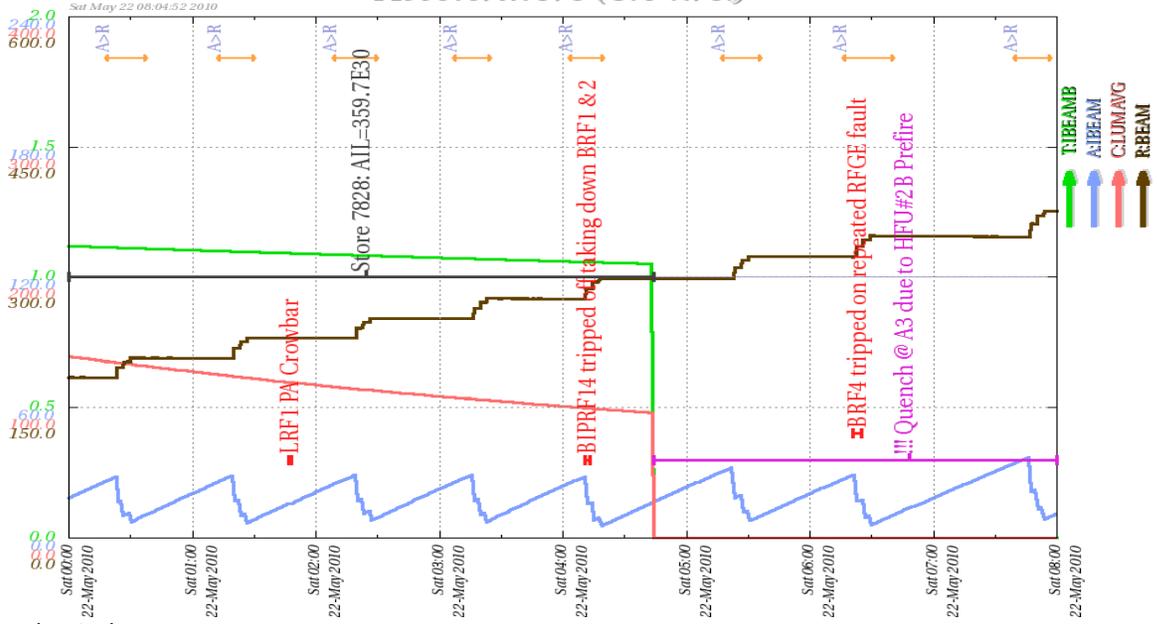
Friday Day Shift

Accelerators (8.0 hrs.)



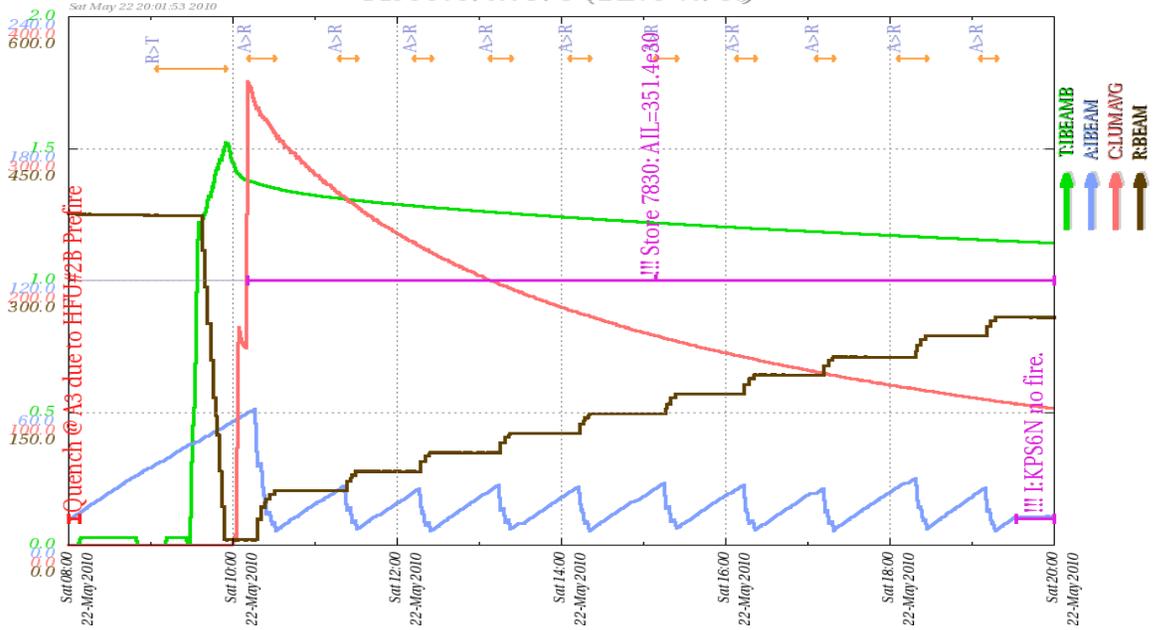
Friday Evening

Accelerators (8.0 hrs.)



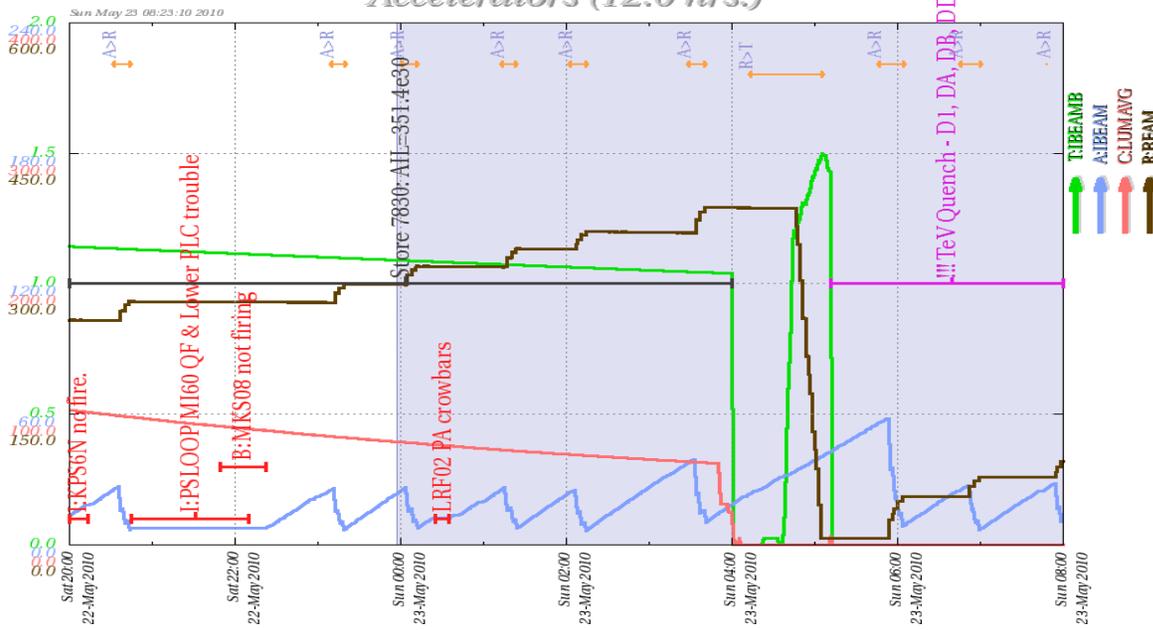
Saturday Owls

Accelerators (12.0 hrs.)



Saturday Days

Accelerators (12.0 hrs.)



Sunday Owls

Acc to MI Efficiency
Average 97.0265

MI Efficiency
Average 99.9404

MI to RR Transfer Efficiency
Average 98.8197

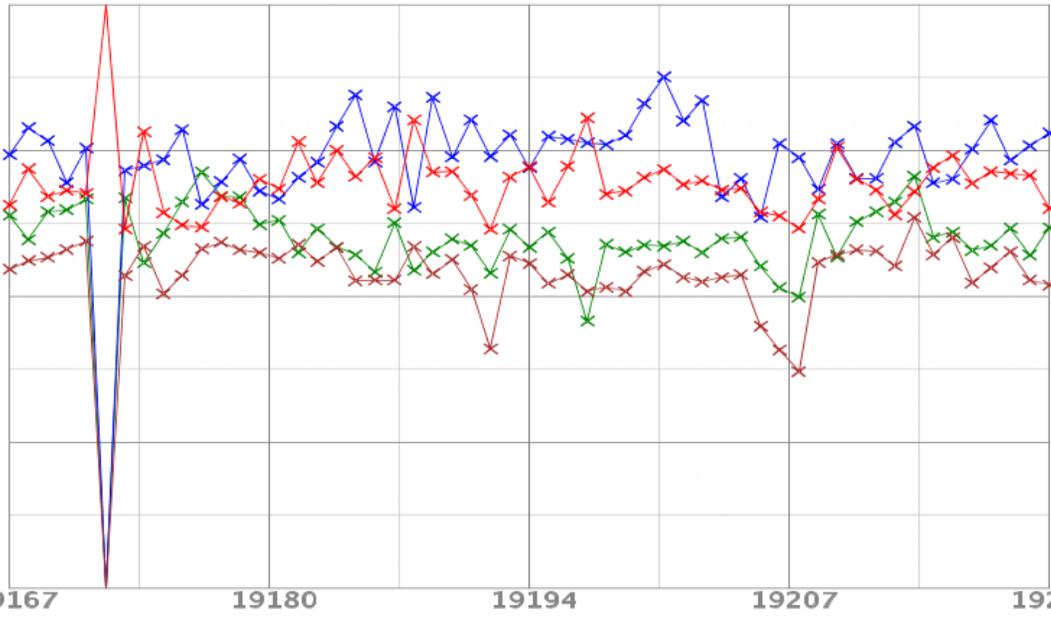
Acc to RR Tr:
Average 95.8

185.00
180.00
105.00

100.00
95.00

90.00
85.00

85.00
80.00
85.00



| Column 1 Number _0_Pbar Transfer Shot # | Column 4 Number_3_Transfer Time | Column 21 Number_20_A:1 BEAMB sampled on \$91 (A:BEA M7), E10 | Column 22 Number_21_A:1 BEAMB sampled on \$94 (A:BEA M9), E10 | Unstacked (mA) | Column 23 Number_22_R: BEAMS (R:BEA ME0[0]) pre fer E10 | Column 24 Number_23_R: BEAM (R:BEA ME0[1]) post fer, E10 | Stashed | Acc to RR Eff | Acc to MI Eff | Acc to MI2 Eff | Transfers | Set s | Column 5 Number_4_Acc Horizontal Emittanc e | Column 6 Number_5_Acc Vertical Emittanc e | Column 8 Number_7_Acc Longitudi nal Emittanc e |
|---|------------------------------------|--|--|-------------------|--|---|----------------|------------------|------------------|-------------------|------------|-----------|---|---|---|
| Totals => | | | | 1364.91 | | | 1303.98 | 95.54% | 97.04% | 96.96% | 164 | 55 | 5.3443 | 5.583 | 1.9109 |
| 19221 | Monday, May 24, 2010 | 6:54 | 41.73 | 10.47 | 33.67 | 5.06 | 37.03 | 32.04 | 95.15% | 97.64% | 97.73% | 3 | 1 | 5.702 | 1.893 |
| 19220 | Monday, May 24, 2010 | 5:24 | 36.91 | 9.65 | 29.79 | 289.04 | 317.32 | 28.44 | 95.46% | 96.64% | 96.74% | 3 | 1 | 5.624 | 1.923 |
| 19219 | Monday, May 24, 2010 | 4:01 | 33.38 | 5.89 | 28.19 | 262.89 | 289.85 | 27.12 | 96.23% | 97.46% | 96.95% | 3 | 1 | 4.566 | 1.822 |
| 19218 | Monday, May 24, 2010 | 2:44 | 26.01 | 6.56 | 21.34 | 243.07 | 263.48 | 20.53 | 96.19% | 97.44% | 98.18% | 3 | 1 | 5.007 | 1.894 |
| 19217 | Monday, May 24, 2010 | 1:58 | 28.57 | 8.42 | 22.60 | 221.89 | 243.39 | 21.62 | 95.64% | 96.77% | 97.02% | 3 | 1 | 5.46 | 1.919 |
| 19216 | Monday, May 24, 2010 | 1:00 | 25.41 | 7.19 | 20.66 | 202.41 | 222.26 | 20.04 | 96.98% | 97.55% | 97.15% | 3 | 1 | 5.427 | 1.952 |
| 19215 | Sunday, May 23, 2010 | 23:46 | 26.50 | 6.43 | 22.19 | 181.43 | 202.78 | 21.40 | 96.45% | 97.29% | 96.57% | 3 | 1 | 4.957 | 1.924 |
| 19214 | Sunday, May 23, 2010 | 21:35 | 25.74 | 2.48 | 23.24 | 159.46 | 181.97 | 22.60 | 97.26% | 98.83% | 99.32% | 3 | 1 | 3.285 | 1.756 |
| 19213 | Sunday, May 23, 2010 | 18:24 | 26.61 | 6.59 | 22.17 | 139.07 | 160.24 | 21.29 | 96.00% | 98.07% | 98.09% | 3 | 1 | 5.309 | 1.899 |
| 19212 | Sunday, May 23, 2010 | 9:48 | 27.54 | 9.94 | 18.87 | 122.46 | 140.57 | 18.23 | 96.58% | 98.15% | 97.30% | 2 | 1 | 5.347 | 1.876 |
| 19211 | Sunday, May 23, 2010 | 8:49 | 26.80 | 6.21 | 22.97 | 100.57 | 122.63 | 22.22 | 96.72% | 97.67% | 96.94% | 3 | 1 | 5.5 | 1.901 |
| 19210 | Sunday, May 23, 2010 | 7:54 | 28.32 | 7.05 | 23.80 | 77.90 | 100.65 | 22.91 | 96.28% | 96.85% | 96.99% | 3 | 1 | 5.28 | 1.916 |
| 19209 | Sunday, May 23, 2010 | 6:52 | 27.41 | 6.66 | 23.32 | 55.57 | 77.96 | 22.44 | 96.26% | 98.21% | 96.86% | 3 | 1 | 5.194 | 1.928 |
| 19208 | Sunday, May 23, 2010 | 5:53 | 57.99 | 8.27 | 53.09 | 7.40 | 55.67 | 48.42 | 91.20% | 94.79% | 94.34% | 4 | 1 | 6.892 | 1.864 |
| 19207 | Sunday, May 23, 2010 | 3:33 | 39.36 | 9.60 | 32.29 | 358.50 | 388.29 | 30.04 | 93.03% | 95.35% | 95.27% | 3 | 1 | 6.278 | 1.882 |
| 19206 | Sunday, May 23, 2010 | 2:07 | 25.60 | 6.17 | 22.05 | 339.61 | 360.28 | 20.78 | 94.24% | 95.96% | 94.18% | 3 | 1 | 5.231 | 1.885 |
| 19205 | Sunday, May 23, 2010 | 1:16 | 26.71 | 6.88 | 22.42 | 319.28 | 340.51 | 21.45 | 95.66% | 97.09% | 96.38% | 3 | 1 | 5.601 | 1.917 |
| 19204 | Sunday, May 23, 2010 | 0:04 | 26.53 | 6.83 | 22.29 | 299.09 | 320.32 | 21.35 | 95.77% | 97.13% | 95.77% | 3 | 1 | 5.746 | 1.91 |
| 19203 | Saturday, May 22, 2010 | 23:12 | 26.10 | 6.61 | 22.15 | 278.59 | 299.62 | 21.14 | 95.47% | 96.17% | 97.61% | 3 | 1 | 5.387 | 1.924 |
| 19202 | Saturday, May 22, 2010 | 20:36 | 27.01 | 6.73 | 22.82 | 258.05 | 279.83 | 21.87 | 95.85% | 96.95% | 97.42% | 3 | 1 | 5.64 | 1.901 |
| 19201 | Saturday, May 22, 2010 | 19:10 | 26.16 | 6.17 | 22.38 | 237.52 | 258.85 | 21.52 | 96.18% | 96.78% | 98.33% | 3 | 1 | 5.415 | 1.933 |
| 19200 | Saturday, May 22, 2010 | 18:19 | 30.26 | 6.89 | 25.94 | 213.29 | 237.97 | 24.83 | 95.74% | 96.94% | 97.95% | 3 | 1 | 5.092 | 1.901 |
| 19199 | Saturday, May 22, 2010 | 17:11 | 25.49 | 6.46 | 21.64 | 193.07 | 213.70 | 20.65 | 95.46% | 96.76% | 97.40% | 3 | 1 | 5.046 | 1.943 |
| 19198 | Saturday, May 22, 2010 | 16:13 | 27.19 | 6.47 | 23.21 | 171.42 | 193.41 | 22.09 | 95.18% | 96.73% | 96.82% | 3 | 1 | 5.201 | 1.917 |
| 19197 | Saturday, May 22, 2010 | 15:16 | 28.55 | 7.04 | 24.11 | 148.83 | 171.70 | 22.91 | 95.00% | 94.62% | 94.54% | 3 | 1 | 5.396 | 1.908 |

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|-------|------------------------|-------|-------|-------|-------|--------|--------|-------|--------|--------|--------|---|---|-------|-------|-------|
| 19196 | Saturday, May 22, 2010 | 14:13 | 26.77 | 6.01 | 23.05 | 127.07 | 149.04 | 22.06 | 95.69% | 96.55% | 96.21% | 3 | 1 | 5.003 | 5.429 | 1.862 |
| 19195 | Saturday, May 22, 2010 | 13:14 | 27.55 | 6.71 | 23.43 | 104.95 | 127.25 | 22.33 | 95.30% | 97.25% | 97.68% | 3 | 1 | 5.281 | 5.831 | 1.875 |
| 19194 | Saturday, May 22, 2010 | 12:16 | 25.75 | 5.96 | 22.34 | 83.58 | 105.01 | 21.49 | 96.19% | 96.97% | 96.58% | 3 | 1 | 5.275 | 5.489 | 1.934 |
| 19193 | Saturday, May 22, 2010 | 11:22 | 27.24 | 6.60 | 23.20 | 61.48 | 83.70 | 22.33 | 96.26% | 97.86% | 97.81% | 3 | 1 | 5.368 | 5.707 | 1.94 |
| 19192 | Saturday, May 22, 2010 | 10:17 | 62.06 | 5.75 | 60.99 | 5.95 | 61.64 | 56.00 | 91.83% | 95.42% | 95.41% | 5 | 1 | 6.815 | 6.861 | 1.869 |
| 19191 | Saturday, May 22, 2010 | 7:46 | 37.17 | 8.33 | 31.40 | 346.54 | 376.09 | 29.86 | 95.09% | 96.62% | 97.31% | 3 | 1 | 5.882 | 5.821 | 1.934 |
| 19190 | Saturday, May 22, 2010 | 6:22 | 29.38 | 5.53 | 25.52 | 323.59 | 347.92 | 24.51 | 96.03% | 96.74% | 96.98% | 3 | 1 | 4.834 | 5.308 | 1.881 |
| 19189 | Saturday, May 22, 2010 | 5:23 | 32.58 | 7.40 | 27.72 | 298.05 | 324.38 | 26.51 | 95.64% | 96.84% | 98.47% | 3 | 1 | 5.621 | 5.67 | 1.932 |
| 19188 | Saturday, May 22, 2010 | 4:10 | 27.87 | 4.91 | 24.75 | 275.17 | 298.83 | 23.87 | 96.46% | 97.23% | 95.53% | 3 | 1 | 4.481 | 4.92 | 1.857 |
| 19187 | Saturday, May 22, 2010 | 3:16 | 29.02 | 7.16 | 24.53 | 252.41 | 275.69 | 23.44 | 95.53% | 97.13% | 98.66% | 3 | 1 | 5.374 | 5.983 | 1.908 |
| 19186 | Saturday, May 22, 2010 | 2:19 | 29.02 | 7.46 | 24.23 | 229.86 | 252.86 | 23.19 | 95.69% | 96.44% | 96.22% | 3 | 1 | 5.894 | 6.199 | 1.921 |
| 19185 | Saturday, May 22, 2010 | 1:19 | 28.71 | 6.67 | 24.38 | 207.04 | 230.24 | 23.33 | 95.71% | 96.64% | 98.01% | 3 | 1 | 5.257 | 5.785 | 1.919 |
| 19184 | Saturday, May 22, 2010 | 0:23 | 27.93 | 6.90 | 23.57 | 184.68 | 207.31 | 22.77 | 96.61% | 97.00% | 97.43% | 3 | 1 | 5.31 | 5.995 | 1.931 |
| 19183 | Friday, May 21, 2010 | 23:27 | 26.85 | 6.86 | 22.60 | 163.28 | 184.93 | 21.75 | 96.22% | 97.87% | 97.07% | 3 | 1 | 5.467 | 5.948 | 1.939 |
| 19182 | Friday, May 21, 2010 | 22:35 | 25.95 | 6.97 | 21.63 | 142.65 | 163.44 | 20.91 | 96.69% | 96.43% | 95.26% | 3 | 1 | 5.681 | 5.863 | 1.936 |
| 19181 | Friday, May 21, 2010 | 21:41 | 25.53 | 6.53 | 21.65 | 121.99 | 142.76 | 20.86 | 96.35% | 98.06% | 96.49% | 3 | 1 | 5.62 | 5.904 | 1.965 |
| 19180 | Friday, May 21, 2010 | 20:52 | 24.93 | 6.69 | 20.93 | 102.01 | 122.11 | 20.24 | 96.73% | 97.70% | 96.46% | 3 | 1 | 5.632 | 6.056 | 1.947 |
| 19179 | Friday, May 21, 2010 | 20:04 | 24.98 | 6.74 | 20.93 | 81.94 | 102.14 | 20.24 | 96.66% | 98.28% | 97.98% | 3 | 1 | 5.354 | 5.692 | 1.953 |
| 19178 | Friday, May 21, 2010 | 19:12 | 26.84 | 6.11 | 23.00 | 59.88 | 82.02 | 22.24 | 96.69% | 98.31% | 97.07% | 3 | 1 | 5.298 | 5.689 | 1.93 |
| 19177 | Friday, May 21, 2010 | 18:44 | 25.76 | 14.82 | 10.94 | 49.36 | 59.93 | 10.57 | 96.63% | 99.25% | 97.40% | 1 | 1 | 4.861 | 5.484 | 1.971 |
| 19176 | Friday, May 21, 2010 | 17:52 | 49.79 | 8.49 | 44.99 | 6.54 | 49.47 | 43.03 | 95.64% | 98.18% | 98.74% | 4 | 1 | 6.061 | 5.982 | 1.912 |
| 19175 | Friday, May 21, 2010 | 15:43 | 26.22 | 6.49 | 22.33 | 356.23 | 377.33 | 21.27 | 95.27% | 97.20% | 96.90% | 3 | 1 | 5.367 | 5.747 | 1.946 |
| 19174 | Friday, May 21, 2010 | 14:45 | 27.07 | 6.05 | 23.37 | 334.97 | 357.28 | 22.60 | 96.71% | 96.37% | 96.43% | 3 | 1 | 4.913 | 5.417 | 1.938 |
| 19173 | Friday, May 21, 2010 | 13:50 | 33.78 | 7.55 | 28.73 | 308.53 | 335.85 | 27.50 | 95.72% | 98.31% | 97.88% | 3 | 1 | 5.406 | 5.767 | 1.911 |
| 19172 | Friday, May 21, 2010 | 13:32 | 28.00 | 27.84 | 0.16 | 308.67 | 308.75 | 0.08 | 52.23% | 30.57% | 25.48% | 1 | 1 | 5.316 | 5.144 | |
| 19171 | Friday, May 21, 2010 | 12:22 | 26.80 | 3.08 | 24.30 | 286.17 | 309.49 | 23.49 | 96.63% | 97.89% | 98.04% | 3 | 1 | 3.484 | 4.114 | 1.814 |
| 19170 | Friday, May 21, 2010 | 11:25 | 27.50 | 6.53 | 23.39 | 264.42 | 286.78 | 22.58 | 96.52% | 97.91% | 97.42% | 3 | 1 | 4.961 | 5.464 | 1.931 |
| 19169 | Friday, May 21, 2010 | 9:48 | 26.60 | 6.74 | 22.46 | 243.84 | 265.32 | 21.62 | 96.23% | 97.61% | 97.92% | 3 | 1 | 5.392 | 5.859 | 1.944 |
| 19168 | Friday, May 21, 2010 | 8:47 | 28.48 | 6.81 | 24.25 | 221.16 | 244.38 | 23.35 | 96.28% | 97.41% | 97.69% | 3 | 1 | 5.529 | 5.543 | 1.939 |
| 19167 | Friday, May 21, 2010 | 7:41 | 26.63 | 6.26 | 22.96 | 199.55 | 221.52 | 22.06 | 96.11% | 97.67% | 97.37% | 3 | 1 | 5.616 | 5.986 | 1.963 |

