

2001-04-26 Tuesday Morning Notes

Tuesday, April 26, 2011
7:48 AM

Stacking and Transfers

- Stacked 23.8mA/hr with a production of 19.8 pbars/Mp with 8.07 Tp on target.
- Unstacked 260E10 in 33 transfers over 12 sets with an overall efficiency of 91%
 - After damper problem fixed, last 4 transfers 96.7%

Operational Happenings

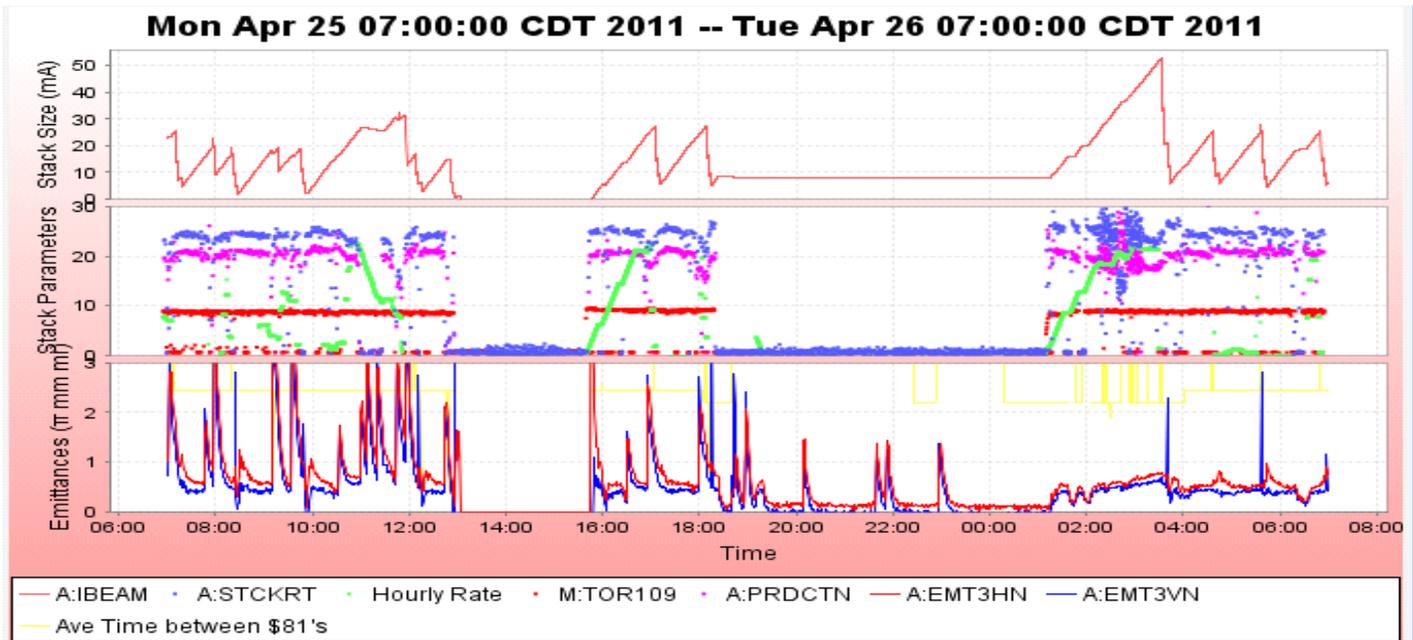
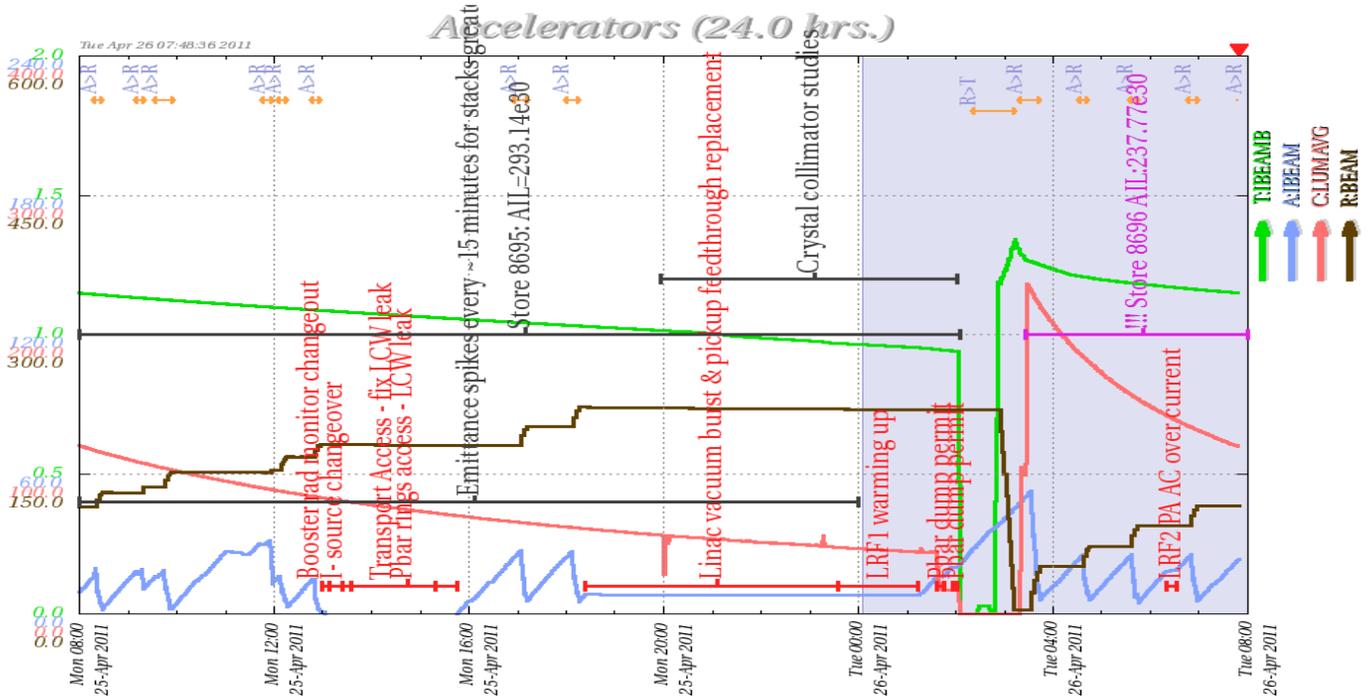
- Regarding the problem with emittance blow-up, we believe the high frequency vertical damper is the cause. DVM spent some time yesterday evening during the Linac downtime successfully inducing the emittance blow-up with an 8E10 stack. It is normally all but impossible to create an instability with this little beam in the core. Since the vertical high frequency amp was the only one putting out power during the blow-ups, it had been an early suspect. However, since the damper systems were measured and declared normal, we focused elsewhere. During the Linac downtime, we found that the blow-up went away when the dampers were off. Mike Backfish continued the effort to narrow the suspects through the evening, demonstrating that the blow-up only occurred when the vertical high frequency amp was on. Operators were able to run successfully on the owl shift with the vertical damper attenuator turned off. The core is strongly coupled right now, so this is a good temporary strategy. We need the vertical damper working normally again soon
- The beam dump chill water isolation valve script caused several additional trips on the owl shift today. I've added another requirement to the script which closes the CW isolation valve. If there has been recent beam on the dump, the command to close the valve is skipped. This is done with A:T109SM which is the sum of beam on target over a supercycle. This should prevent most of the recent trouble we've had.
- Access to the Pbar Rings. Fixed LCW leaks at D:QS723 (transport), A:QS206 and A2Q10.
- With help from the water group, Chuck and I replaced the water cooling plates on shunts D:QS723 and A:QS206, because they were leaking water. Shunt D:QS723 and its 5V/35A Bias PS, were damaged by the spraying water, and will be repaired during the next Transport access

Numbers

- Stacking
 - Pbars stacked: 280.41 E10
 - Time stacking: 14.51 Hr
 - Average stacking rate: 19.33 E10/Hr
- Uptime
 - Number of pulses while in stacking mode: 21264
 - Number of pulses with beam: 19219
 - Fraction of up pulses was: 90.38%
- The uptime's effect on the stacking numbers
 - Corrected time stacking: 13.11 Hr
 - Possible average stacking rate: 21.39 E10/Hr
 - Could have stacked: 310.25 E10/Hr
- Recycler Transfers
 - Pbars sent to the Recycler: 271.95 E10
 - Number of transfers : 35
 - Number of transfer sets: 13
 - Average Number of transfer per set: 2.69
 - Time taken to shoot including reverse proton tuneup: 00.12 Hr
 - Transfer efficiency: 90.18
- Other Info

- Average POT : 8.05 E12
- Average production: 18.12 pbars/E6 protons

Plots



A:IBMINJ 14.978 e07 A:FRWDTH 25.944 Hz A:EMT3HN 0.537 pimm
 A:LFTOVR 1.591 % A:CENFRQ 628895. Hz A:EMT3VN 0.363 pimm
 A:STMEDS 11.572 MeV A:R2DDS1 628897. Hz A:XFRNXT 75.0 mA
 A:R1HLFB 28.25 kV

MI EFF 0.82
 M:TR105B 7.921 E12

G:TURN14 12.0 Turns
 I:14SUM3 9.65 E12



D:724TOR 7.928 E09
 G:RD2116 3.15 mRem
 D:INJFLX 26.381 McG
 D:FLXRTL 1.544 uSec
 D:R1HLFB 5.15 MV
 D:BPMI10 23221.3 McG
 Z:PRDCTD 28.864 E-6

D:GTCHK 143.05 %
 D:GTGTPWR 62.212 KW

Pbar Beamlines BPM House Status

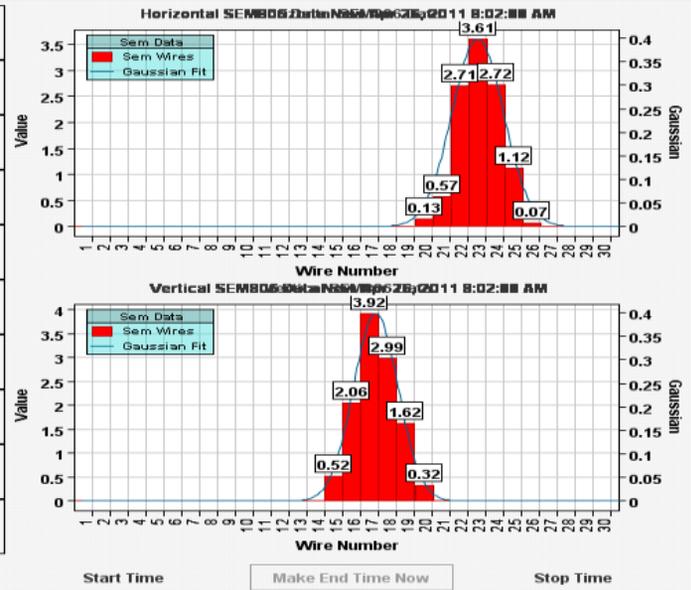
P1
 P2
 AP1
 AP2 F27
 AP2 AP50

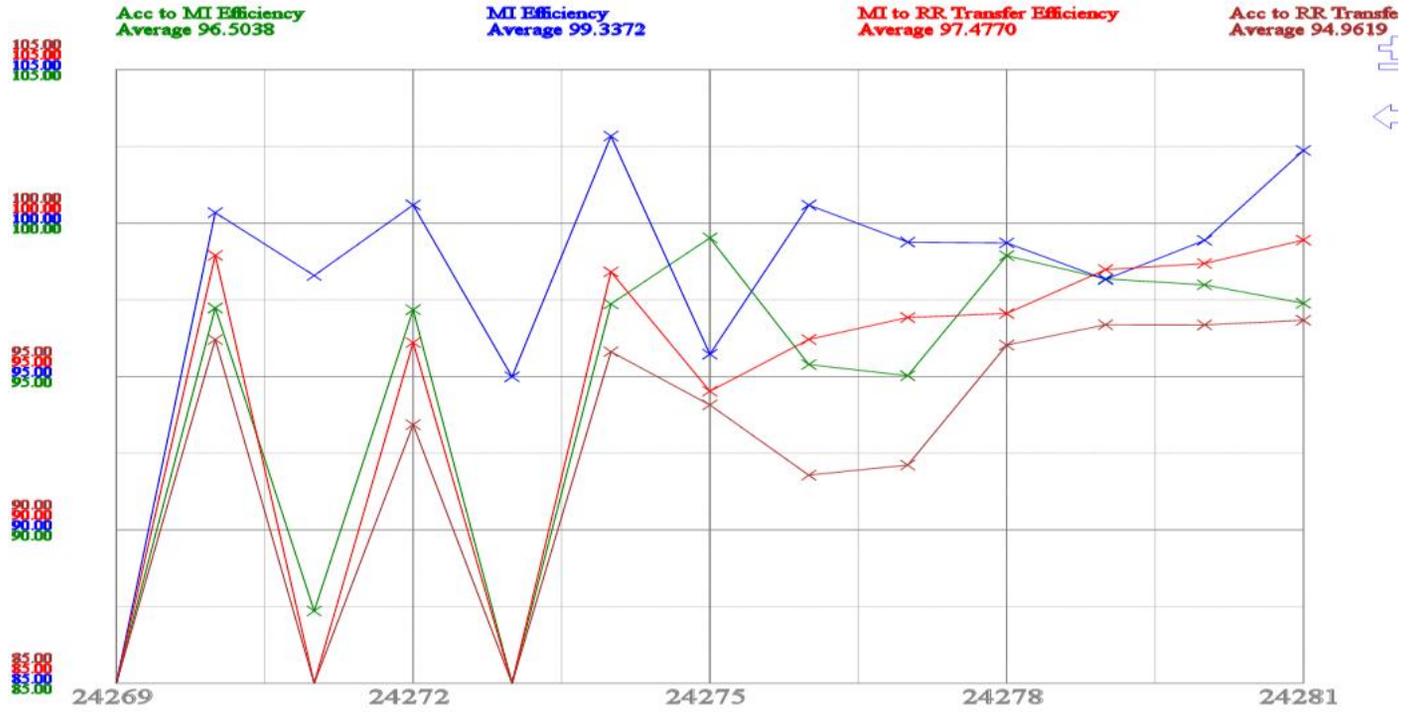
0x80 Event Detected
 A:STCKAV 2.45 Secs

Overthruuster Status

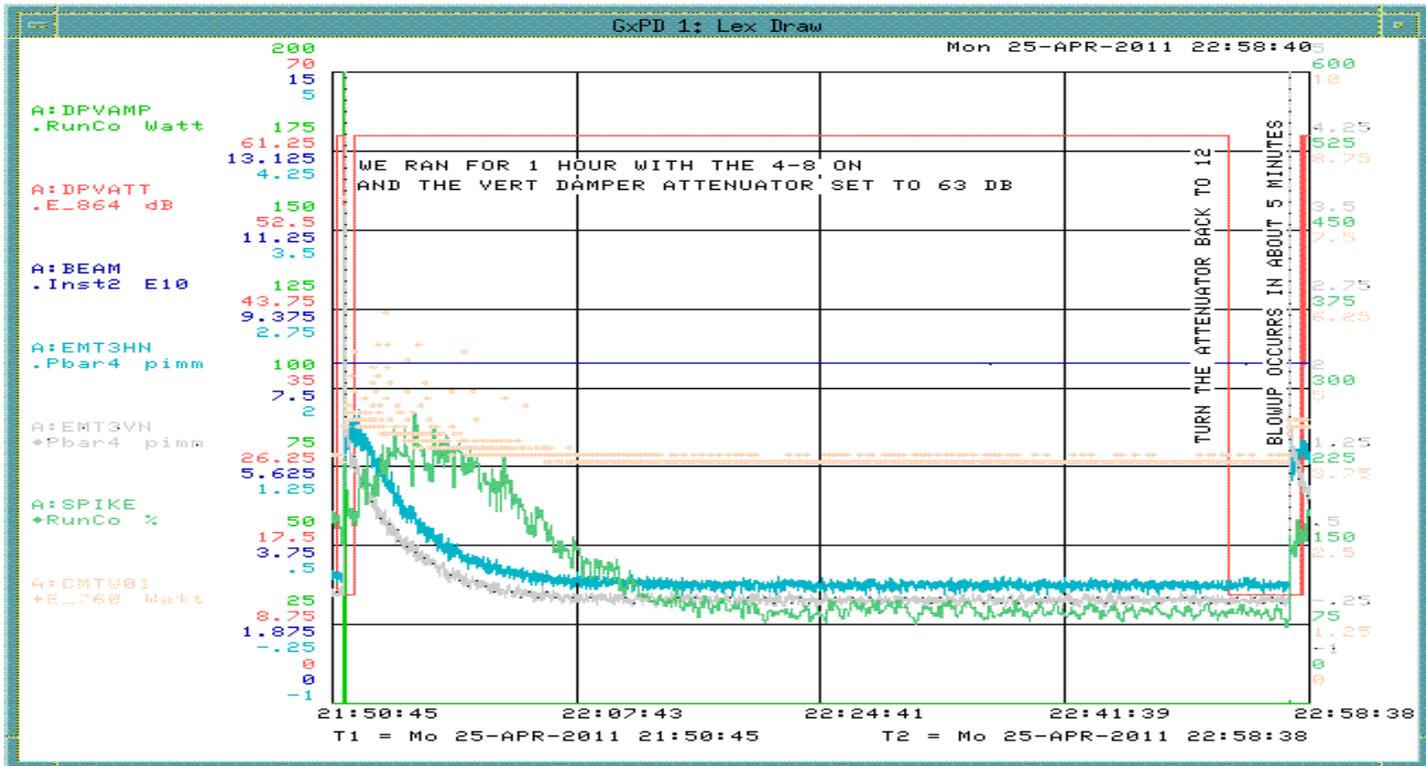
Horizontal Area New	10.94	Intensity
Horizontal Area Calc	194.0	Intensity
Horizontal Sigma New	3.39	mm
Horizontal Sigma Calc	3.2	mm
Horizontal Mean	24.25	mm
Vertical Area New	11.43	Intensity
Vertical Area Calc	197.62	Intensity
Vertical Sigma New	3.44	mm
Vertical Sigma Calc	3.23	mm
Vertical Mean	7.07	mm

View Lumberjack Data Pause Old Hardware

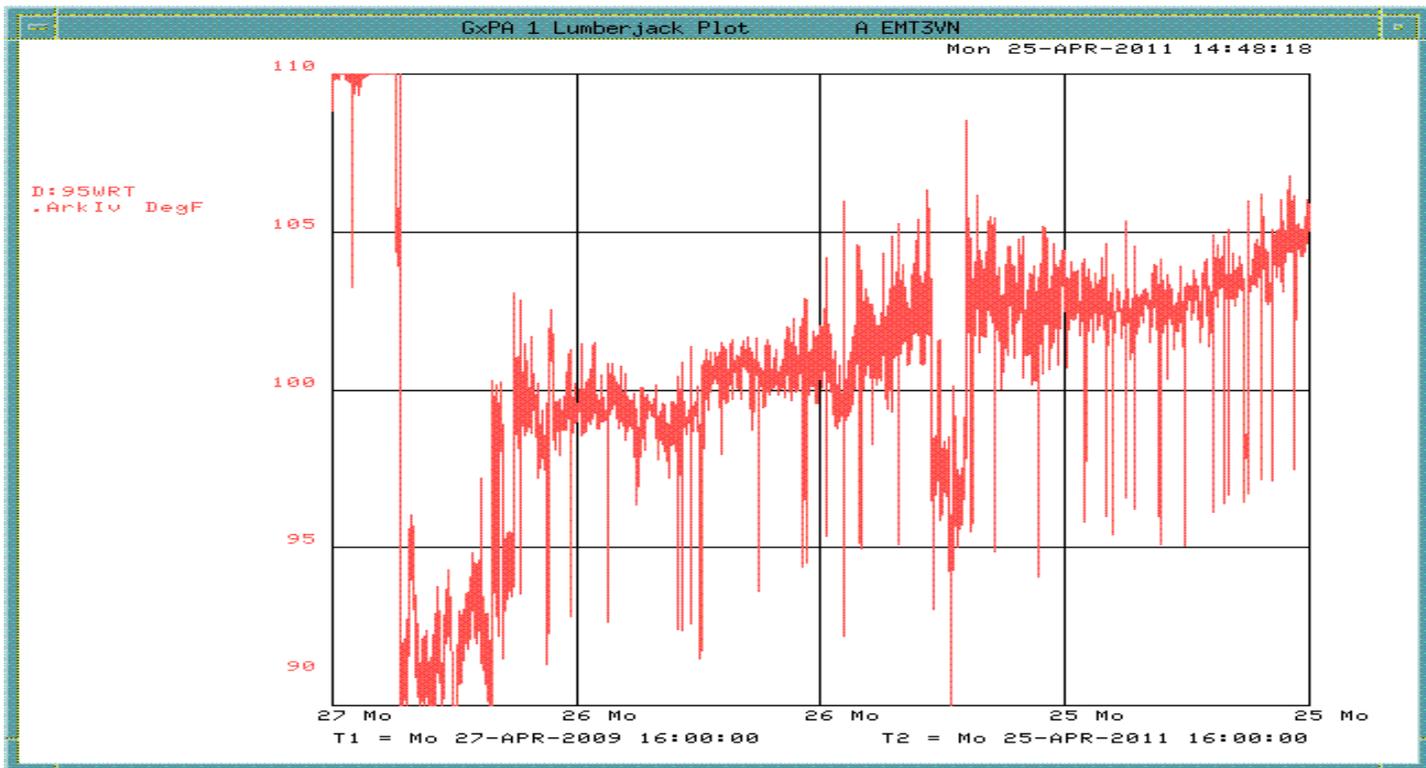




Column 1 Number_0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time	Column 21 Number_20_A:1 BEAMB sampled on \$91 (A:BEA M7), E10	Column 22 Number_21_A:1 BEAMB sampled on \$94 (A:BEA M9), E10	Unstacked (mA)	Column 23 Number_22_R:B EAMS (R:BEA ME0[0]) pre xfer E10	Column 24 Number_23_R:B EAM (R:BEA ME0[1]) post xfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Acc to MI * Acc to MI2 Efficiency	Transfers	Sets	Column 5 Number_4_Acc Horizontal Emittance	Column 6 Number_5_Acc Vertical Emittance	Column 8 Number_7_Acc Longitudinal Emittance	
Totals =>				260.04			235.51	90.57%	94.31%	93.88%	88.54%	33	12	11.374	9.0387	1.8707	
Daily Average =>				260.04			235.51					33	12				
24282	Tuesday, April 26, 2011	7:53	25.57	5.41	22.58	116.11	137.70	21.81	96.55%	98.00%	97.81%	95.85%	3	1	5.499	3.635	1.932
24281	Tuesday, April 26, 2011	6:50	25.79	5.51	22.69	94.65	116.41	21.96	96.80%	97.46%	98.94%	96.42%	3	1	5.413	3.957	1.924
24280	Tuesday, April 26, 2011	5:37	25.60	4.71	23.13	72.66	94.86	22.41	96.89%	98.04%	97.96%	96.04%	3	1	5.119	3.613	1.916
24279	Tuesday, April 26, 2011	4:36	25.83	5.68	22.66	51.16	72.88	21.91	96.67%	98.10%	96.72%	94.89%	3	1	5.49	3.949	1.956
24278	Tuesday, April 26, 2011	3:33	53.27	5.96	49.92	4.21	51.51	47.80	95.76%	98.72%	97.88%	96.63%	4	1	5.979	4.522	1.859
24277	Monday, April 25, 2011	18:08	27.61	5.24	24.39	201.11	222.61	22.22	91.11%	94.85%	94.36%	89.50%	3	1	9.16	6.224	1.822
24276	Monday, April 25, 2011	17:04	27.56	5.71	24.15	180.95	201.95	21.74	90.05%	95.22%	95.45%	90.89%	3	1	9.253	6.817	1.886
24275	Monday, April 25, 2011	12:49	15.27	0.50	15.16	168.74	182.24	13.90	91.66%	97.35%	93.91%	91.42%	3	1	5.734	2.868	1.626
24274	Monday, April 25, 2011	12:08	16.99	3.08	15.85	154.27	169.09	15.12	95.42%	97.29%	99.52%	96.82%	3	1	6.899	4.623	1.921
24273	Monday, April 25, 2011	11:56	25.38	13.05	12.33	151.86	155.10	3.24	26.31%	41.02%	38.97%	15.98%	1	1	47.838	48.034	1.793
24272	Monday, April 25, 2011	9:44	19.24	2.36	18.34	136.15	152.57	16.88	92.04%	96.68%	96.47%	93.26%	3	1	8.539	5.619	1.894
24271	Monday, April 25, 2011	9:17	19.53	10.68	8.85	130.36	136.89	6.53	73.75%	87.36%	85.86%	75.01%	1	1	21.566	14.603	1.919







Return temp reading higher on Pbar 95