

Monthly Status Report
Robert Stobie Prime Focus Imaging Spectrograph
November 2007

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This RSS monthly report summarizes the RSS status as of December 7, 2007.

Optics and Testing

- OL5 replacement
 - Figuring: The lens is still in polishing at TORC. Delivery is at least 1-2 weeks behind schedule (a more accurate delivery date has been requested).
 - Coating: Tests at Lick of their durable solgel AR coat onto CaF₂ have brought up some issues with reproducibility, resolution of which would require a slip at least until the end of January. Because of this, we have decided to go back to the original vendor, Cleveland Crystals. We have obtained a quote from them, and a promise to deliver in 3-4 weeks after receipt of the lens. The original shipping holder of OL5 has been located at Pilot Group, and shipped to CC.
 - Blank replacement. As requested by the SSWG, quotes have been requested from Oken and Schott for a replacement of the CaF₂ blank used for OL5. Oken has responded that they are preparing a quote this week.
- Beamsplitter: A week after reassembly of the beamsplitter, the RTV seal on one side (the "top", defined as the second layer of installed prisms) lost its seal rather dramatically, as the RTV appeared to absorb fluid and peel away from the frame. Since the bottom seal is still quite firm, this problem seems to stem from something unique to this one seal, perhaps surface preparation. However, this remains a mystery. The top layer of prisms will need to be removed, cleaned, reassembled, aligned, resealed, and new fluid injected. This should be achievable before the repaired OL5 lens arrives back at Pilot to complete the spectrograph repair. In the process of prism reassembly, we will take the opportunity to switch positions of several prisms to improve the mosaic image quality and to remove one of the chipped prism corners from the beam.

Mechanical.

- The sensor control electronics for the slitmask mechanism is being redesigned and rebuilt to achieve more reliable operation: the connector PCB layouts and electronics schematics have been completed and reviewed.
- The detail drawing of the baffle for the payload/ RSS interface has been completed. It will be a single, laser-cut piece.
- The damaged RSS moving baffle is in the process of being reassembled

Control

- Electronics box fixes: New, more robust electronics box brackets have been designed for the electronics boxes: The detail drawings have been reviewed and are to go to an outside vendor for machining in January.
- Coding of the high level PCON control software is in progress. The PDET code has been rewritten to eliminate unreliable datasockets. Testing of the detector readout overhead is in progress.
- Testing of the detector after implementation of modifications is underway. All but one of the channels now meets the EEV fullwell specification. The remaining channel (#3) is being investigated.

Management

- The RSS schedule has been updated, and is attached to this report. The projected delivery of the optics has been slipped two weeks from the previous report, due to the slip in delivery of the OL5 replacement.
- The 2007 Quarter 2 Quarterly Management Report is (still) in progress.

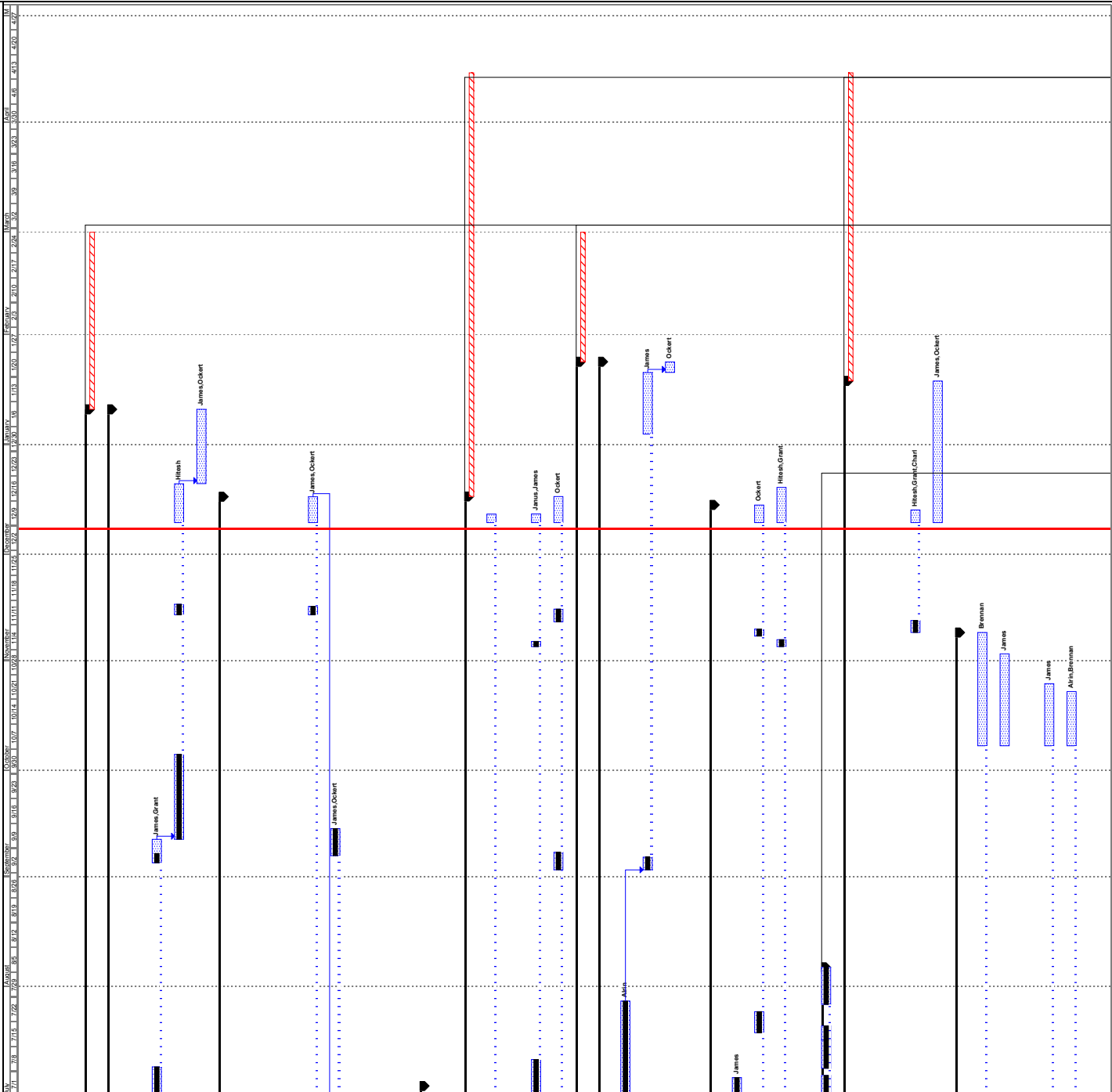
Activities for next month

- Optics
 - Finish figuring of replacement OL5 lens (TORC).
 - Start AR coating of OL5 (Cleveland Crystals).
 - Reassemble, realign, and refill beamsplitter mosaic.

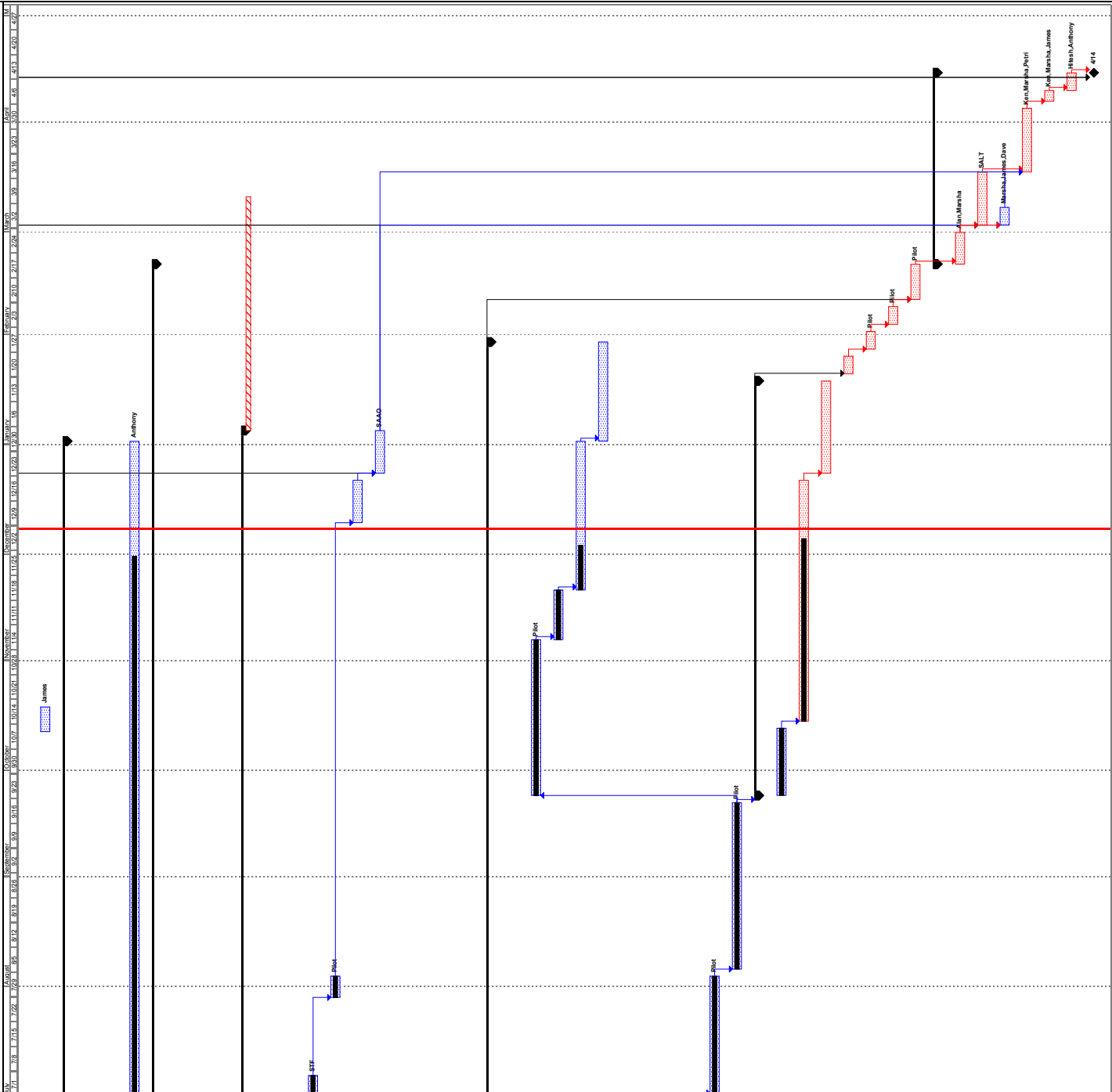
- Mechanical
 - Fabricate slitmask sensor electronics.
 - Fix guider mechanical interface: proceed with integration and lowering of the cable wrap.
 - Side-by-side test of the two grating rotation stages.
 - Continue repair of the moving baffle.

- Control
 - Continue coding of PCON high-level control software and PDET interaction.

- Management
 - Ship field flattener to South Africa
 - Ship spare control system to South Africa.
 - Finish Quarter 2, 2007 Quarterly Management Report.



ID	Task Name	Start	Finish	Duration	Person(s)
1	UPS Down	Thu 11/10/06	Mon 11/20/06	10 days	
2	Remove Optics and Detector	Tue 11/21/06	Tue 11/28/06	6 days	1
3	Remove Drive window	Wed 11/29/06	Tue 12/5/06	5 days	2
4	RSS Fix	Mon 12/11/06	Thu 1/8/07	28 days	
5	Sill Leak Mechanism Rework	Mon 12/18/06	Thu 1/10/07	23 days	
6	Integrate Mechanical	Mon 12/18/06	Fri 3/16/07	13 wks	
7	Electronic Testing	Mon 3/5/07	Tue 9/11/07	19 wks	
8	Rework Sensor Electronics	Tue 9/11/07	Thu 12/20/07	6 wks	7
9	Integrate with Instrument	Fri 12/21/07	Thu 1/10/08	3 wks	8
10	Grating Fork Fixture Correct	Mon 12/11/06	Mon 12/17/07	365.01 days	
11	Grating material plate mod and remake	Mon 12/11/06	Fri 1/19/07	6 wks	
12	Order spare rotation stage	Mon 18/07	Mon 3/19/07	10.2 wks	
13	Update mechanical interface	Tue 3/20/07	Mon 5/7/07	7 wks	12
14	Measure delay on new stage and compare with	Tue 4/9/07	Mon 12/17/07	1.84 wks	13
15	Check repair existing stage	Thu 4/5/07	Fri 6/14/07	3 wks	14
16	Filter Mag bar code reading	Mon 18/07	Wed 4/18/07	7.5 days	
17	Fix slow wave plate slide	Mon 18/07	Fri 1/25/07	3 wks	
18	Beam Splitter / AT wrap interface	Mon 18/07	Fri 1/19/07	2 wks	
19	Improve Station Feature	Mon 18/07	Tue 7/3/07	17 days	
20	Electronics Fix	Mon 18/07	Fri 3/16/07	50 days	
21	Instrument Interface	Mon 18/07	Mon 12/17/07	245.2 days	
22	Instrument Air Humidity sensors	Mon 18/07	Wed 12/12/07	24 wks	
23	Repair guide probe-elect interface	Fri 1/20/07	Tue 2/6/07	1.5 wks	
24	Fix guide probe interference with front of RSS	Mon 12/20/07	Wed 12/12/07	2.3 wks	
25	RSS (p) board staffing	Mon 18/07	Mon 12/17/07	26.8 wks	
26	RSS Improvements	Mon 12/11/06	Thu 1/24/07	23.25 days	
27	Electronic box mounting brackets	Mon 2/12/07	Thu 1/24/08	391.25 days	
28	Design	Mon 2/12/07	Fri 7/27/07	24 wks	
29	Machine	Mon 19/07	Mon 1/21/08	3 wks	37
30	Receiver Checkout	Mon 12/11/06	Thu 1/24/08	3.09 y	38
31	Replica optics in mockups with A/D sensors - cabin	Mon 3/5/07	Fri 3/22/07	3 wks	
32	Buffer Purge Improvements	Mon 3/5/07	Fri 12/14/07	208 days	
33	Improve window purge seal	Mon 4/2/07	Fri 7/6/07	2 wks	
34	Repair Moving Buffer	Mon 3/5/07	Fri 12/14/07	32 wks	
35	Mount S/W Tracker on RSS	Mon 12/20/07	Wed 12/19/07	8 wks	
36	Storage Boxes	Mon 12/11/06	Fri 3/9/07	65 days	
37	RSS Detector Improvements	Mon 12/20/07	Mon 18/07	140.5 days	
38	Installation Removal Improvements	Mon 18/07	Fri 1/18/08	67.5 days	
39	Wire RSS installation/removal procedure	Mon 18/07	Tue 1/29/07	1.75 wks	
40	Ship low tubing	Mon 18/07	Fri 3/16/07	10 wks	
41	Review payload & RSS cabling	Fri 1/19/07	Thu 12/13/07	1 wk	
42	Design lifting arrangement for RSS	Mon 12/10/07	Fri 1/18/08	6 wks	
43	Accidents	Mon 18/07	Thu 1/18/07	51.5 days	
44	Magazine station alignment procedure	Mon 18/07	Thu 1/18/07	8 wks	
45	Sill Leak mechanism alignment procedure	Mon 11/8/07	Fri 11/23/07	4 wks	
46	Optics Checkout Procedure - Station	Mon 18/07	Tue 1/30/07	17 days	
47	Optics Checkout Procedure - Detector	Mon 3/12/07	Thu 10/25/07	26 wks	
48	Optics Checkout Procedure - Sill Leak	Mon 3/5/07	Tue 10/23/07	17.5 wks	
49	Optics Checkout Procedure - Filter Magazine	Mon 18/07	Tue 1/30/07	17 days	



ID	Task Name	Start	Finish	% Done	Duration	Person(s)
74	Optics Changeout Procedure - Coating magazine	Mon 18/07	Tue 19/07	100%	1 days	
75	Optics Changeout Procedure - Beam splitter	Fri 10/07	Thu 10/07	0%	1 wk	
76	Software	Wed 12/07	Tue 11/08	81%	246 days	
77	SRD Review	Wed 12/07	Wed 12/07	100%	0 days	
78	Wire Software Design Document	Wed 12/07	Tue 20/07	100%	4 wks 77	
79	Implement	Wed 22/07	Tue 11/08	90%	45 wks 78	
80	Optics Repair	Wed 12/07	Wed 22/08	10%	316 days	
81	Ship Optics -> IR	Wed 12/07	Tue 12/07	100%	4 wks 3	
82	Disassemble Cam. Coll Multiplex	Wed 12/07	Tue 12/07	100%	4 wks 81	
83	Transmission of Multiplex	Wed 11/07	Tue 22/07	100%	7 wks 82	
84	Flattener Repair	Wed 22/07	Fri 14/08	45%	225 days 43	
85	Evaluation Clean Attempt	Wed 22/07	Tue 5/10	100%	9 wks	
86	Push of coating	Wed 5/07	Fri 6/20/07	100%	7.5 wks 85	
87	Recoat	Mon 6/07	Fri 7/07	100%	2 wks 86	
88	Transmission	Sat 7/07	Fri 6/07	100%	1 wk 87	
89	Ship Optics -> SA	Mon 12/07	Fri 12/07	0%	2 wks 88	
90	Reduce window cumpdown	Mon 12/07	Fri 14/08	0%	2 wks 48.89	
91	UV Throughput Repair	Wed 22/07	Fri 5/07	100%	58 days 83	
92	Measure Fluid Samples	Wed 22/07	Tue 31/07	100%	2 wks	
93	Investigate Grey Loss	Wed 31/07	Fri 3/07	100%	13 days 92	
94	Fluid Backlog Compatibility Tests	Mon 4/07	Fri 5/07	100%	7 wks 93	
95	Beam splitter Repair	Mon 3/07	Tue 12/08	87%	237 days	
96	Transmission	Mon 3/07	Fri 3/07	100%	1 wk	
97	Replace fluid Backlog	Mon 9/07	Tue 19/07	100%	0.4 wks 108	
98	Monitor	Wed 11/07	Tue 11/07	100%	2 wks 97	
99	Disassemble Realign Reassemble	Wed 11/07	Tue 11/08	2%	0 wks 88	
100	Monitor	Wed 12/08	Tue 12/08	0%	4 wks 99	
101	Camera Tripod repair	Mon 4/07	Fri 9/10/07	100%	30 days	
102	Disassemble Inspect	Mon 4/07	Fri 4/10/07	100%	2 wks 93	
103	Repair	Mon 4/10/07	Fri 9/11/07	100%	4 wks 102	
104	Design Rebuild Backlog	Mon 5/2/07	Fri 6/20/07	100%	0 wks 84	
105	Attempt Drain Replace Fluid	Mon 12/07	Fri 8/07	100%	5 wks 104	
106	Disassemble Four Multiplex/Replace Fluid	Mon 9/07	Fri 9/21/07	100%	7 wks 105	
107	OLE Rehabilitation	Mon 9/07	Fri 16/08	42%	85 days 106	
108	Obtain Fugate Coated Ship Back	Mon 9/07	Fri 10/07	100%	3 wks	
109	Figuring	Mon 10/10/07	Fri 12/21/07	75%	10 wks 108	
110	Coating	Mon 12/07	Fri 1/08	0%	4 wks 109	
111	Collimator Tripod Assembly	Mon 12/10/07	Fri 1/25/08	0%	1 wk 107	
112	Transmission of Multiplex	Mon 12/08/08	Fri 2/1/09	0%	1 wk 111	
113	Reassemble Algn Cam, Coll	Mon 24/08	Fri 2/09/08	0%	1 wk 112	
114	Ship Optics -> SA	Mon 21/10/08	Wed 20/08/08	0%	8 days 113.95	
115	Reintegration	Thu 2/2/09	Mon 4/14/09	0%	38 days	
116	Realign Algn optics	Thu 2/2/09	Fri 2/26/09	0%	7 days 114	
117	Reintegrate mechanism, balling	Mon 30/08	Mon 3/17/09	0%	11 days 116.43	
118	Detector Installation Alignment	Mon 30/08	Fri 3/7/09	0%	5 days 90.116	
119	Functional Test	Tue 31/08/08	Fri 4/4/09	0%	14 days 90.118.11	
120	Fluore Test	Mon 4/7/09	Wed 4/9/09	0%	3 days 119	
121	Recount Backlog, Test New Control System	Thu 4/10/09	Mon 4/14/09	0%	3 days 120	
122	Ready for LIL	Mon 4/14/09	Mon 4/14/09	0%	0 days 122.0121	