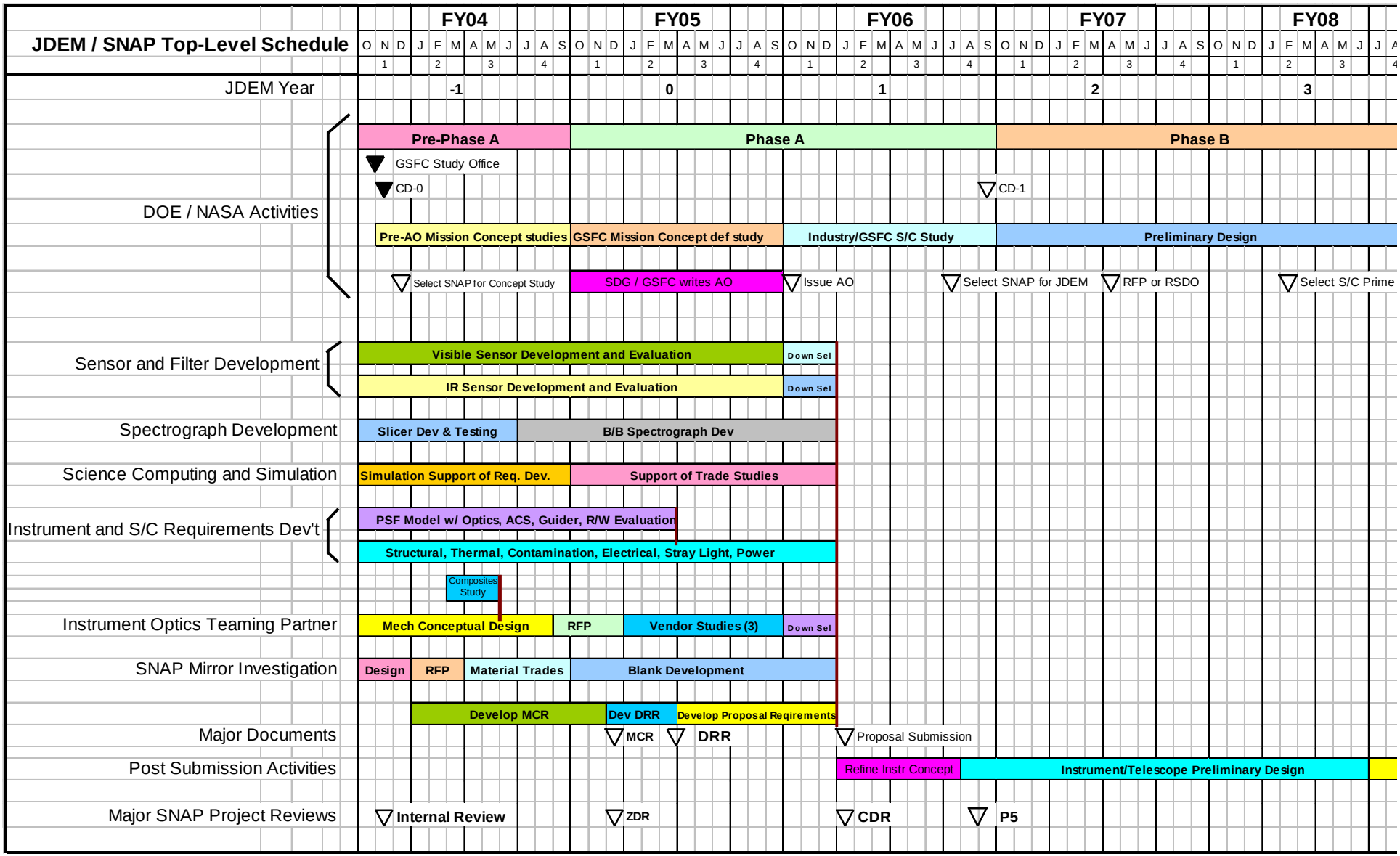
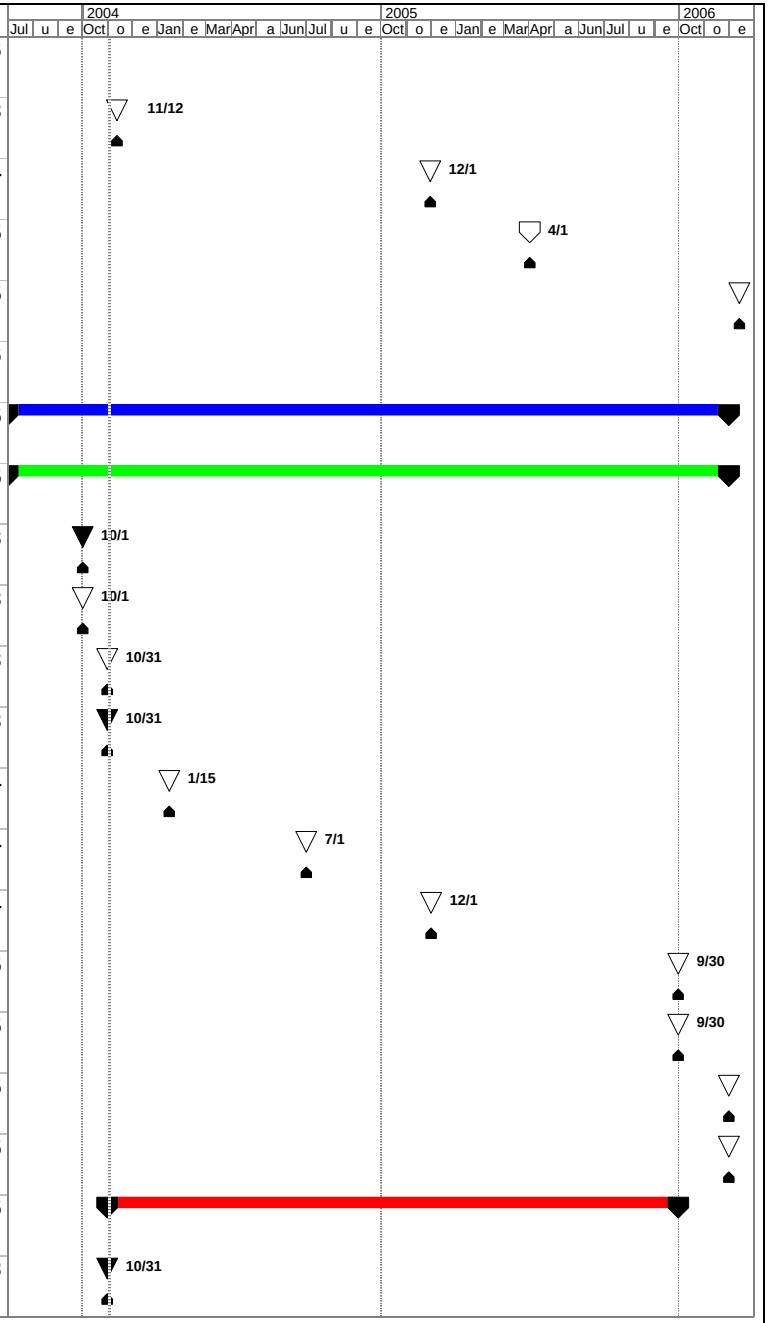
SNAP R&D Program Schedule



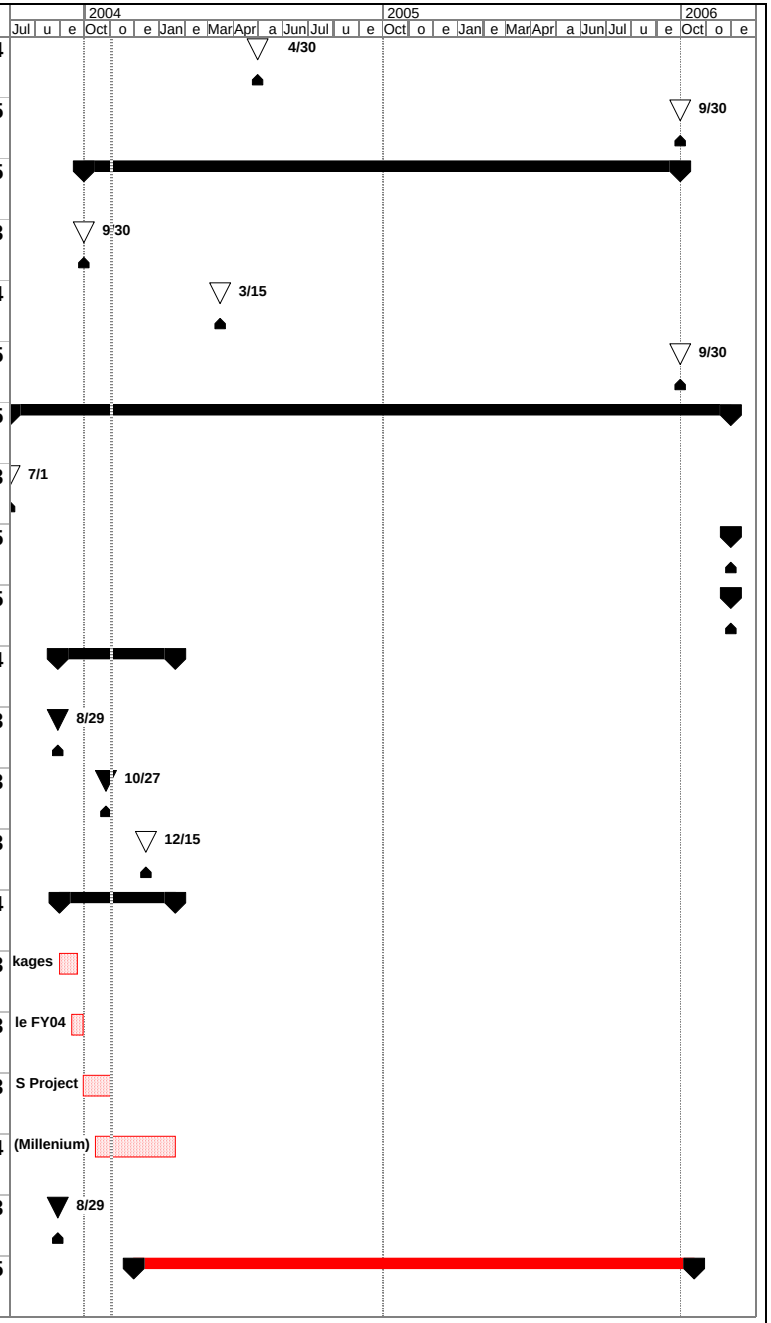
ID	Task Name	Schedule Finish
1	**Project Milestones**	3/1/06
2	LBNL Internal Review	11/12/03
3	Zero Order Design Review/MCR	12/1/04
4	Design Requirements Review (DRR)	4/1/05
5	Conceptual Design Review CDR)	12/15/05
6	System Requirements Review (SysRR)	3/1/06
7	**SNAP Project Management**	12/1/05
8	**Mgt Plans and Procedures**	12/1/05
9	Document Control System	10/1/03
10	ITAR Policy Statement	10/1/03
11	3 yr. Staffing Plan and Space Plan	10/31/03
12	SNAP Org Chart w/Project Teams	10/31/03
13	Configuration Management Plan	1/15/04
14	Risk Management Plan	7/1/04
15	Science Requirements Doc.	12/1/04
16	Project Management Plan	9/30/05
17	ES&H Plan for SNAP	9/30/05
18	Science Operations Plan	12/1/05
19	E&PO Plan	12/1/05
20	**Systems Engineering Management Plan**	9/30/05
21	SEMP Outline Complete	10/31/03



Project: SNAP Mgt v2
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | baseline finish

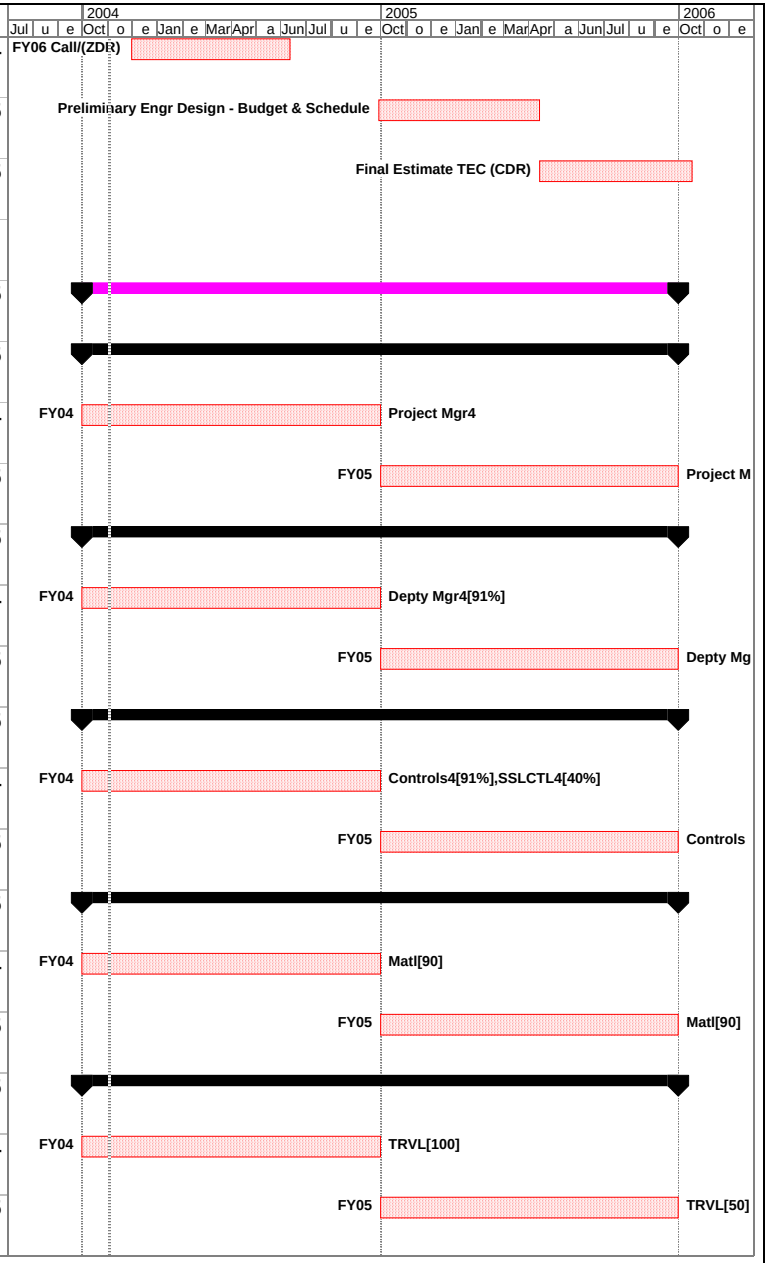
ID	Task Name	Schedule Finish
22	SEMP ZDR Draft Complete	4/30/04
23	SEMP CDR Complete	9/30/05
24	**Acquisition Plans**	9/30/05
25	**Institutional MOU's and Subcontracts**	9/30/03
26	Long Lead Procurement Plan	3/15/04
27	Acquisition Strategy	9/30/05
28	**Project Execution Plan**	12/1/05
29	Verification of Mission Need	7/1/03
30	Preliminary Team Execution Plan	12/1/05
31	Project Expectations Summary	12/1/05
32	**SNAP Project Controls**	1/20/04
33	WBS Dictionary	8/29/03
34	FMS Project Tree	10/27/03
35	Project Controls Manual (Draft)	12/15/03
36	**Statement of Work/Reporting (FY04 - FY05)**	1/20/04
37	Develop FY04 Workpackages	9/22/03
38	Resource Loaded Schedule FY04	9/29/03
39	Baseline Schedule for FY04-05 in MS Project	11/4/03
40	Integrated PM Software in use (Millenium)	1/20/04
41	**R&D Cost Estimate by WBS for FY04**	8/29/03
42	**Project Cost Estimate**	10/17/05



Project: SNAP Mgt v2
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | baseline finish

ID	Task Name	Schedule Finish
43	Draft Estimate FY06 Call/(ZDR)	6/11/04
44	Preliminary Engr Design - Budget & Schedule	4/13/05
45	Final Estimate TEC (CDR)	10/17/05
46		
47	**Resources**	9/30/05
48	**SSL Engineering**	9/30/05
49	FY04	9/30/04
50	FY05	9/30/05
51	**LBNL Engineering**	9/30/05
52	FY04	9/30/04
53	FY05	9/30/05
54	**Project Controls**	9/30/05
55	FY04	9/30/04
56	FY05	9/30/05
57	**Misc S&E**	9/30/05
58	FY04	9/30/04
59	FY05	9/30/05
60	**Travel**	9/30/05
61	FY04	9/30/04
62	FY05	9/30/05

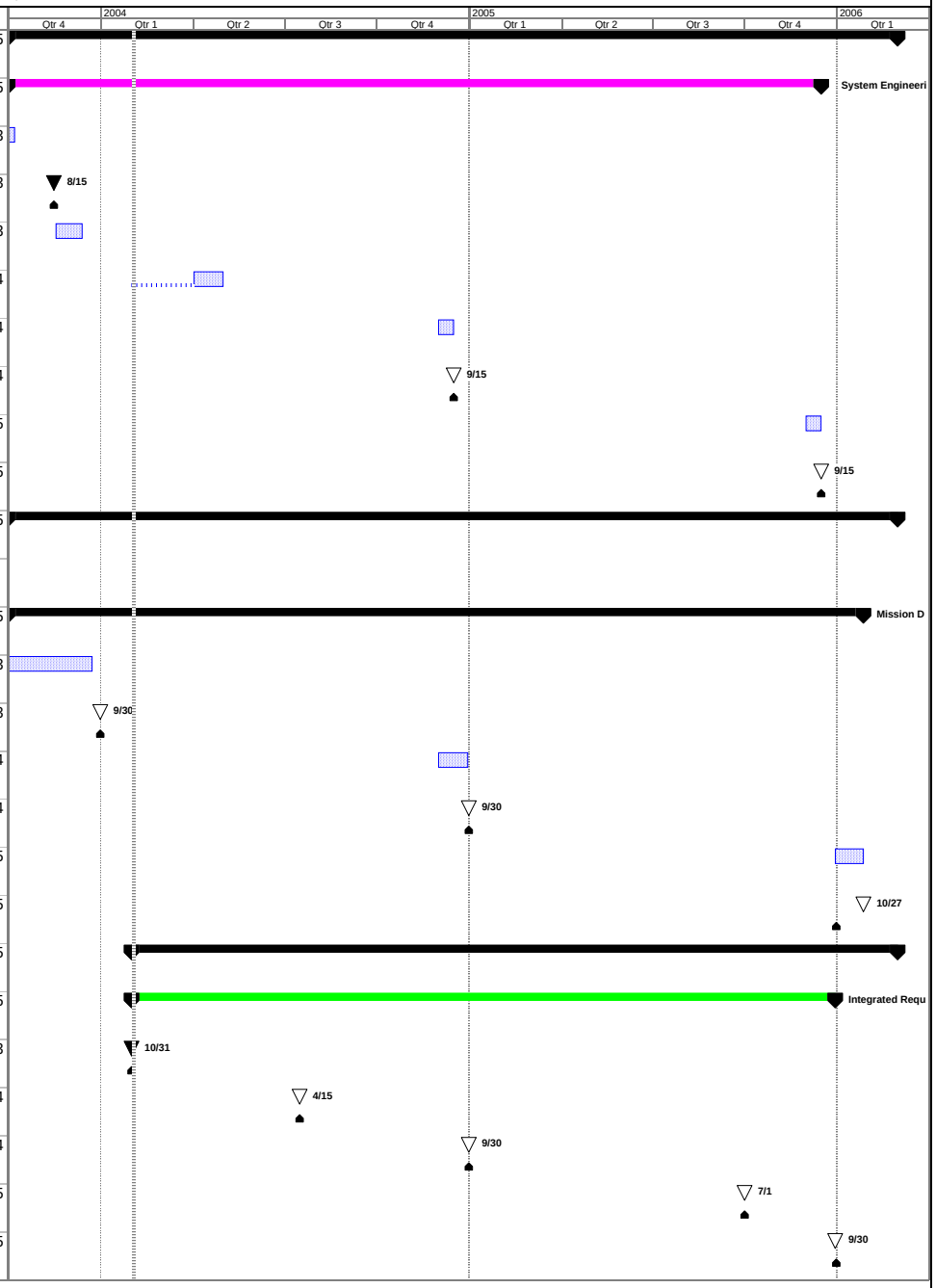


Project: SNAP Mgt v2
Date: 11/2/03

Task		Progress		Summary		External Tasks		Deadline	
Split		Milestone		Project Summary		External Milestone		baseline finish	

System Engineering Milestone List

ID		Task Name	Schedule Finish
1		**Instrument Systems Engineering**	12/1/05
2		**System Engineering Management Plan**	9/15/05
3		Develop Outline	7/7/03
4	✓	SEMP Outline Complete	8/15/03
5		Develop Preliminary SEMP Draft	9/12/03
6		Preliminary SEMP Draft complete	1/30/04
7		Dev ZDR Level SEMP	9/15/04
8		ZDR Level SEMP Complete	9/15/04
9		Dev CDR Ready SEMP	9/15/05
10		SEMP Update for CDR	9/15/05
11		**Mission System Design**	12/1/05
12			
13		**Mission Definition & Req. Document**	10/27/05
14		Review MDRD	9/22/03
15		Updated MDRD complete	9/30/03
16		Update MDRD for ZDR/MCR	9/29/04
17		MDRD for ZDR/MCR Complete	9/30/04
18		Update MDRD for CDR/SysRR	10/27/05
19		MDRD for CDR/SysRR Complete	10/27/05
20		**Requirements Management**	12/1/05
21		**Integrated Requirements Database (IRD)**	9/30/05
22	✓	IRD - Framework Complete	10/31/03
23		IRD v1 Implemented	4/15/04
24		IRD Update for ZDR & DRR	9/30/04
25		IRD Update for CDR & SysRR	7/1/05
26		Mission Requirements Document	9/30/05

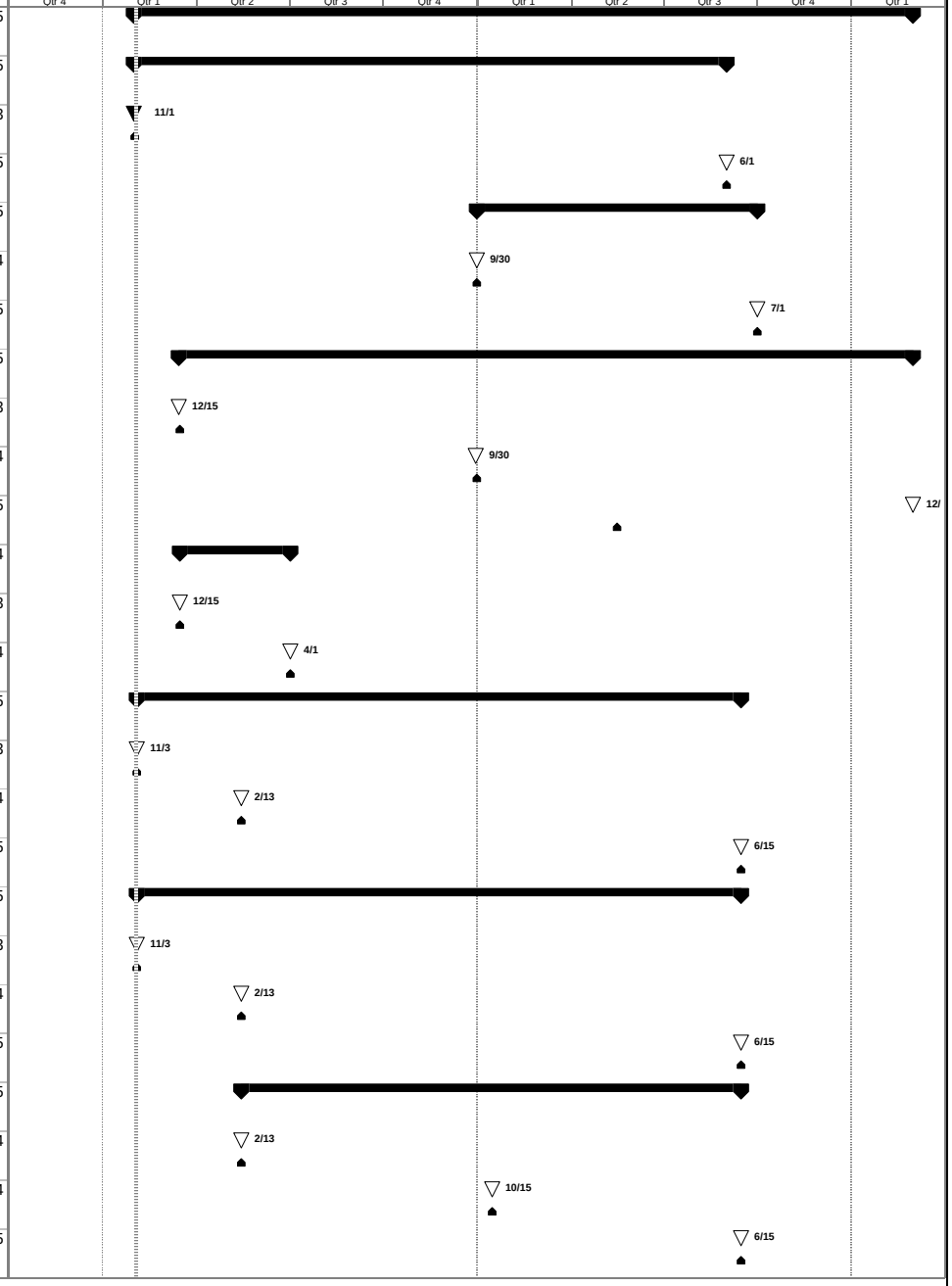


Project: Sys Engr_10.15
Date: 11/2/03

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary | Group By Summary | Deadline | Baseline Finish

System Engineering Milestone List

ID	Task Name	Schedule Finish
27	**Instrument Requirements**	12/1/05
28	**OTA Req**	6/1/05
29	OTA Requirements Document	11/1/03
30	OTA Updated Req Doc for CDR/SysRR	6/1/05
31	**Instrument/Focal Plane Req**	7/1/05
32	Instrument Requirements, v.1	9/30/04
33	Instrument Requirements CDR/SysRR	7/1/05
34	**Calibration Req**	12/1/05
35	Calibration Requirements Definition	12/15/03
36	Calibration Requirements for Instrument Design	9/30/04
37	Calibration Requirements for Operations	12/1/05
38	**Spectrograph Req**	4/1/04
39	Spectrograph Req - Prelim	12/15/03
40	Spectrograph Req - Revised	4/1/04
41	**OCU Req**	6/15/05
42	OCU Req - Outline	11/3/03
43	OCU Req - Preliminary	2/13/04
44	pdate	6/15/05
45	**Mass Memory Req.**	6/15/05
46	Mass Memory Req. - Outline	11/3/03
47	Mass Memory Req. - Preliminary	2/13/04
48	Mass Memory Req. - Update	6/15/05
49	**Observatory Thermal Control Req**	6/15/05
50	OTC Req - Outline	2/13/04
51	OTC Req - Preliminary	10/15/04
52	OTC Req - Update	6/15/05

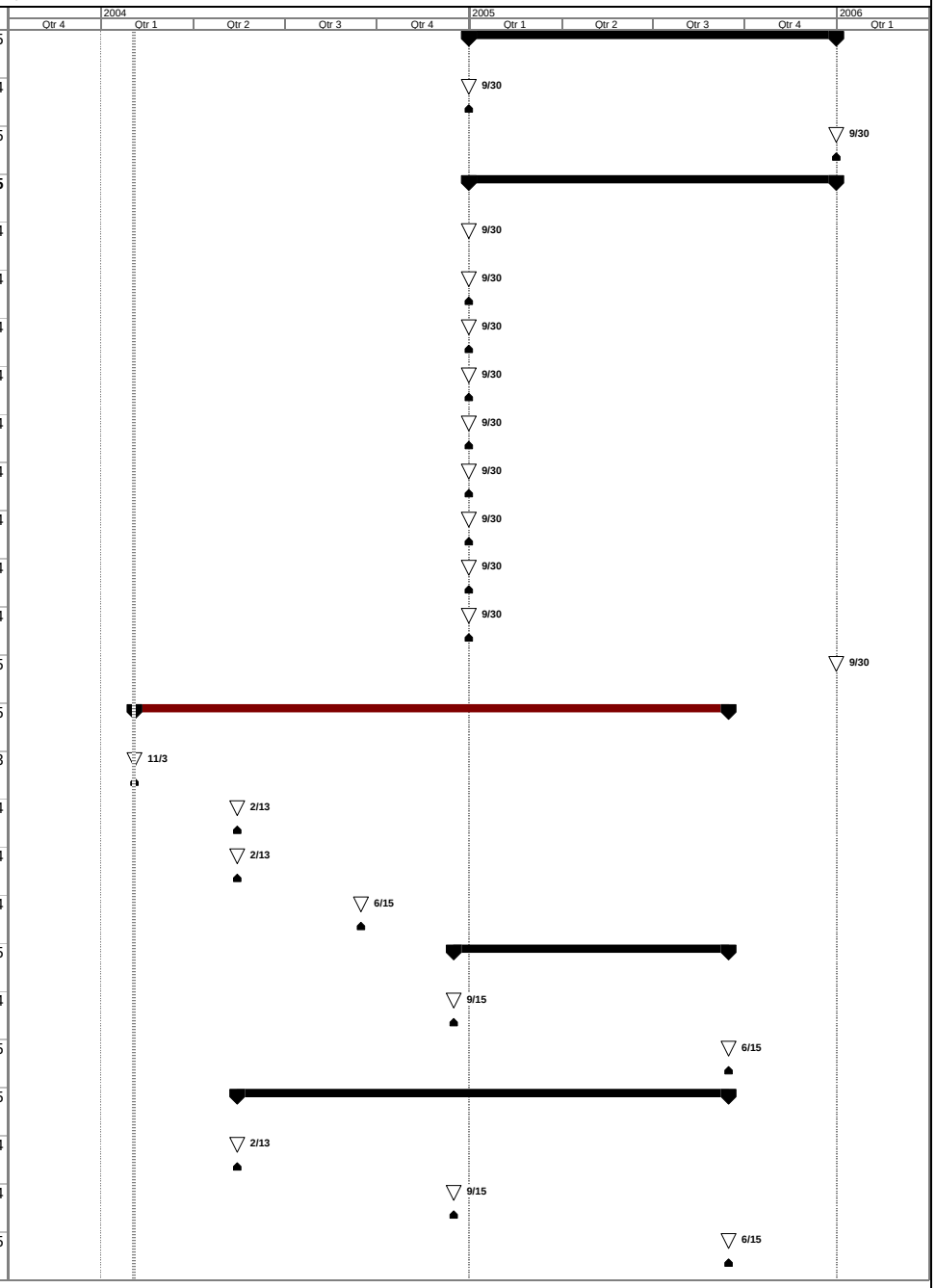


Project: Sys Engr_10.15
Date: 11/2/03

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary | Group By Summary | Deadline | Baseline Finish

System Engineering Milestone List

ID	Task Name	Schedule Finish
53	**Spacecraft Requirements Document**	9/30/05
54	Spacecraft Req - ZDR/MCR	9/30/04
55	Spacecraft Req - CDR/SysRR	9/30/05
56	**Mission Requirements Document**	**9/30/05**
57	**Mission Requirements - ZDR/MCR**	9/30/04
58	Lifetime & Radiation Req	9/30/04
59	Fault Tolerance	9/30/04
60	Mission Design	9/30/04
61	Resource Budgets	9/30/04
62	Test Requirements	9/30/04
63	Orbit Req	9/30/04
64	Contamination	9/30/04
65	Ground Systems	9/30/04
66	**Mission Requirements - CDR/SysRR**	9/30/05
75	**SNAP Observatory ICD Package**	6/15/05
76	Spectrograph to Focal Plane Mechanical ICD	11/3/03
77	CCD Module to Focal Plane ICD	2/13/04
78	IR Module to Focal Plane ICD	2/13/04
79	Focal Plane to Telescope Mechanical ICD	6/15/04
80	**Instrument to Spacecraft Electrical ICD**	6/15/05
81	Instr to SC Electrical ICD Outline	9/15/04
82	Instr to SC Electrical ICD Draft Complete	6/15/05
83	**Instrument to Spacecraft Mechanical ICD**	6/15/05
84	Instr to SC Mech ICD Outline	2/13/04
85	Instr to SC Mech ICD Draft Complete	9/15/04
86	Instr to SC Mech ICD Revision for CDR Complete	6/15/05

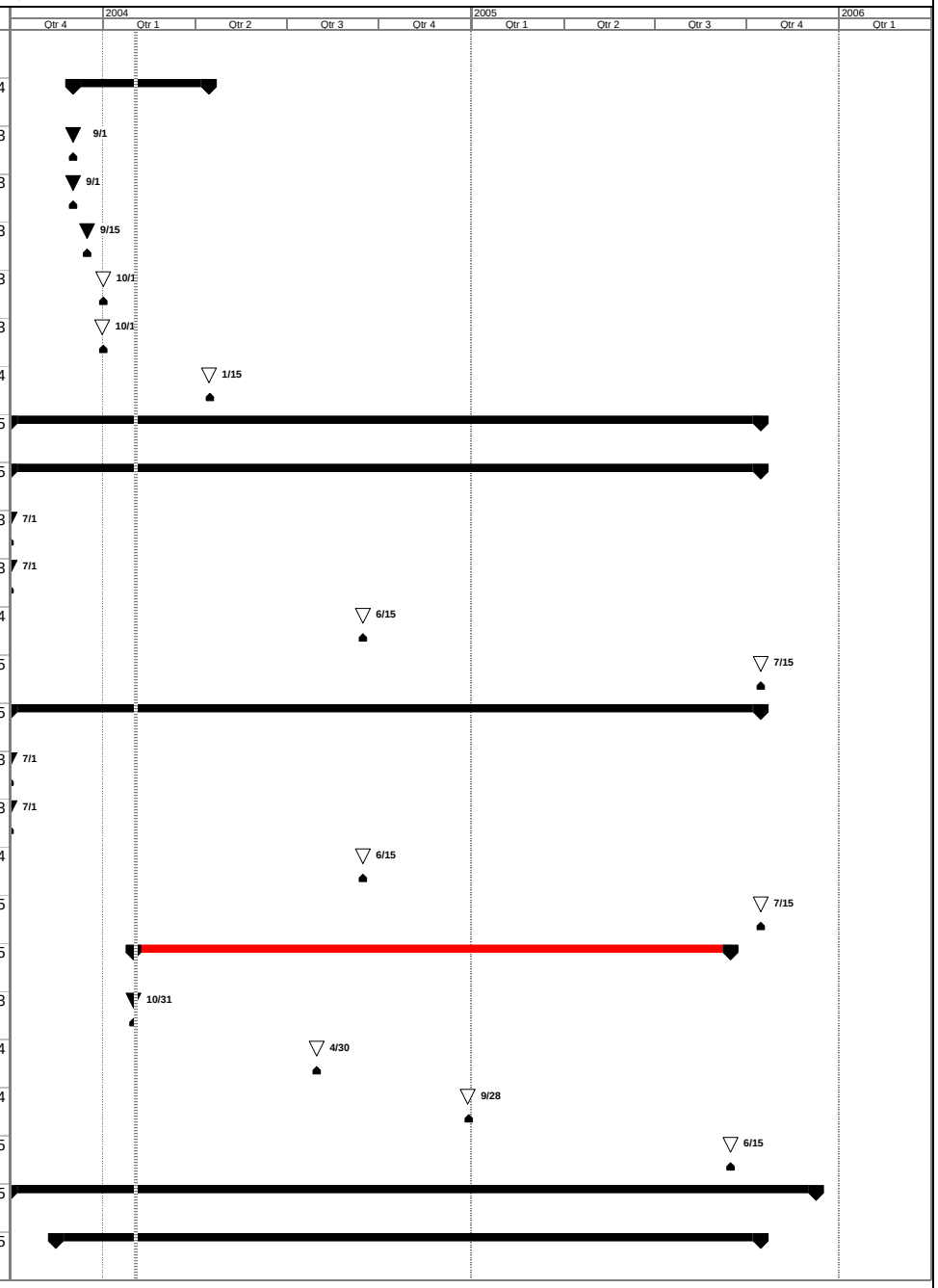


Project: Sys Engr_10.15
Date: 11/2/03

Task | Milestone | Rolled Up Task | Rolled Up Progress | External Tasks | Group By Summary | Baseline Finish
Progress | Summary | Rolled Up Milestone | Split | Project Summary | Deadline

System Engineering Milestone List

ID	Task Name	Schedule Finish
87		
88	**Configuration Management System**	1/15/04
89	Set up Server for Controlled Drawings	9/1/03
90	Drawing Number Assignment System	9/1/03
91	Document Tree in Place	9/15/03
92	Release System Operational (preliminary)	10/1/03
93	Configuration Management Plan - v.1	10/1/03
94	Configuration Management Plan - Draft	1/15/04
95	**Resource Tracking and Management**	7/15/05
96	**System Mass Spreadsheet**	7/15/05
97	Mass Spreadsheet Outline	7/1/03
98	Mass Spreadsheet Draft	7/1/03
99	Mass Spreadsheet Update	6/15/04
100	Mass Spreadsheet Update	7/15/05
101	**System Power Spreadsheet**	7/15/05
102	Power Spreadsheet Outilne	7/1/03
103	Power Spreadsheet DRAFT	7/1/03
104	Power Spreadsheet Update	6/15/04
105	Power Spreadsheet Update	7/15/05
106	**SNAP Risk Management**	6/15/05
107	Risk Mgmt Plan Outline Complete	10/31/03
108	Risk List & Assessment Updates	4/30/04
109	Risk Mgmt Plan Implementation	9/28/04
110	Risk Mgmt Plan CDR Update	6/15/05
111	**R&D Phase Analyses and Studies**	9/8/05
112	**Observatory CAD Solid Model**	7/15/05

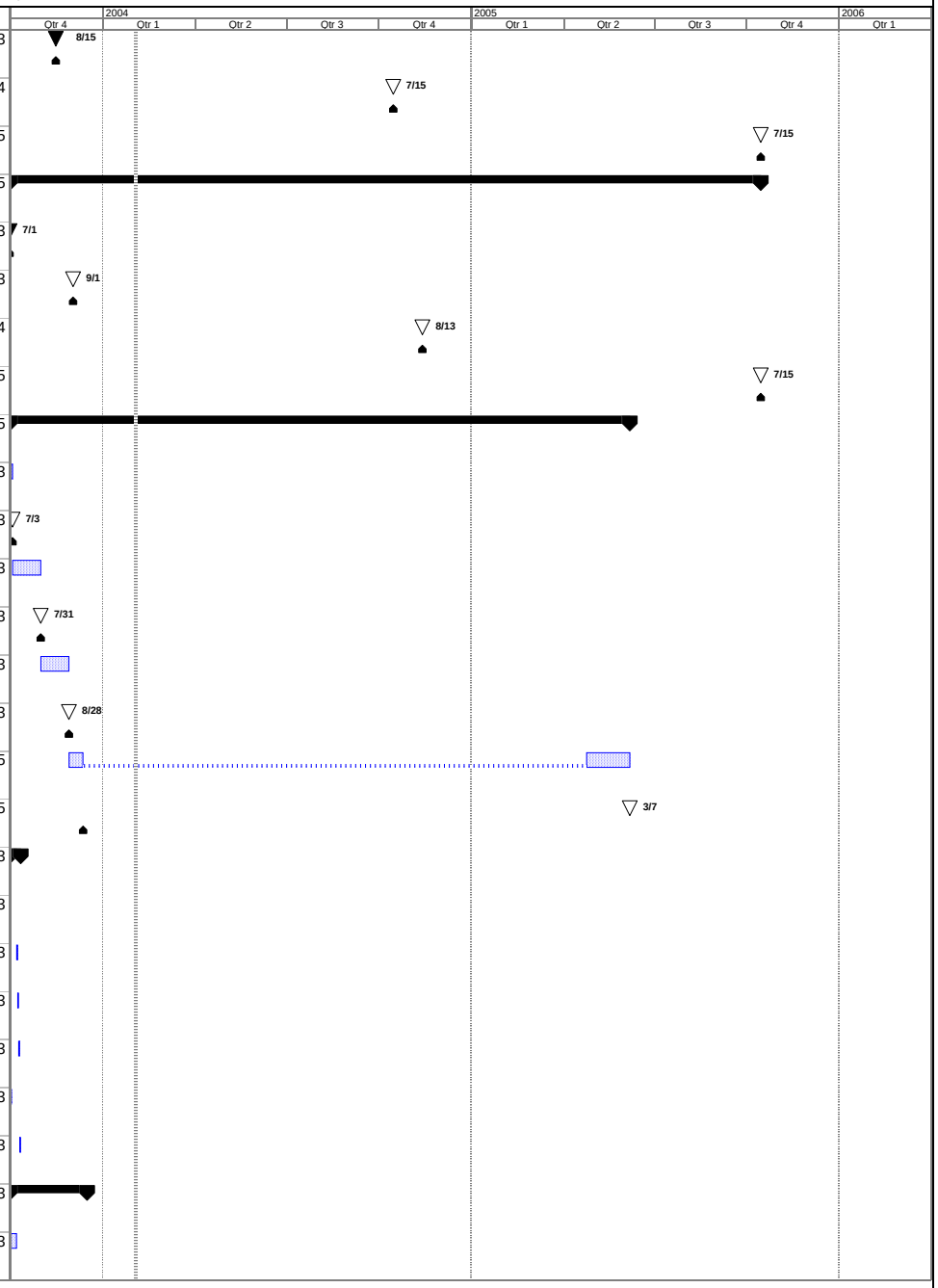


Project: Sys Engr_10.15
Date: 11/2/03

Task | Milestone | Rolled Up Task | Rolled Up Progress | External Tasks | Group By Summary | Baseline Finish
Progress | Summary | Rolled Up Milestone | Split | Project Summary | Deadline

System Engineering Milestone List

ID	Task Name	Schedule Finish
113	Preliminary Observ CAD Solid Model complete	8/15/03
114	Observ Solid Model for ZDR complete	7/15/04
115	Observ Solid Model for CDR Complete	7/15/05
116	**Electrical System Block Diagram**	7/15/05
117	Prelim Elec Block Diag Complete	7/1/03
118	Elec Blk Diag for SC Vendor Study Complete	9/1/03
119	Elec Blk Diag for ZDR Complete	8/13/04
120	Elec Blk Diag for CDR Complete	7/15/05
121	**Observatory Thermal Model**	3/7/05
122	Develop Obs. Therm Mod. Outline	7/3/03
123	Observ Therm Model Outline Complete	7/3/03
124	Dev Observ. Therm Mod. Draft	7/31/03
125	Observ Therm Model Draft Complete	7/31/03
126	Dev Observ. Therm Mod. for ZDR	8/28/03
127	Observ. Therm Mod for ZDR Complete	8/28/03
128	Revise Observ. Therm Mod. for CDR	3/7/05
129	Observ. Therm Mod. for CDR Complete	3/7/05
130	**SNAP ACS Math Model**	7/11/03
131	Rigid S/C with Ideal R/W and Guider Model	7/1/03
132	Add Real Spacecraft	7/8/03
133	Add Real Reaction Wheel	7/9/03
134	Add Real IRU	7/10/03
135	Add Coarse Trackers and Large Slews	7/2/03
136	Adjust to Parameters of Vendor Design	7/11/03
137	**Observatory Structural Math Model**	9/15/03
138	Dev Prelim Observatory Structural Math Model	7/7/03

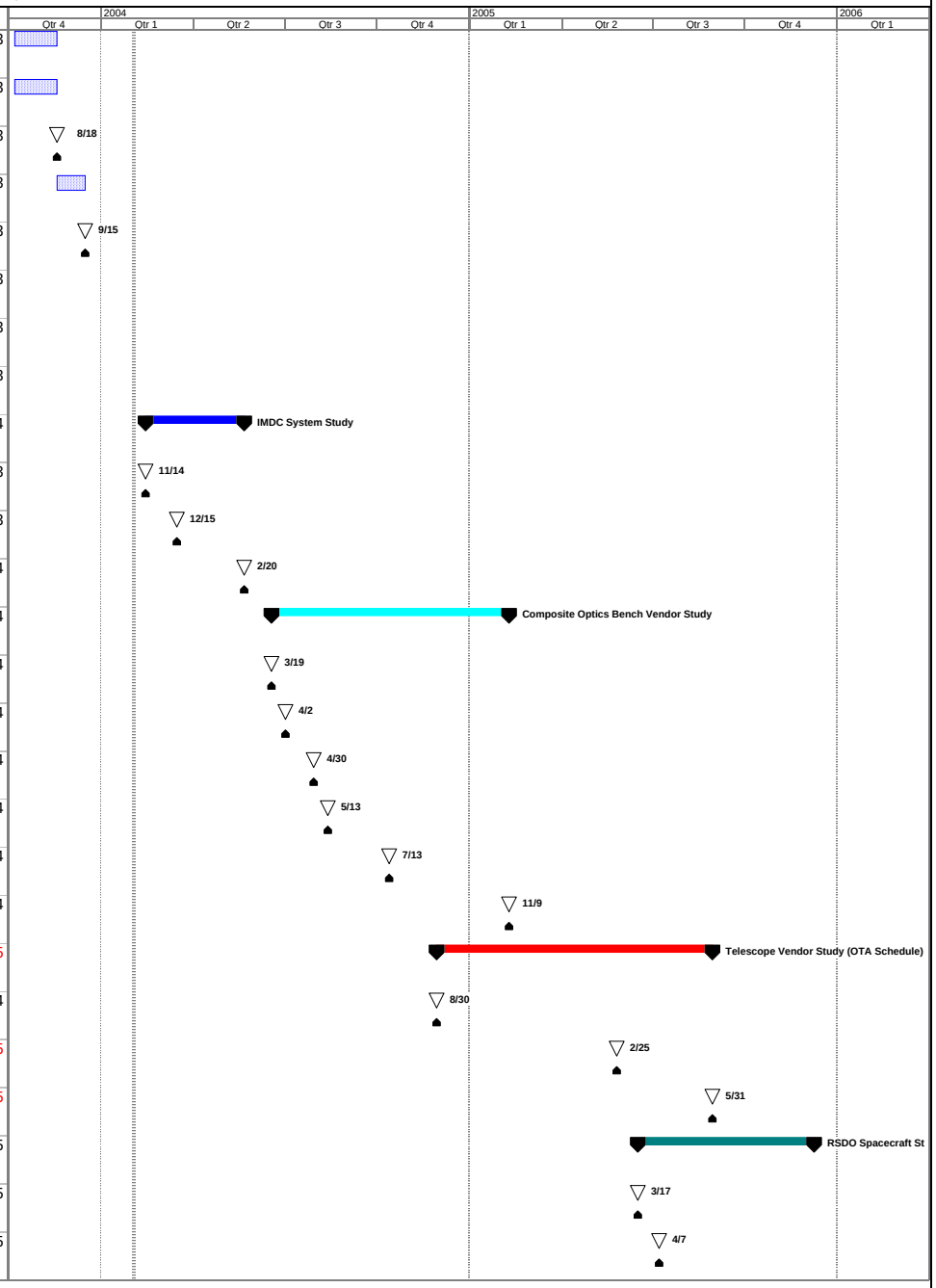


Project: Sys Engr_10.15
Date: 11/2/03

Task | Milestone | Rolled Up Task | Rolled Up Progress | External Tasks | Group By Summary | Baseline Finish
Progress | Summary | Rolled Up Milestone | Split | Project Summary | Deadline

System Engineering Milestone List

ID	Task Name	Schedule Finish
139	Prelim. Structural Math Model Complete	8/18/03
140	Dev Observatory Structural Math Model ZDR	8/18/03
141	Observatory Structural Math Model ZDR Complete	8/18/03
142	Observatory Structural Math Model CDR	9/15/03
143	Observatory Structural Math Model CDR Complete	9/15/03
144	Acquire reaction Wheel Model	7/1/03
145	Acquire Star Tracker Model	7/1/03
146	Acquire IRU Model	7/1/03
147	**IMDC System Study**	2/20/04
148	IMDC SOW Released	11/14/03
149	Date set for IMDC Activity	12/15/03
150	IMDC Report Complete	2/20/04
151	**Composite Optics Bench Vendor Study**	11/9/04
152	COI SOW Released	3/19/04
153	COI RFP Out	4/2/04
154	COI Vendor Proposal Due	4/30/04
155	COI Contract Awarded	5/13/04
156	COI Report Received	7/13/04
157	Berkeley Telescope Option Plan	11/9/04
158	**Telescope Vendor Study (OTA Schedule)**	5/31/05
159	OTA RFP Out to all Vendors	8/30/04
160	OTA Vendor Reports Rec'd	2/25/05
161	OTA Fabrication and Test Plan Complete	5/31/05
162	**RSDO Spacecraft Studies RSDO**	9/8/05
163	Spacecraft SOW Complete	3/17/05
164	RSDO SC RFP Out	4/7/05

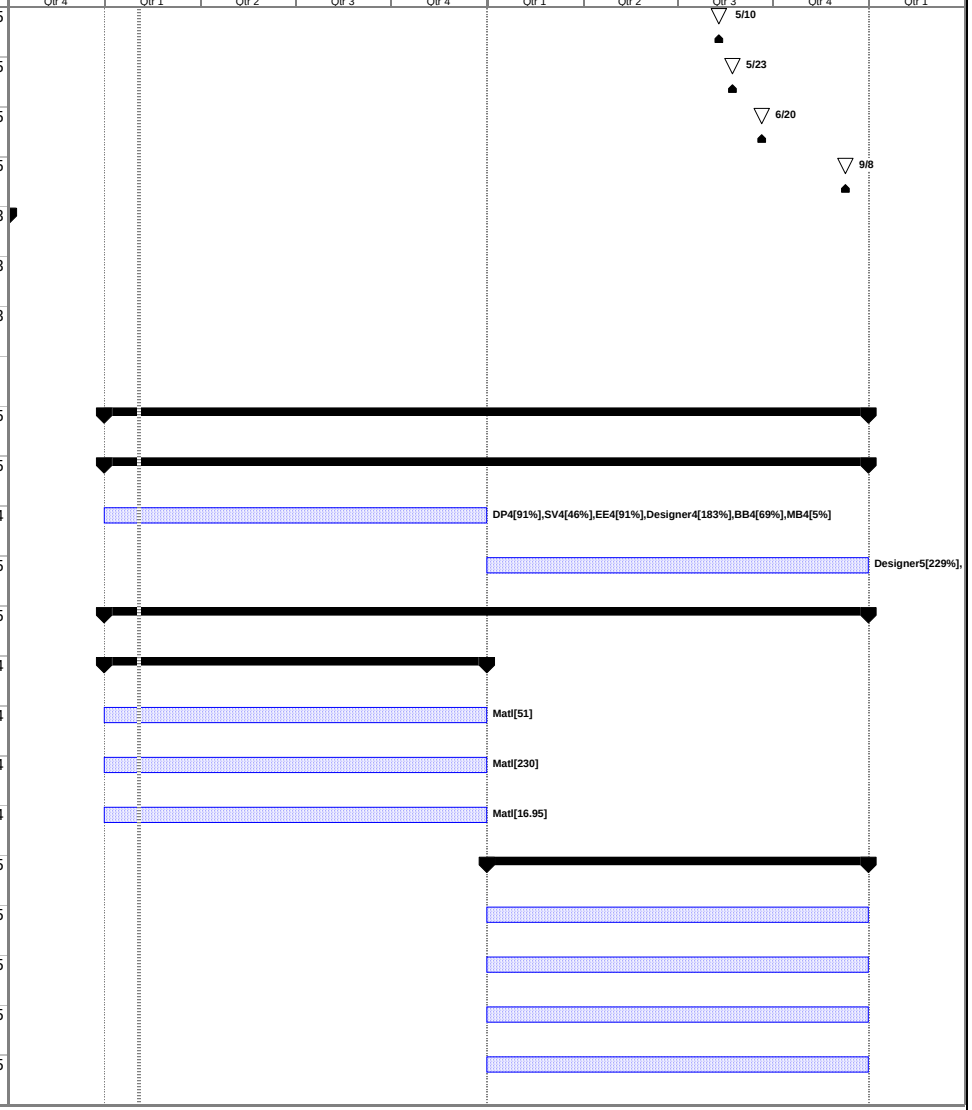


Project: Sys Engr_10.15
Date: 11/2/03

Task | Milestone | Rolled Up Task | Rolled Up Progress | External Tasks | Group By Summary | Baseline Finish
Progress | Summary | Rolled Up Milestone | Split | Project Summary | Deadline

System Engineering Milestone List

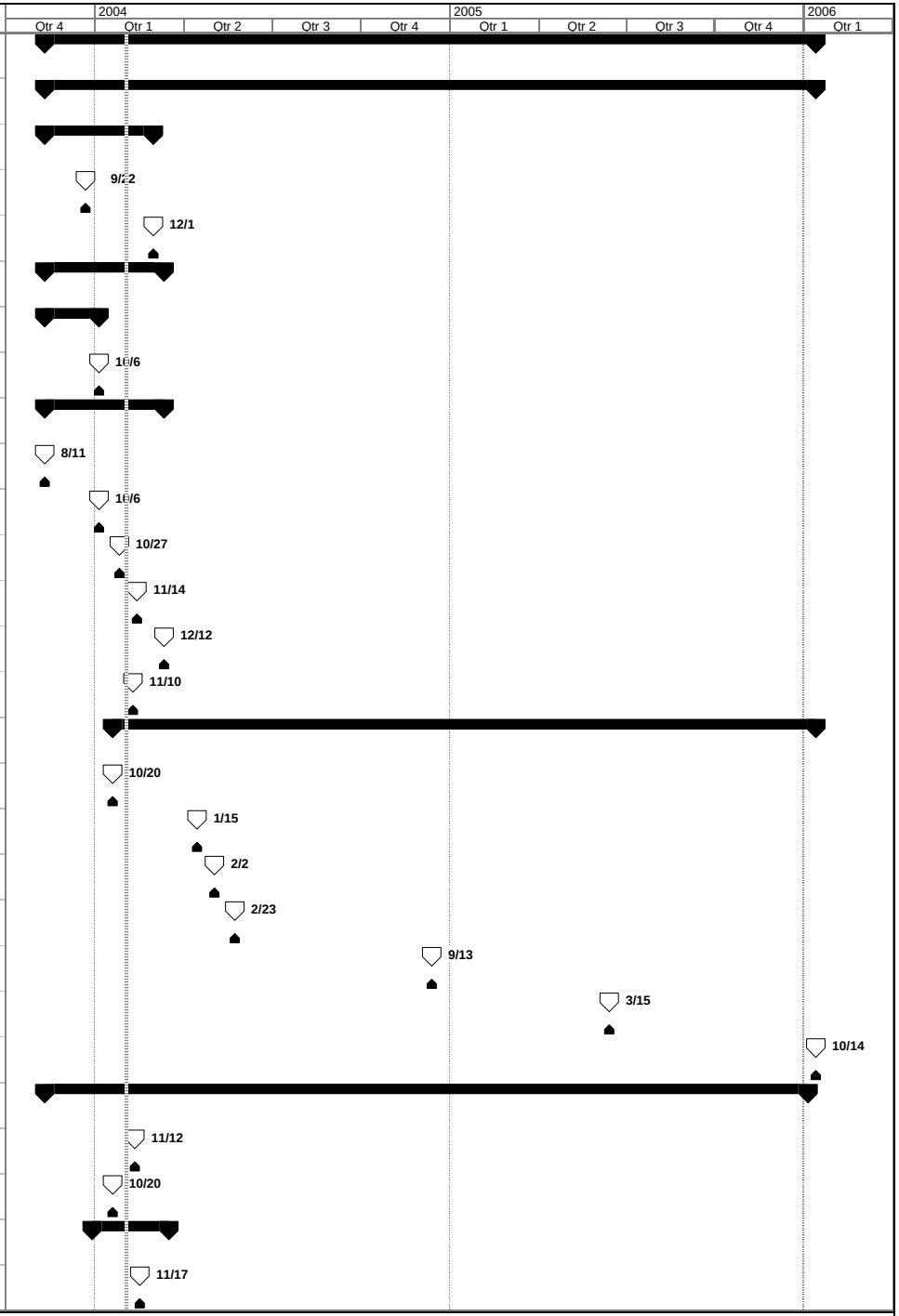
ID	Task Name	Schedule Finish
165	SC Vendor Proposals Due	5/10/05
166	SC Vendor Selections Complete	5/23/05
167	RSDO SC Contract Award	6/20/05
168	Spacecraft Vendor Reports Received	9/8/05
169	**Project Software Systems Engineering**	7/1/03
170	Software Requirements Definition	7/1/03
171	Software Verification and Quality Assurance	7/1/03
172		
173	**Resources**	9/30/05
174	**Engineering Support**	9/30/05
175	FY04	9/30/04
176	FY05	9/30/05
177	**Subcontracts and Material**	9/30/05
178	**FY04**	9/30/04
179	Ausslander	9/30/04
180	Special Studies	9/30/04
181	Misc Materials & Supplies	9/30/04
182	**FY05**	9/30/05
183	Ausslander	9/30/05
184	GSFC/RSDO	9/30/05
185	Welch	9/30/05
186	Special Studies	9/30/05



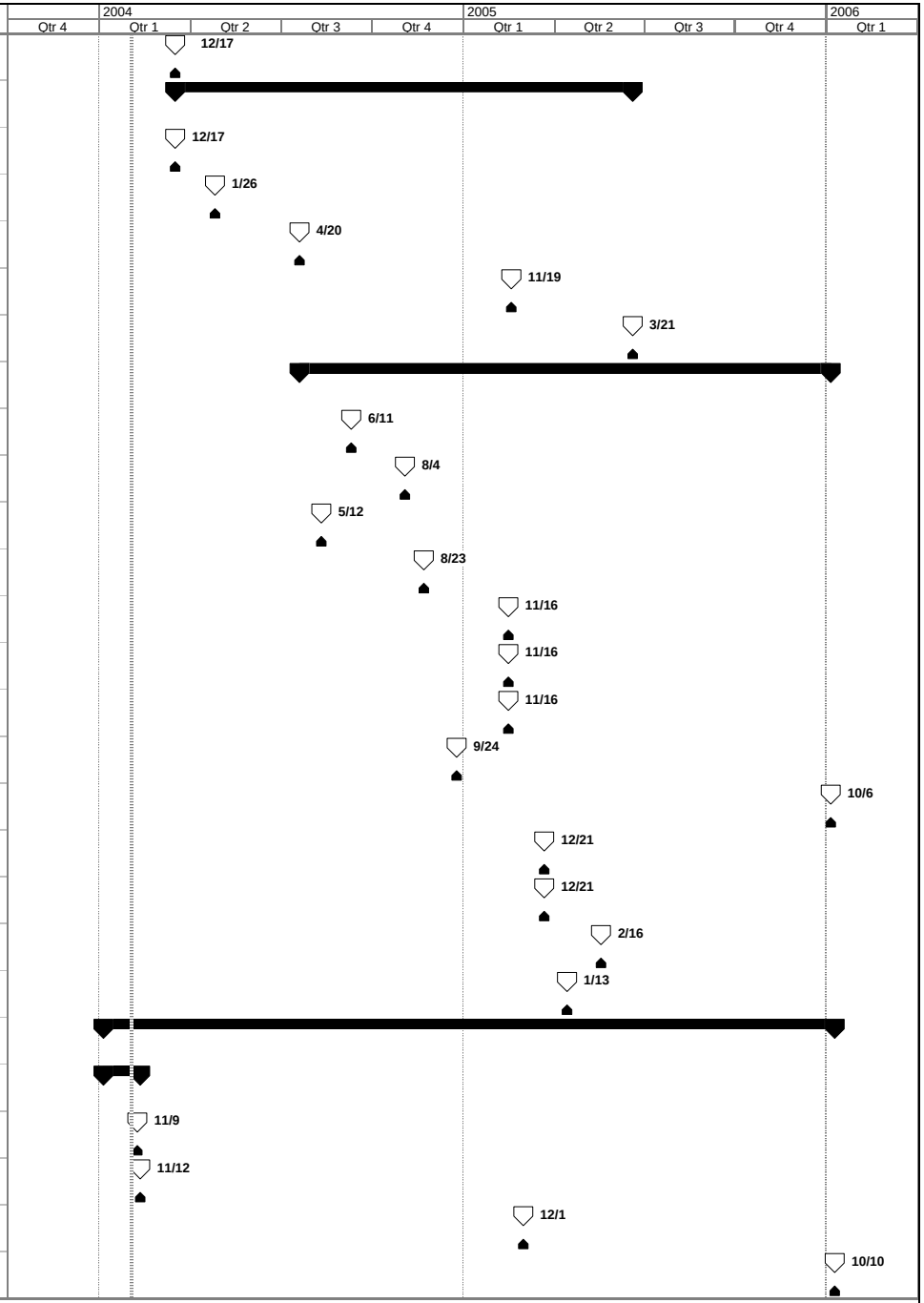
Project: Sys Engr_10.15
Date: 11/2/03

Task | Milestone | Rolled Up Task | Rolled Up Progress | External Tasks | Group By Summary | Baseline Finish
Progress | Summary | Rolled Up Milestone | Split | Project Summary | Deadline

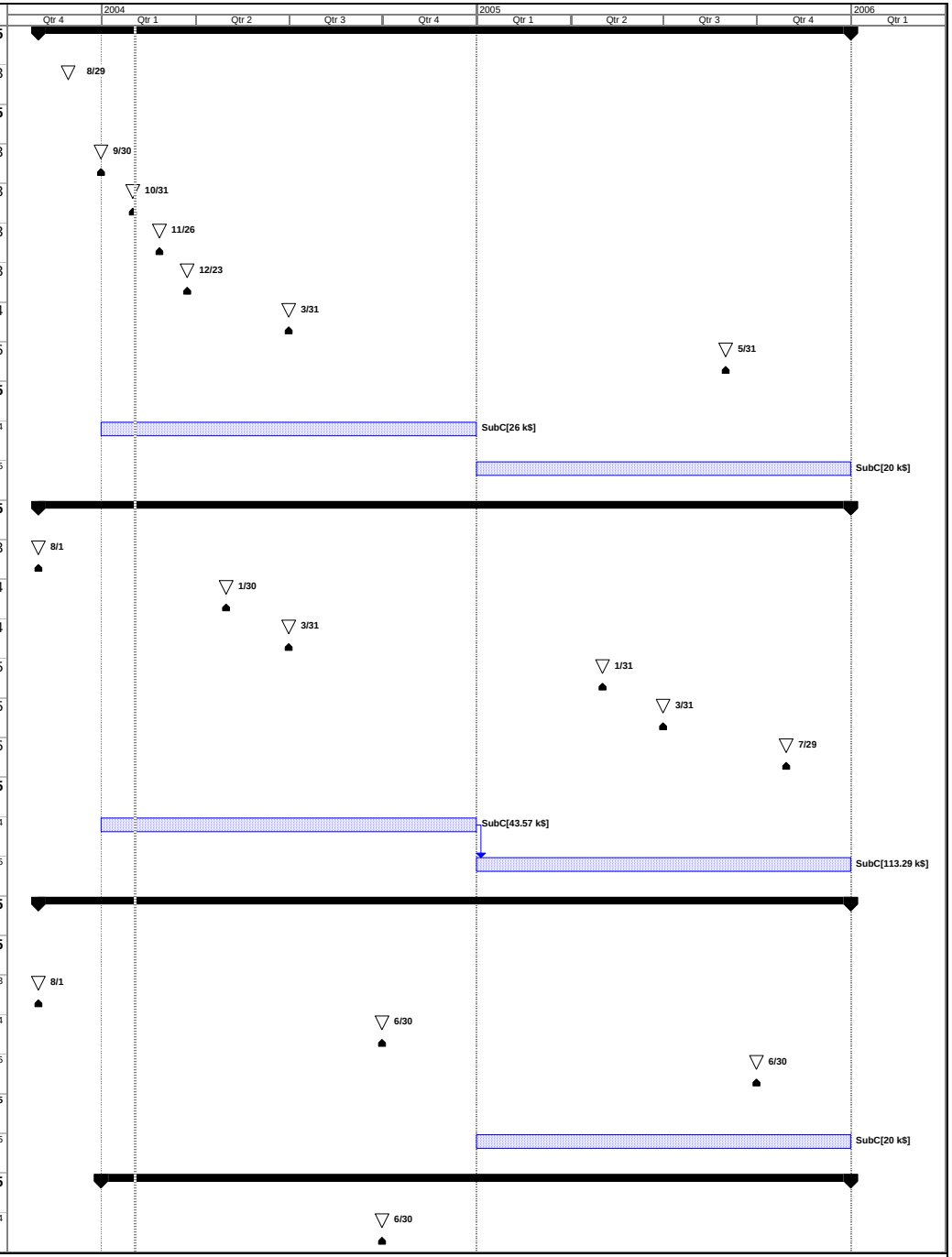
ID	Task Name
1	**SNAP Computing**
2	**Framework Development**
3	**Framework Design**
6	Detailed Design Start
26	Phase I Design Complete
28	**Tools and Process**
32	**Design Nightly Builds and Testing**
34	Release Candidate one
35	**Create Development Environment**
36	Release 0.1
37	Release 0.2
38	Release 0.3
39	Release 1.0
40	Release 1.1
42	Build Process Operational
45	**Framework Implement**
46	Coding Start
65	Framework V 1.0 Code Complete
66	Framework V 1.1Code Complete
68	Framework v 1.0 released
69	Framework v 1.5 released
70	Framework v 2.0 released
71	Framework v 2.5 released
77	**Physics**
78	Physics Kickstart Start
80	Simulation Studies List V 1.0 Complete
81	**Physics Simulation Design**
84	Simulation V 1.0 Design Document Released



ID	Task Name
86	Simulation V 1.0 Testing Document Released
88	**Simulation Implementation**
89	Physics Implementation Begins
91	SNAP SIM Release 0
93	SNAP SIM Release 1
95	SNAP SIM Release 2
97	SNAP SIM Release 3
98	**Simulation Studies**
100	NIR Detector Phase Space Study
102	Spectrometer Requirements
104	Telescope Aperture Size
106	Alternative Missions
108	Spot diagram
110	CCD Phase Space Study
112	Calibration
114	Failure Analysis
116	Plate Scale
118	Telescope Alignment
120	Filter Set Study
122	Trigger
124	Detector Persistence
130	**Reviews**
131	**November Review**
133	Collaboration Meeting
134	November Review
135	ZDR
136	CDR



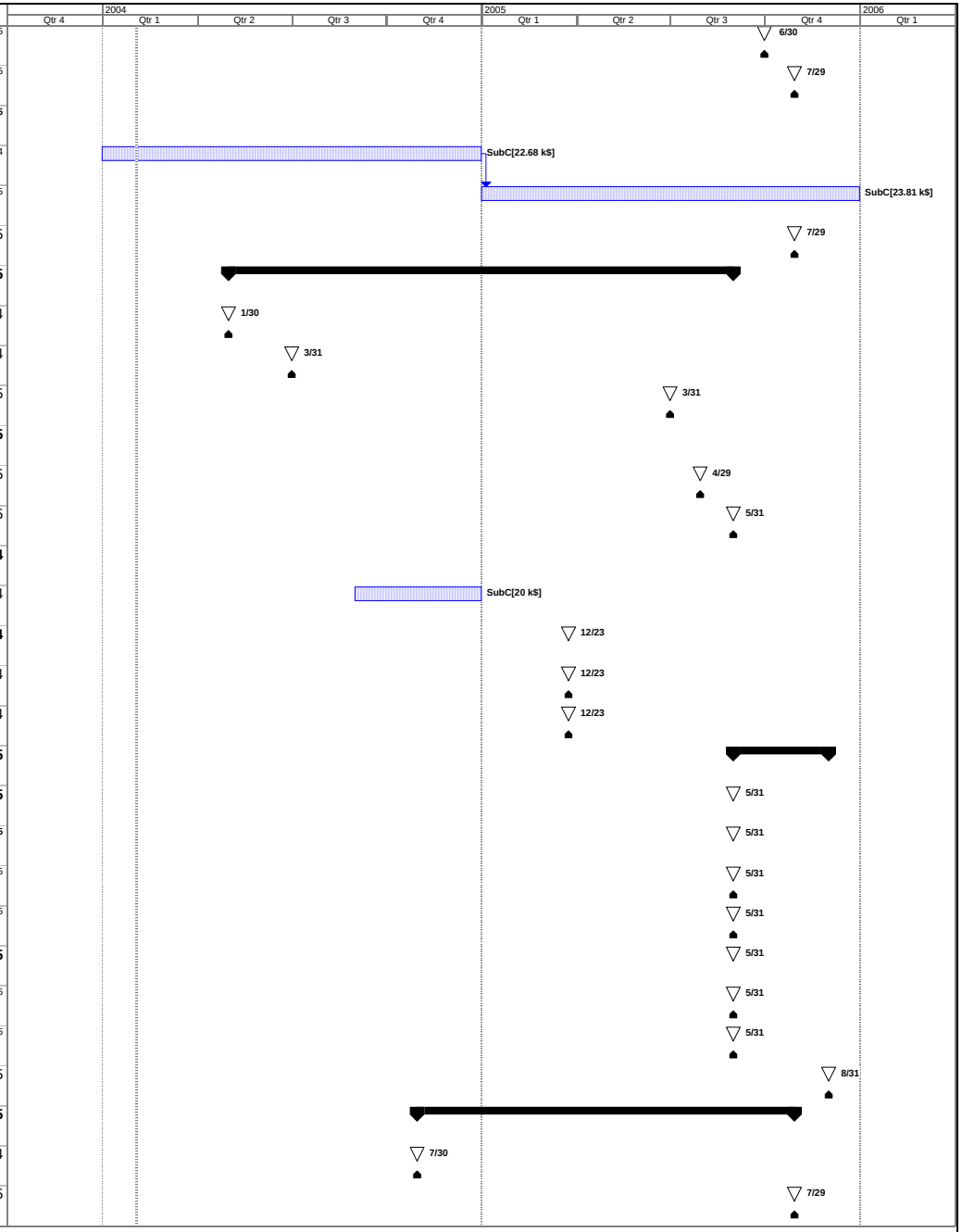
ID	Task Name	Schedule Finish
1	**SNAP Calibration**	**9/30/05**
2	**Definition of Calibration Requirements**	8/29/03
3	**Impact of calibration requirements on SNAP hardware design**	**9/30/05**
4	lamps	9/30/03
5	filters	10/31/03
6	diffusers	11/26/03
7	shutter	12/23/03
8	flatfielding	3/31/04
9	Impact of calibration on observatory operation	5/31/05
10	**Resources**	**9/30/05**
11	Richmond	9/30/04
12	Trade Study	9/30/05
13	**Calibration error budget**	**9/30/05**
14	error budget framework	8/1/03
15	develop preliminary error models	1/30/04
16	Preliminary calibration error budget	3/31/04
17	Investigate and constrain sources of systematic uncertainty	1/31/05
18	Develop calibration error matrix	3/31/05
19	final calibration error budget	7/29/05
20	**Resources**	**9/30/05**
21	Bohlin 04	9/30/04
22	Bohlin 05	9/30/05
23	**SNAP Standard Star Network**	**9/30/05**
24	**Optical**	**9/30/05**
25	selection of fundamental spectrophotometric standard stars	8/1/03
26	selection of primary spectrophotometric standard stars	6/30/04
27	selection of secondary optical photometric standard stars	6/30/05
28	**Resources**	**9/30/05**
29	Trade Study	9/30/05
30	**Near Infrared**	**9/30/05**
31	selection of fundamental spectrophotometric standard stars	6/30/04



Project: Calibration 10_07
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | baseline finish

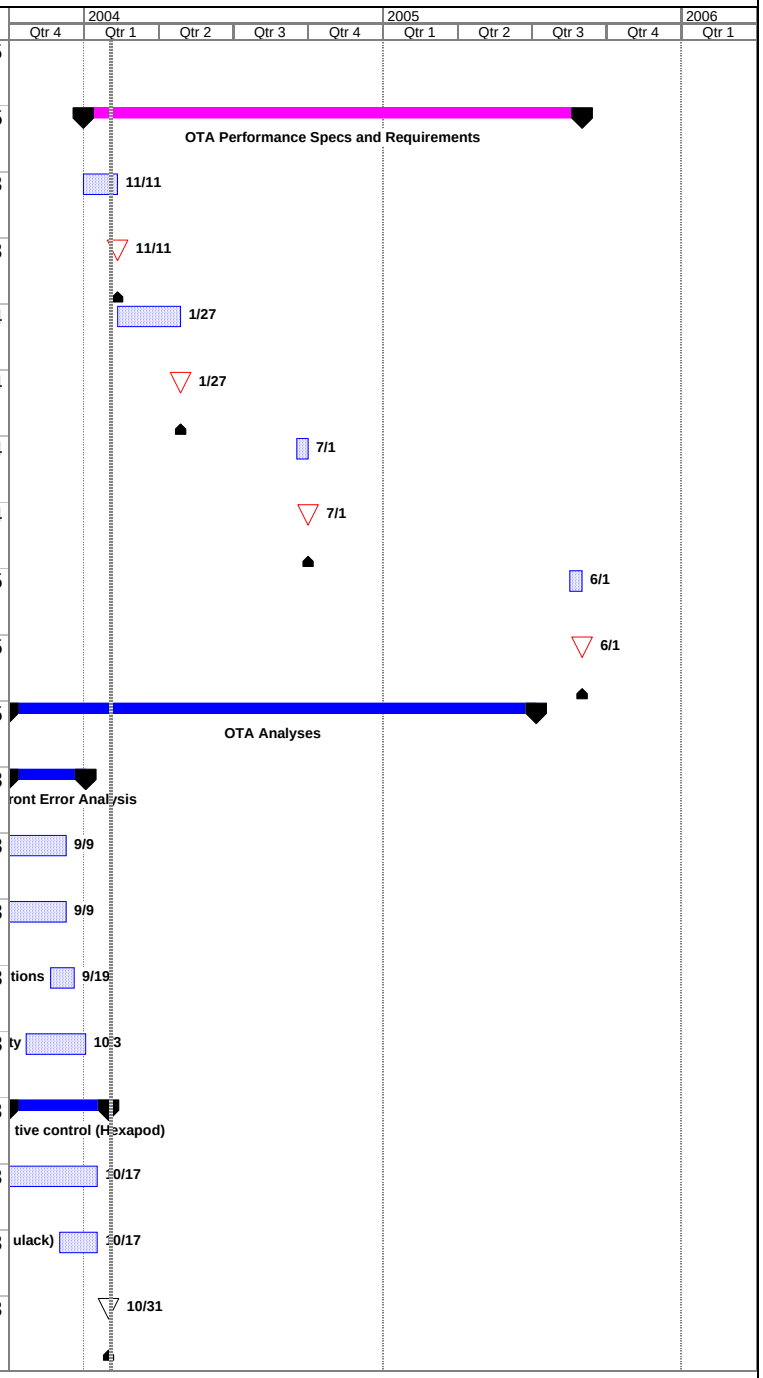
ID	Task Name	Schedule Finish
32	selection of primary spectrophotometric standard stars	6/30/05
33	selection of seondary near infrared photometric standard stars	7/29/05
34	**Resources**	**9/30/05**
35	M. Cohen FY04	9/30/04
36	M. Cohen FY05	9/30/05
37	Inflight Calibration Plan	7/29/05
38	**Fundamental Calibration**	**5/31/05**
39	Investigate need vis a vis calibration requirements	1/30/04
40	selection of irradiance standards	3/31/04
41	selection of astrophysical radiance standard	3/31/05
42	**trade studies on telescope design/platforms**	**5/31/05**
43	Preliminary analysis of each calibration platform	4/29/05
44	selection of calibration platform(s)	5/31/05
45	**Resources**	**9/30/04**
46	D. Ebbits	9/30/04
47	**Calibration Data Pipeline**	**12/23/04**
48	Calibration Database Development	12/23/04
49	Calibration Procedures	12/23/04
50	**Instrument Calibration Plan**	**8/31/05**
51	**Develop SNAP on-board calibration observing program**	**5/31/05**
52	**Study impact of on-board calibration on**	**5/31/05**
53	observatory management	5/31/05
54	observing strategy, and hence SN program	5/31/05
55	**Develop realistic time, cost and manpower estimates for calibration program:**	**5/31/05**
56	spectrophotometric	5/31/05
57	operational	5/31/05
58	Design spectrophotometric calibration experiment	8/31/05
59	**Project Reviews**	**7/29/05**
60	ZDR Review Package, Calibration Section	7/30/04
61	CDR Review Package, Calibration Section	7/29/05



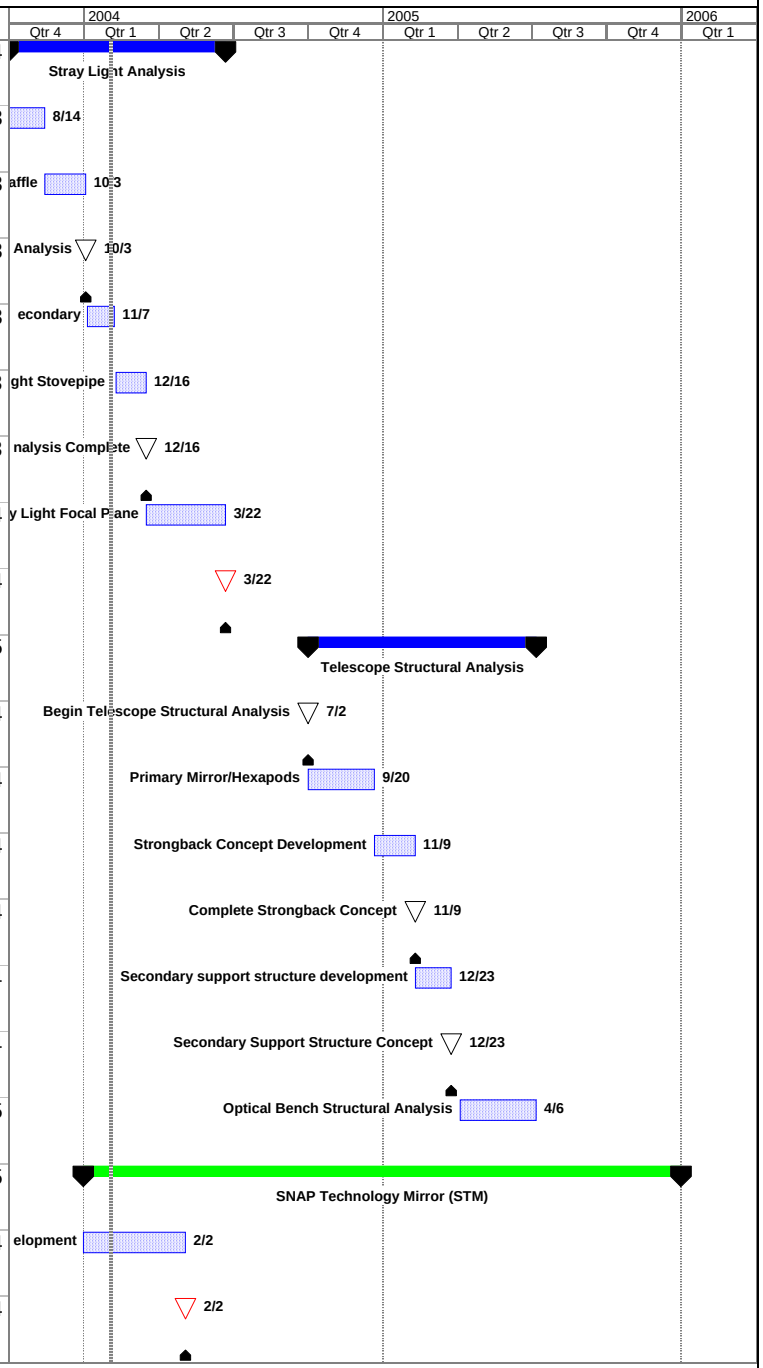
Project: Calibration 10_07
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | baseline finish

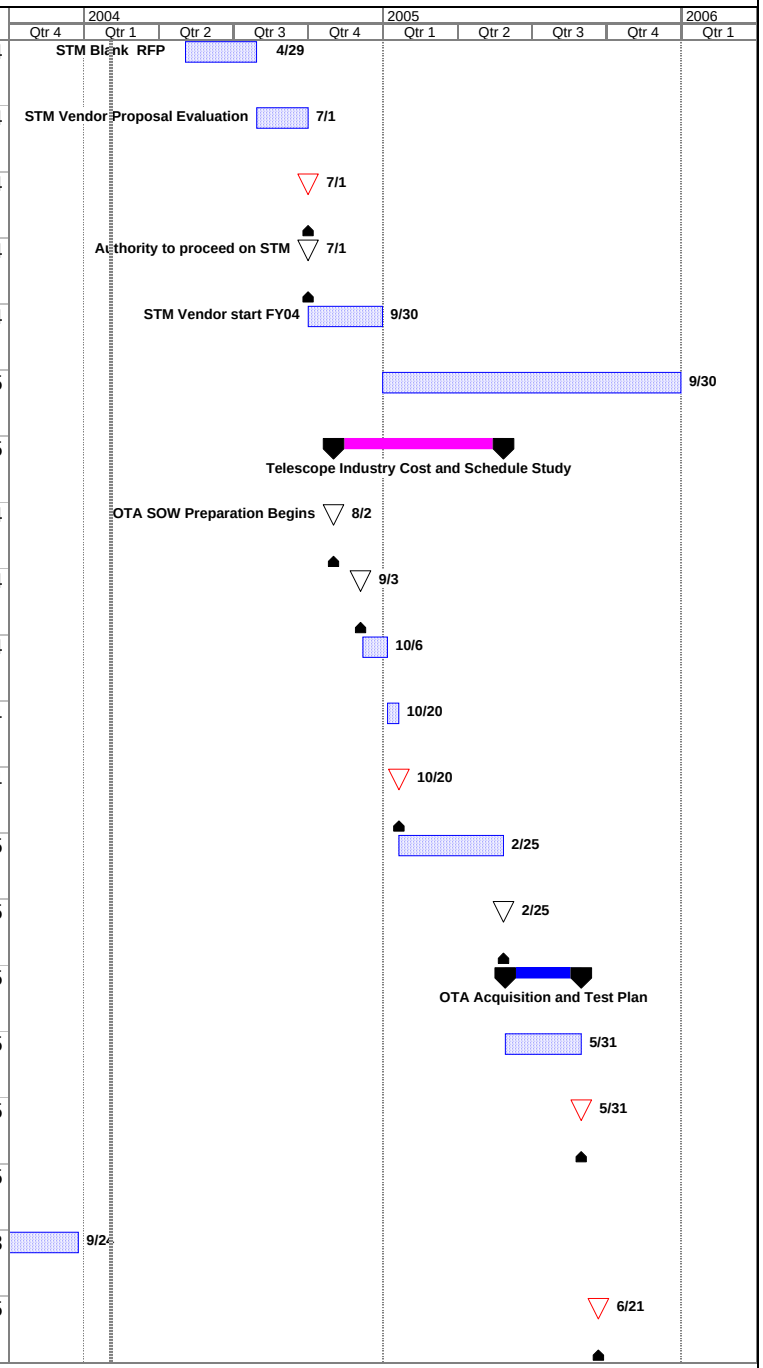
ID	Task Name	Schedule Finish
1	**OTA - Telescope**	12/15/05
2	**OTA Performance Specs and Requirements**	6/1/05
3	OTA/Telescope specification first draft	11/11/03
4	OTA Definition and Performance Requirements, v.1	11/11/03
5	Update OTA Definition and Performance Requirements	1/27/04
6	OTA Definition and Performance Requirements, v.2	1/27/04
7	Update OTA Definition and Performance Requirements	7/1/04
8	OTA Definition and Performance Requirements, v.3	7/1/04
9	Update OTA Definition and Performance Requirements	6/1/05
10	OTA Definition and Performance Requirements, v.4	6/1/05
11	**OTA Analyses**	4/6/05
12	**Wave Front Error Analysis**	10/3/03
13	Mirror Figure requirements	9/9/03
14	Assembly and alignment	9/9/03
15	Optics mount contributions	9/19/03
16	Thermal and Mechanical Stability	10/3/03
17	**Mirror active control (Hexapod)**	10/31/03
18	Stroke and resolution definition	10/17/03
19	Hexapod vendor studies (Sulack)	10/17/03
20	Mirror Active Controls: Decision on PM/TM, stroke and resolution	10/31/03



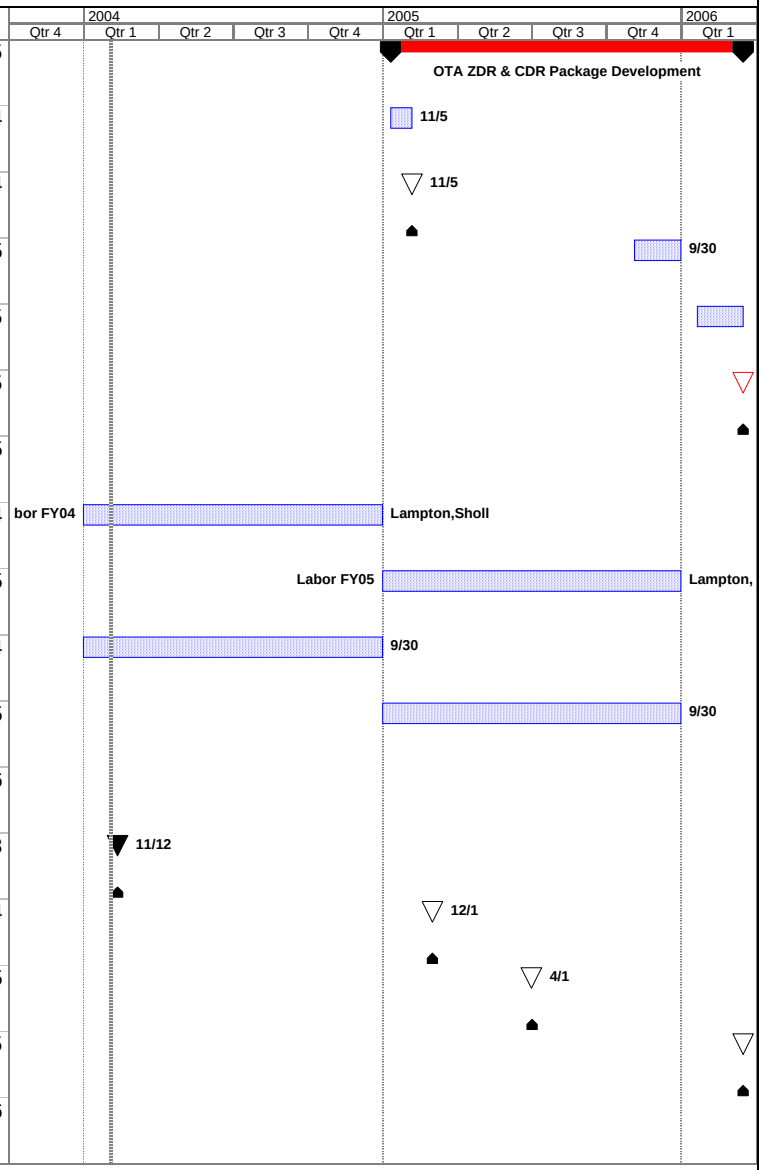
ID	Task Name	Schedule Finish
21	**Stray Light Analysis**	3/22/04
22	Model definition	8/14/03
23	Earth/sun baffle	10/3/03
24	Stray light Model and Earth Sun Baffle Analysis	10/3/03
25	Stray Light Secondary	11/7/03
26	Stray Light Stovepipe	12/16/03
27	Stray Light Stovepipe Analysis Complete	12/16/03
28	Stray Light Focal Plane	3/22/04
29	Stray Light Analysis Complete	3/22/04
30	**Telescope Structural Analysis**	4/6/05
31	Begin Telescope Structural Analysis	7/2/04
32	Primary Mirror/Hexapods	9/20/04
33	Strongback Concept Development	11/9/04
34	Complete Strongback Concept	11/9/04
35	Secondary support structure development	12/23/04
36	Secondary Support Structure Concept	12/23/04
37	Optical Bench Structural Analysis	4/6/05
38	**SNAP Technology Mirror (STM)**	9/30/05
39	STM Concept Development	2/2/04
40	STM RFP Review	2/2/04



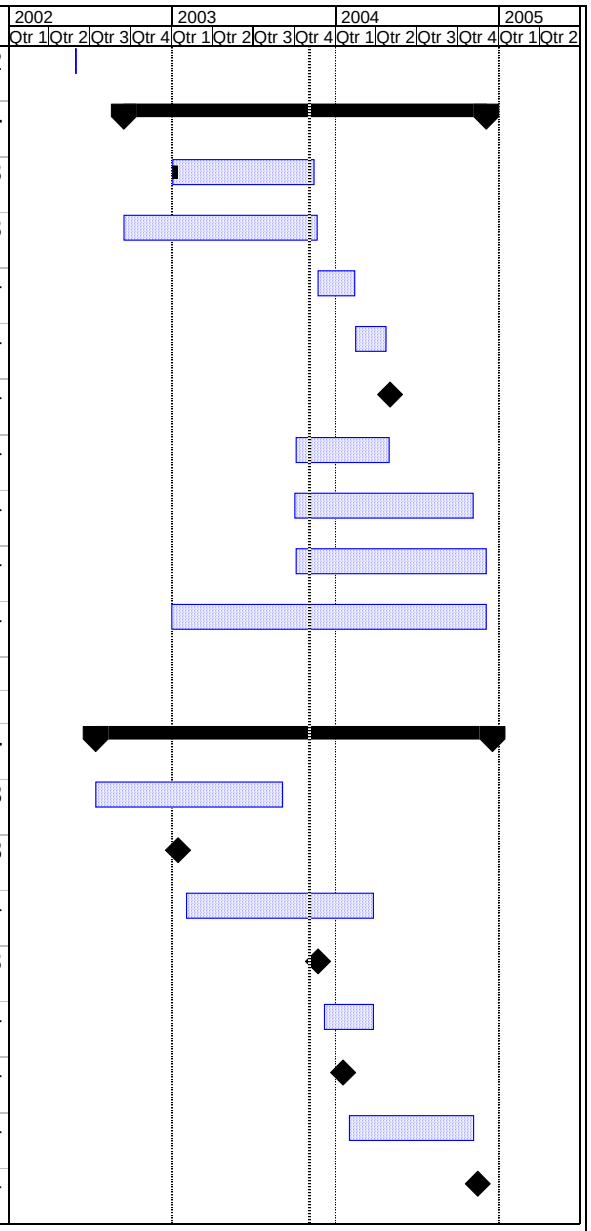
ID	Task Name	Schedule Finish
41	STM Blank RFP	4/29/04
42	STM Vendor Proposal Evaluation	7/1/04
43	STM Decision	7/1/04
44	Authority to proceed on STM	7/1/04
45	STM Vendor start FY04	9/30/04
46	STM Vendor DevelopmentFY05	9/30/05
47	**Telescope Industry Cost and Schedule Study**	2/25/05
48	OTA SOW Preparation Begins	8/2/04
49	OTA Study Contract RFP Out to all Vendors	9/3/04
50	OTA Vendor Proposals Due	10/6/04
51	OTA Vendor Selection and Contract Award	10/20/04
52	OTA Study Contract Awarded	10/20/04
53	OTA Vendor Study Performed	2/25/05
54	OTA Vendor Study Reports Rec'd	2/25/05
55	**OTA Acquisition and Test Plan**	5/31/05
56	OTA Acquisition and Test Plan Development	5/31/05
57	OTA Acquisition and Test Plan	5/31/05
58	**OTA Technical Summary**	6/21/05
59	Prepare OTA Technical Summary	9/24/03
60	OTA Technical Review	6/21/05



ID	Task Name	Schedule Finish
61	**OTA ZDR & CDR Package Development**	12/15/05
62	Develop ZDR Package	11/5/04
63	ZDR Ready for Rehearsal	11/5/04
64	Develop OTA Total Project Schedule & Cost Range	9/30/05
65	Prepare CDR Package for OTA	12/15/05
66	OTA CDR Package	12/15/05
67	**Resources**	9/30/05
68	Labor FY04	9/30/04
69	Labor FY05	9/30/05
70	Materials & Services 04	9/30/04
71	Materials & Services 05	9/30/05
72	**Project Milestones**	3/1/06
73	**LBNL Internal Review**	11/12/03
74	**Zero Order Design Review (ZDR) and MCR**	12/1/04
75	**Design Requirements Review (DRR)**	4/1/05
76	**Conceptual Design Review (CDR)**	12/15/05
77	**System Req. Review (SysRR)**	3/1/06



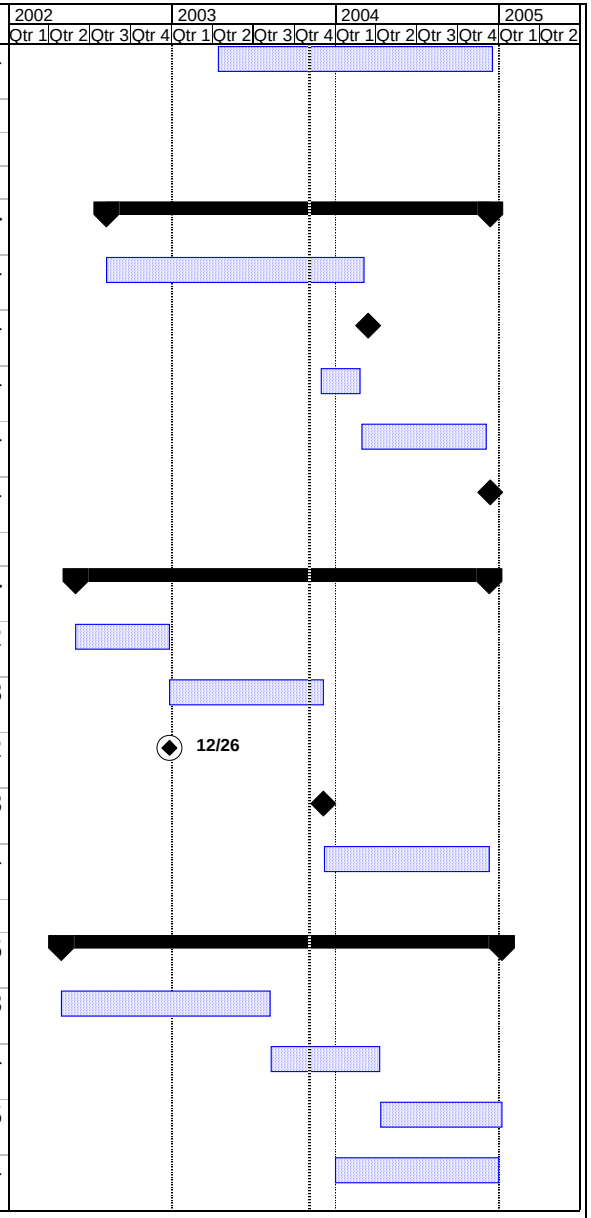
ID	Nom de la tâche	Finish
1		5/31/02
2	**Instrument development**	**12/3/04**
3	Scientific requirement	11/14/03
4	Technical requirement	11/21/03
5	Optical Concept	2/13/04
6	Structural concept	4/23/04
7	Spectro Material Choice	5/3/04
8	Electronical Concept	4/30/04
9	Thermal Concept	11/4/04
10	Focal plane Concept	12/3/04
11	Calibration Development	12/3/04
12		
13		
14	**Focal Plane Developement**	**12/17/04**
15	Detector technology Expertise	9/5/03
16	Detector choice protoptype phase A	1/15/03
17	Detectot procedure bench	3/26/04
18	Bare mux delivery	11/24/03
19	Electronic read out test	3/26/04
20	Detector prototype delivery	1/19/04
21	Detector Characterisation	11/5/04
22	Detector Confirmation	11/15/04



Projet: snap-spectro
Date: 11/2/03

Tâche	Récapitulative	Avancement reporté	Échéance
Fractionnement	Tâche reportée	Tâches externes	
Avancement	Fractionnement reporté	Récapitulatives du projet	
Jalon	Jalon reporté	Jalons externes	

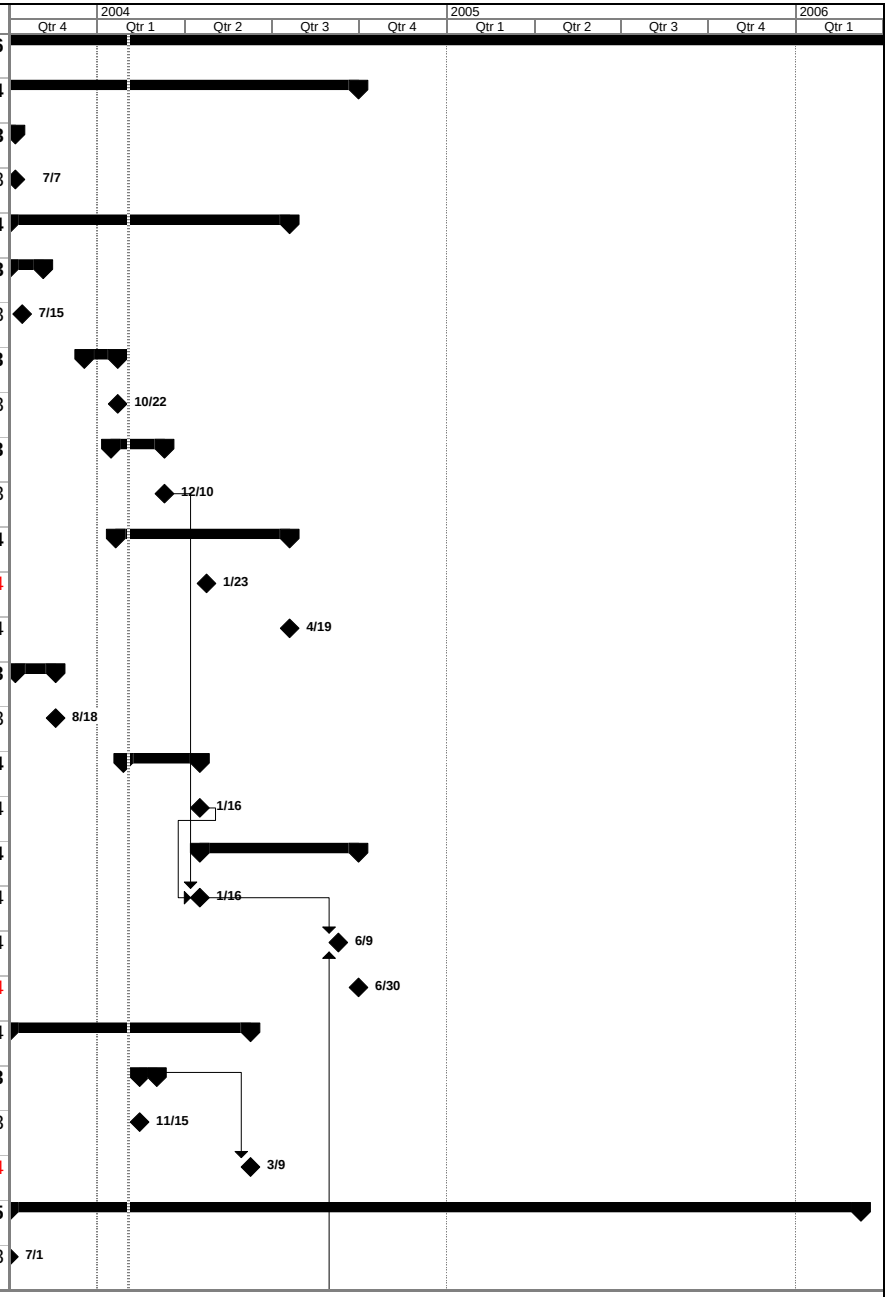
ID	Nom de la tâche	Finish
23	Focal plane Mechanical & thermal studies	12/17/04
24		
25		
26		
27	**Slicer Developement**	**12/13/04**
28	Cryo-slicer prototyping (To TRL 6)	3/5/04
29	Slicer techno TRL 6	3/15/04
30	SNAP specificities identification	2/25/04
31	SNAP slicer Prototyping	12/3/04
32	SNAP Slicer TRL evaluation	12/13/04
33		
34	**Calibration developement plane**	**12/10/04**
35	Photo-spectro calibration stategy (iteration with cal gr	12/26/02
36	Photo-spectro calibration procedure (iteration with cal	12/5/03
37	Calibration statement of work (from cal group)	12/26/02
38	Impact on spectrograph	12/5/03
39	Spectrograph calibration pstudies	12/10/04
40		
41	**Software**	**1/7/05**
42	Simulation	8/8/03
43	Reconstruction	4/9/04
44	Data processing	1/7/05
45	Analysis	12/31/04



Projet: snap-spectro
Date: 11/2/03

Tâche		Récapitulative		Avancement reporté		Échéance	
Fractionnement		Tâche reportée		Tâches externes			
Avancement		Fractionnement reporté		Récapitulatives du projet			
Jalon		Jalon reporté		Jalons externes			

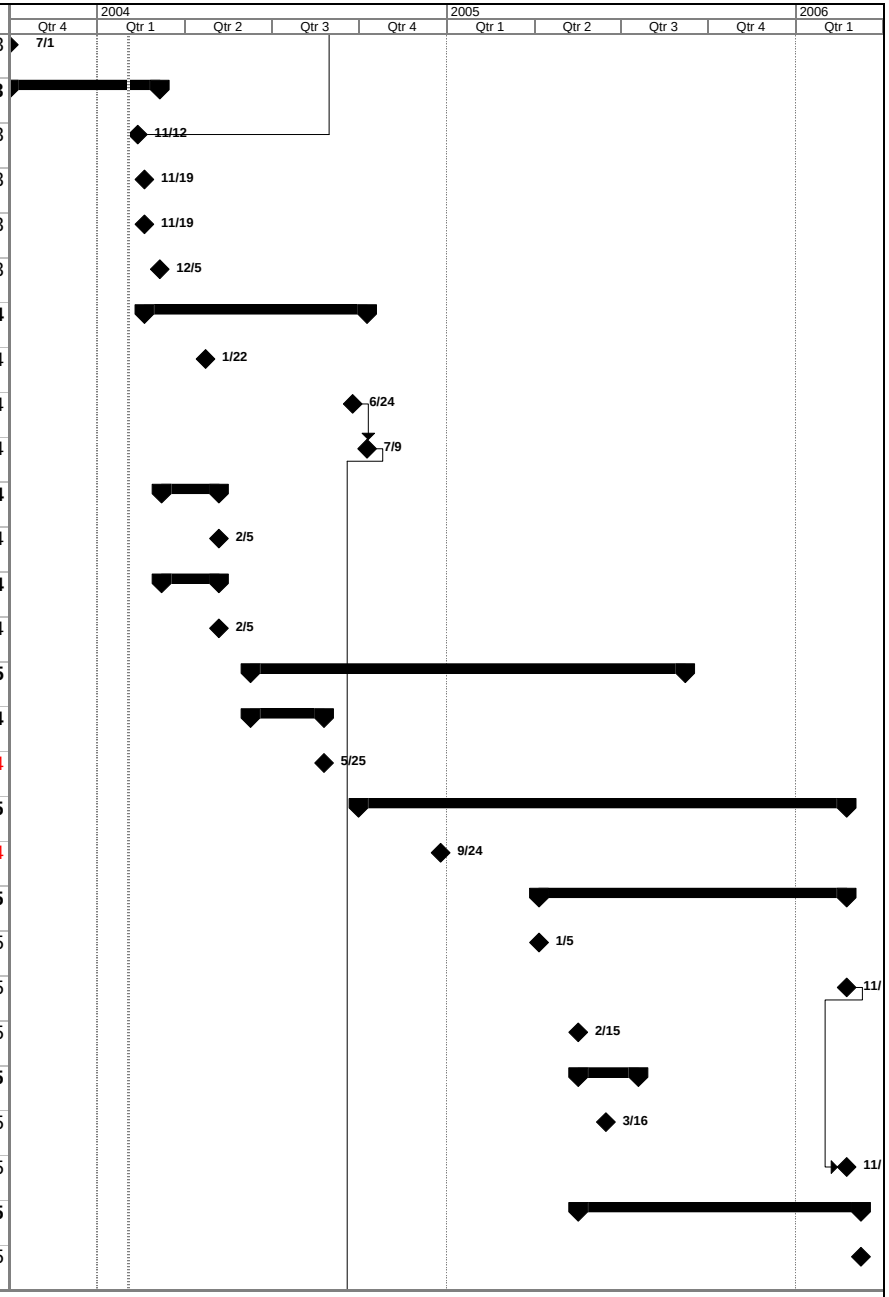
ID	Task Name	Finish
1	**CCD Production and Packaging R&D**	**2/22/06**
7	**CCD Packaging R&D**	**6/30/04**
46	**FEA Analysis**	**7/7/03**
49	CCD Package FEA complete	7/7/03
8	**2k x 4k packaging**	**4/19/04**
9	**Contract with Lesser**	**8/5/03**
10	Lesser: Deliver metal mask only CCDs	7/15/03
20	**Second match mechanical CCDs**	**10/22/03**
24	2k x 4k mechanical R&D complete	10/22/03
25	**Package real CCD (poor quality)**	**12/10/03**
32	2k x 4k packaging R&D complete	12/10/03
33	**Package good 2k x 4k CCDs**	**4/19/04**
40	Good 2k x 4k CCDs mounted and available	1/23/04
43	More good 2k x 4k CCDs available	4/19/04
50	**Conceptual Design**	**8/18/03**
52	Finalize CCD Package Conceptual Design	8/18/03
58	**Mechanical Prototype**	**1/16/04**
61	Mechanical Mockup Complete (Yale)	1/16/04
62	**Package SNAP CCDs**	**6/30/04**
63	SNAP contract/Lesser for v 1 CCD packaging	1/16/04
65	Ship SNAP v 1 CCD to Lesser	6/9/04
69	First 2 SNAP CCDs in 4-side abuttable package	6/30/04
70	**Backside processing R&D**	3/9/04
72	**Etching development**	**12/2/03**
73	Campus etcher available to LBNL?	11/15/03
77	Finalize and review backside processing recipe	3/9/04
78	**SNAP CCD v. 1**	**12/8/05**
79	SNAP v. 1 Design	7/1/03



Project: 5.2 Visible Light
Date: 11/2/03

Task | Critical Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Critical Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary | Group By Summary | Deadline

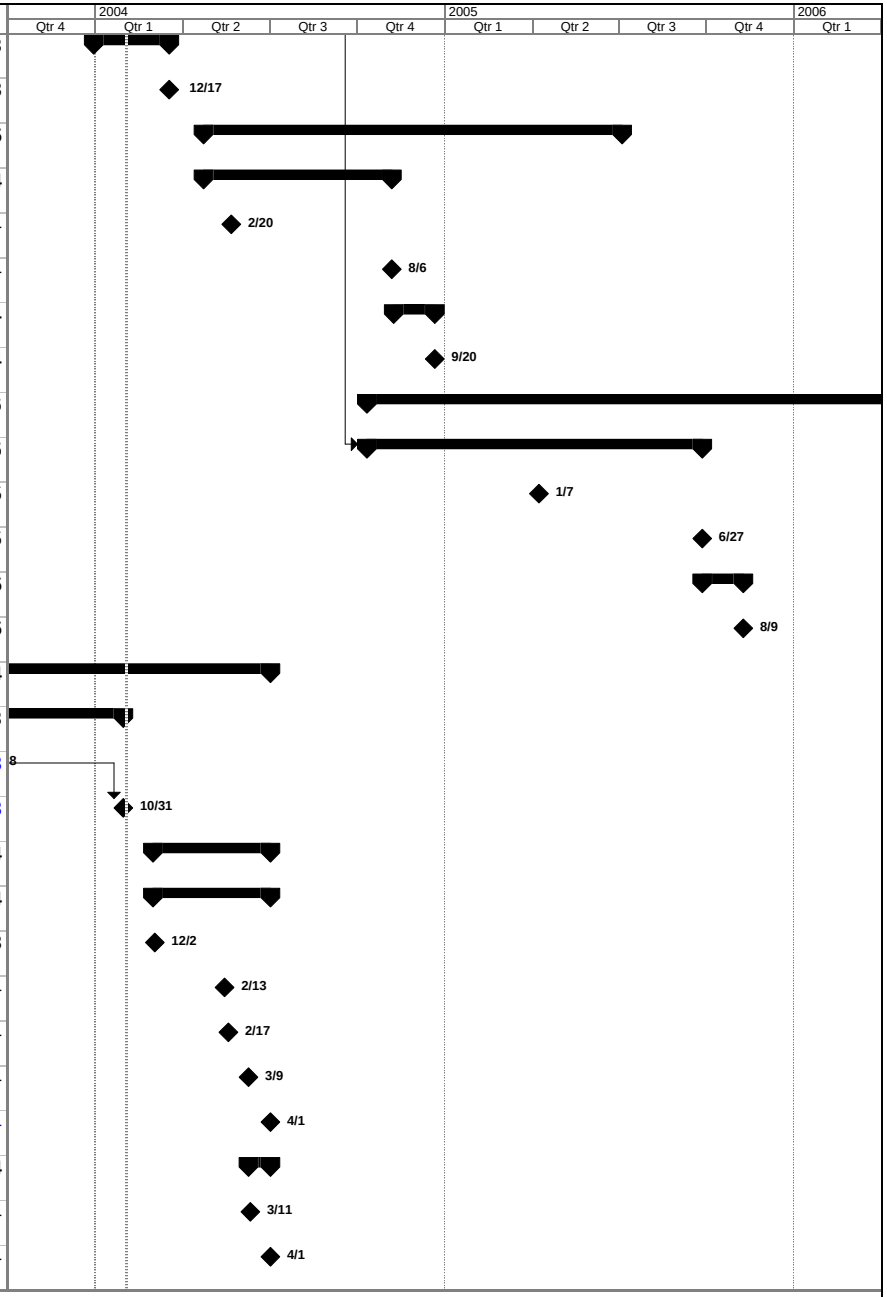
ID	Task Name	Finish
80	DALSA SNAP v. 1 submission	7/1/03
81	**Foundry run**	**12/5/03**
89	Delivery of Lot 86135c wafers	11/12/03
83	Delivery of Lot 86134 wafers	11/19/03
85	Delivery of Lot 8615a wafers	11/19/03
87	Delivery of Lot 86135b wafers	12/5/03
90	**Package and Test Lot 86134 and 86135a**	**7/9/04**
93	Complete HV Testing	1/22/04
95	Complete Radiation Testing	6/24/04
96	Lot 86134 test documented (thick, front-illum)	7/9/04
97	**Backside processing Lot 86135b**	**2/5/04**
101	Complete processing Lot 8613b (refractory metal)	2/5/04
102	**Package and Test Lot 86135b**	**2/5/04**
105	Lot 86135b test documented (thin, refractory metal)	2/5/04
106	**Backside processing Lot 86135c**	**6/7/05**
107	**First 4 wafers**	**5/25/04**
111	Finish processing first thin, LBNL finished SNAP v1 (	5/25/04
120	**Package and Test Lot 86135c (thin, LBNL finish)**	**11/23/05**
123	First 2 packaged SNAP v1 CCDs characterized	9/24/04
128	**Radiation Testing of Lot 86135c**	**11/23/05**
129	Begin Radiation Testing	1/5/05
133	Radiation testing complete, documented	11/23/05
127	12 SNAP v1 CCDs mounted and characterized	2/15/05
134	**Specialty testing at LBNL**	**4/19/05**
136	Document diffusion and intrapixel response	3/16/05
139	Lot 86135c test complete & documented (thin, LBNL fir	11/23/05
140	**Large Scale testing/certification**	**12/8/05**
144	20 device mounting complete	12/8/05



Project: 5.2 Visible Light
Date: 11/2/03

Task		Milestone		Rolled Up Critical Task		Split		Group By Summary	
Critical Task		Summary		Rolled Up Milestone		External Tasks		Deadline	
Progress		Rolled Up Task		Rolled Up Progress		Project Summary			

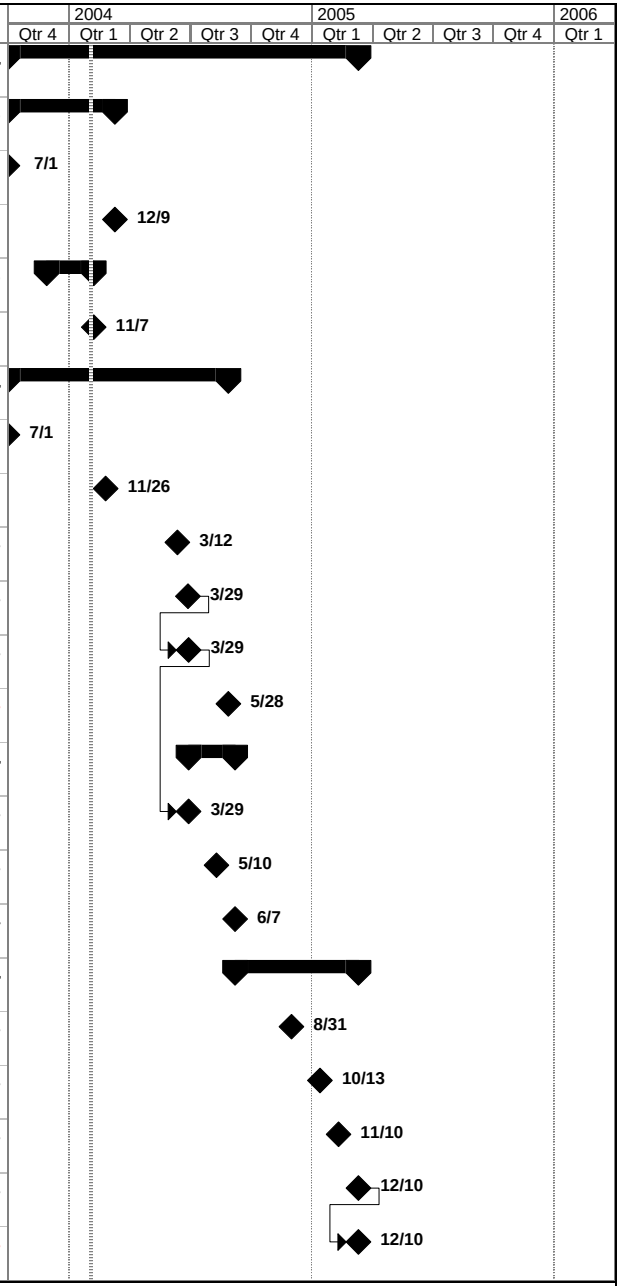
ID	Task Name	Finish
2	**Complete existing 100 mm CCDs (2k x 4k)**	**12/17/03**
6	100 mm CCDs complete (2k x 4k devices)	12/17/03
147	**SNAP CCD v 1.1**	**4/4/05**
148	**Design iteration**	**8/6/04**
150	DALSA v 1.1 submission	2/20/04
152	Complete DALSA Fab SNAP v. 1.1 CCD	8/6/04
153	**Backside processing**	**9/20/04**
155	**SNAP v.1.1 CCDs available**	**9/20/04**
159	**SNAP CCD v. 2**	**2/22/06**
160	**Design iteration**	**6/27/05**
162	DALSA v 2 submission	1/7/05
164	Complete DALSA Fab SNAP v. 2 CCD	6/27/05
165	**Backside processing**	**8/9/05**
167	**SNAP v. 2 CCDs available**	**8/9/05**
171	**SNAP - HyVIS**	**4/1/04**
172	**Rockwell Procurement**	**10/31/03**
173	HyVisi order accepetd	5/28/03
174	Delivery of HyViSI on H2RG	10/31/03
175	**Rockwell tests - UnFunded**	**4/1/04**
176	**HyViSI on H2RG**	**4/1/04**
178	Start Tests of HyViSI on H2RG	12/2/03
181	Complete Tests of HyViSI on H2RG	2/13/04
183	Start Test of 2RG in Std CCD Dewer	2/17/04
185	Complete Tests of 2RG on Std Dewer	3/9/04
187	Complete Test Report of HyViSI on H2RG	4/1/04
188	**Observing with HyViSI on DBSP-R**	**4/1/04**
190	Begin Observation w/ HyViSI on DBSP-R	3/11/04
193	Complete Report of HyViSI on DBSP-R	4/1/04



Project: 5.2 Visible Light
Date: 11/2/03

Task		Milestone		Rolled Up Critical Task		Split		Group By Summary	
Critical Task		Summary		Rolled Up Milestone		External Tasks		Deadline	
Progress		Rolled Up Task		Rolled Up Progress		Project Summary			

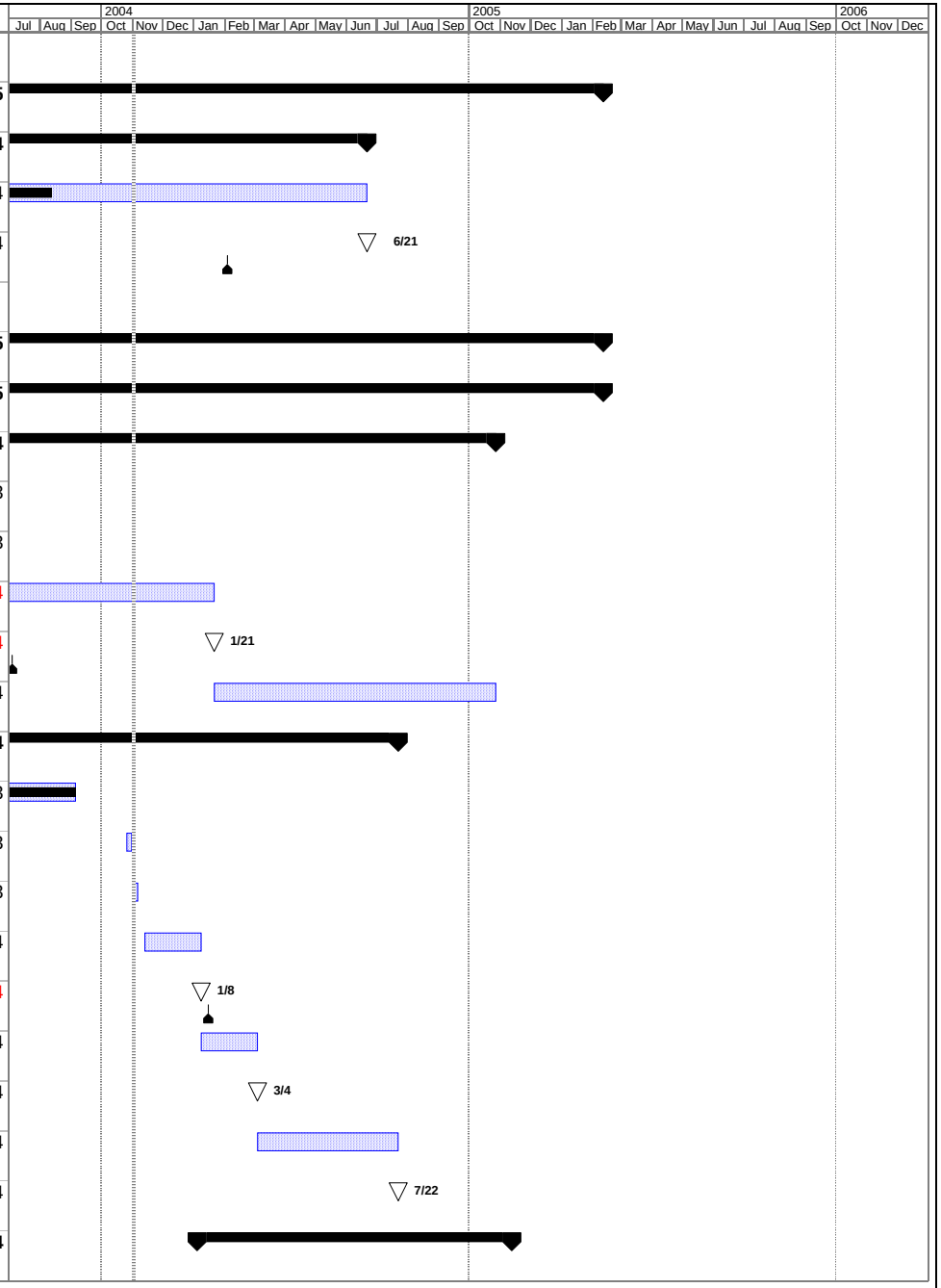
ID	Task Name	Finish
1	**CCD_ASIC 1.5.A.0**	**12/10/04**
2	**Test of CRIC**	**12/9/03**
3	Continue CRIC Testing	7/1/03
8	CRIC testing complete	12/9/03
9	**CRIC-CCD test**	**11/7/03**
15	CRIC-CCD test complete	11/7/03
16	**Develop CRIC rev2**	**5/28/04**
17	ADC architecture analysis	7/1/03
21	CRIC v2 PDR	11/26/03
24	CRIC v2 FDR	3/12/04
26	CRIC2 design complete	3/29/04
27	CRIC v2 chip submission	3/29/04
30	CRIC2 fab complete	5/28/04
31	**Test board for CRIC2**	**6/7/04**
32	Begin Test Board Design for CRIC2	3/29/04
35	Test board submission	5/10/04
38	CRIC2 test board complete	6/7/04
39	**test of CRIC2**	**12/10/04**
41	300K testing Complete	8/31/04
43	140K testing Complete	10/13/04
45	Radiation testing Complete	11/10/04
47	Batch testing Complete	12/10/04
48	CRIC2 testing complete	12/10/04



Project: CCD_ASIC_cjb
Date: 11/2/03

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

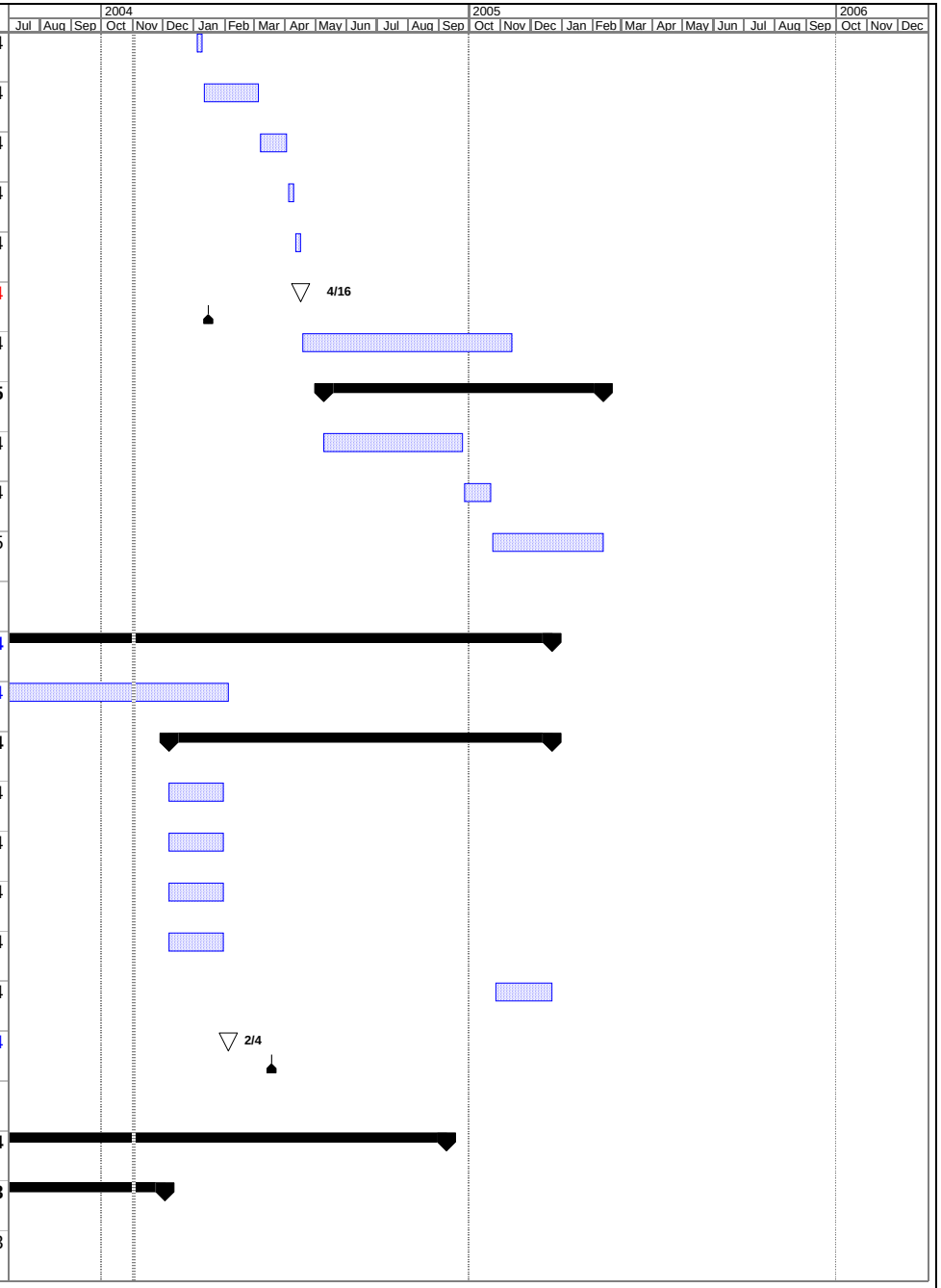
ID	Task Name	Finish
1		
2	**Instrument - Data Compression**	**2/11/05**
3	**Technology research**	**6/21/04**
4	Literature Research	6/21/04
5	Summary of Litterature Research	6/21/04
6		
7	**Simulations**	**2/11/05**
8	**Algorithms**	**2/11/05**
9	**CCSDS 120.0 Baseline**	**10/27/04**
10	Specify	5/30/03
11	Develop	6/27/03
12	Preliminary Test	1/21/04
13	CCSDS Preliminary Test Report	1/21/04
14	Followup	10/27/04
15	**Sqrt(N) + CCSDS 120.0**	**7/22/04**
16	Specify	9/5/03
17	Develop	10/31/03
18	Test implementation correct	11/6/03
19	Study effect on magnitudes	1/8/04
20	Preliminary Report on Sqrt(N)	1/8/04
21	Sqrt(N) Study effect on shapes	3/4/04
22	Sqrt(n) Preliminary Report on Shapes	3/4/04
23	Study Effect on Weak Lensing	7/22/04
24	Sqrt(N) Report on Weak Lensing	7/22/04
25	**LOCO**	**11/12/04**



Project: Compression
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Baseline finish

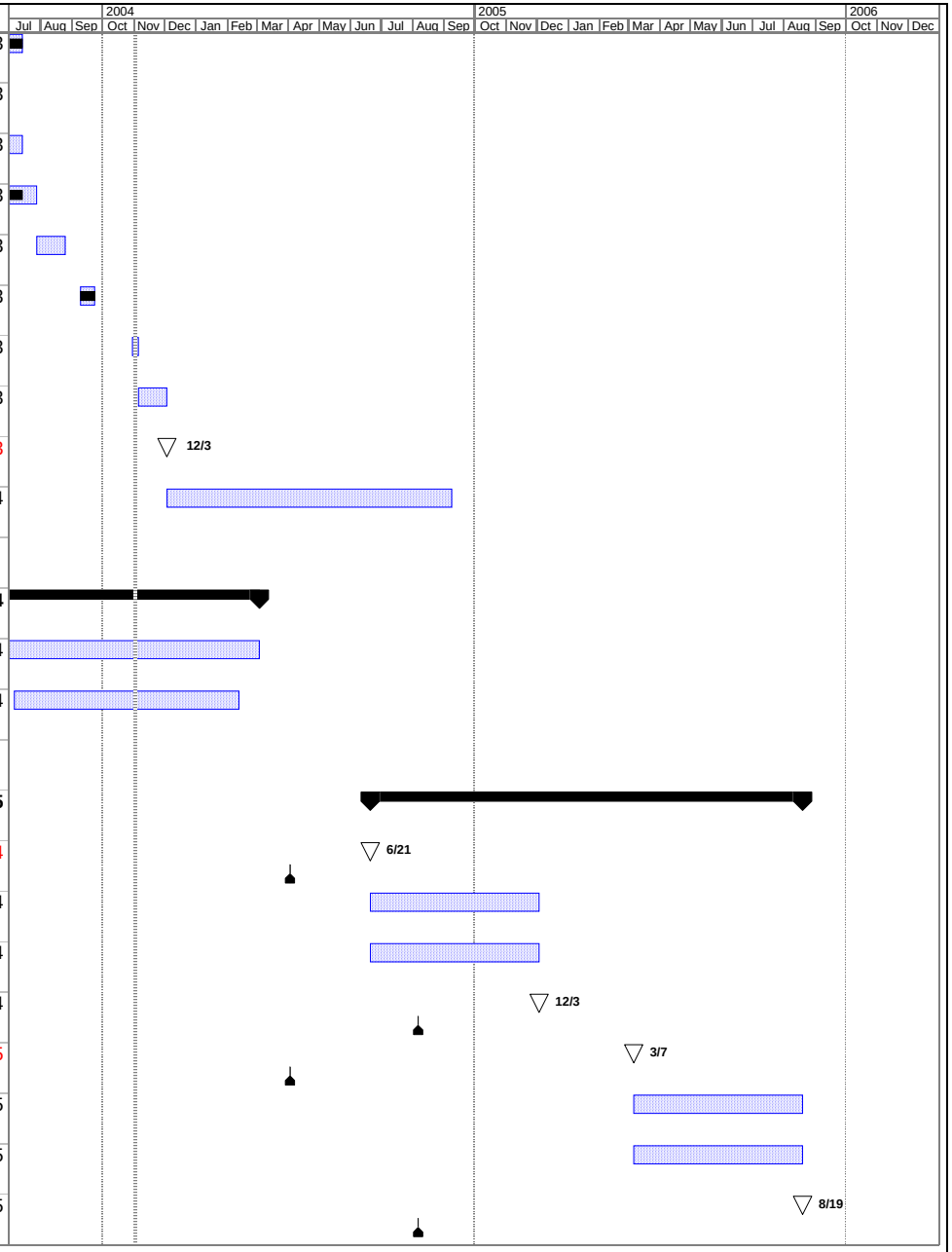
ID	Task Name	Finish
26	Specify	1/9/04
27	Develop	3/5/04
28	Test	4/2/04
29	Test Lossless version	4/9/04
30	Test Lossy version	4/16/04
31	Preliminary Report on LOCO	4/16/04
32	Followup	11/12/04
33	**Other variations**	**2/11/05**
34	Study preprocessing options for CCSDS	9/24/04
35	Study modifying LOCO to truncate by	10/22/04
36	Other ideas	2/11/05
55		
56	**System Architecture**	**12/22/04**
57	Preliminary specifications document	2/4/04
59	**Define computing requirements**	**12/22/04**
60	Data gathering buffering	1/30/04
61	Memory management	1/30/04
62	Error encoding	1/30/04
63	Data retrieval from memory & write to telemetry	1/30/04
64	Data compression	12/22/04
58	Preliminary specifications complete	2/4/04
37		
38	**FPGA Evaluation**	**9/8/04**
39	**Radiation Tests on Candidate FPGA**	**12/3/03**
41	Select FPGA's for testing	6/3/03



Project: Compression
Date: 11/2/03

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline | Baseline finish

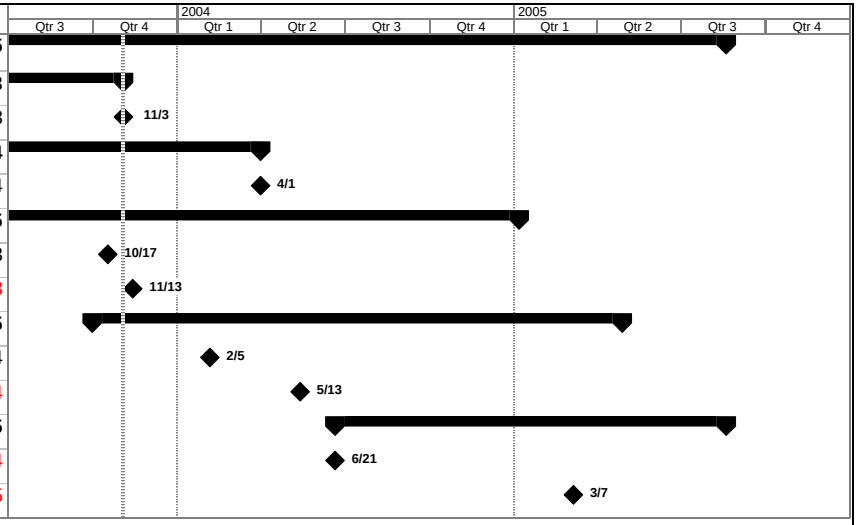
ID	Task Name	Finish
42	Procure FPGA's for testing	7/14/03
43	Design test card	7/1/03
44	Develop test software	7/14/03
45	Build card & Interface to PCI DAQ	7/28/03
46	Build & bench test system	8/25/03
40	Define tests to be made	9/23/03
47	Radiation testing	11/5/03
48	Report on Radiation Test	12/3/03
49	FPGA Rad Test Report Complete	12/3/03
50	Followup	9/8/04
51		
52	**ASIC Evaluation**	**3/3/04**
53	Survey of existing ASICs	3/3/04
54	Evaluation of applicability to SNAP	2/12/04
65		
66	**Data Manager contribution for CDR**	**8/19/05**
67	ZDR Technology recommendation	6/21/04
68	ZDR text contribution	12/3/04
69	ZDR cost estimate	12/3/04
70	ZDR contribution complete	12/3/04
71	CDR Technology recommendation	3/7/05
72	CDR text contribution	8/19/05
73	CDR cost estimate	8/19/05
74	CDR contribution complete	8/19/05



Project: Compression
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Baseline finish

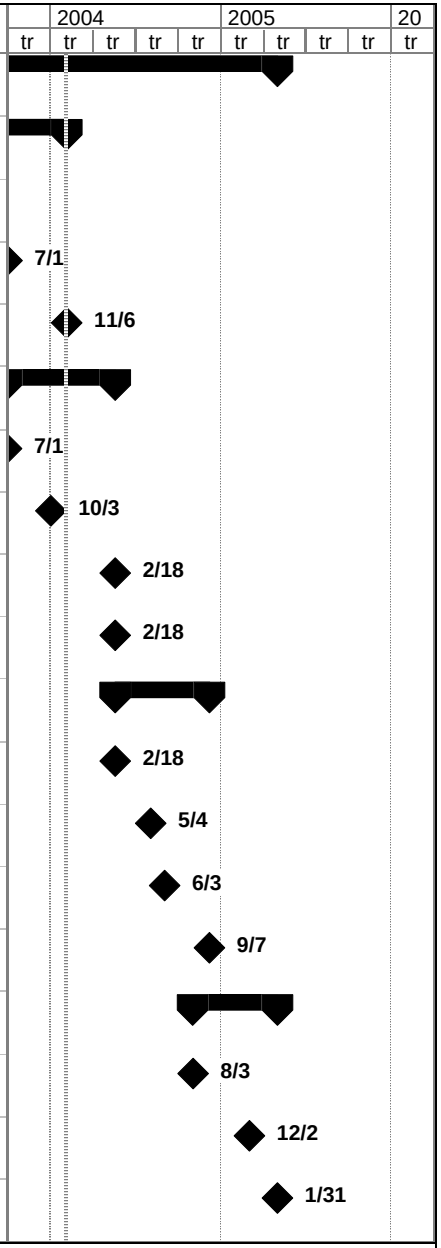
ID	Task Name	Finish
1	**Instrument Mass Memory**	**8/19/05**
7	**Review literature**	**11/3/03**
11	Technology review complete	11/3/03
3	**Write SSR Specifications**	**4/1/04**
5	Finalize Specs for CDR	4/1/04
13	**Flash R&D**	**1/6/05**
20	FLASH test board complete	10/17/03
24	FLASH Radiaition Test Report Complete	11/13/03
27	**DRAM R&D**	**4/28/05**
34	DRAM test board complete	2/5/04
38	DRAM Radiation Test Report Complete	5/13/04
41	**CDR**	**8/19/05**
42	Technology Recommendation for ZDR	6/21/04
45	Technology Recommendation for CDR	3/7/05



Project: SSR FNAL
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

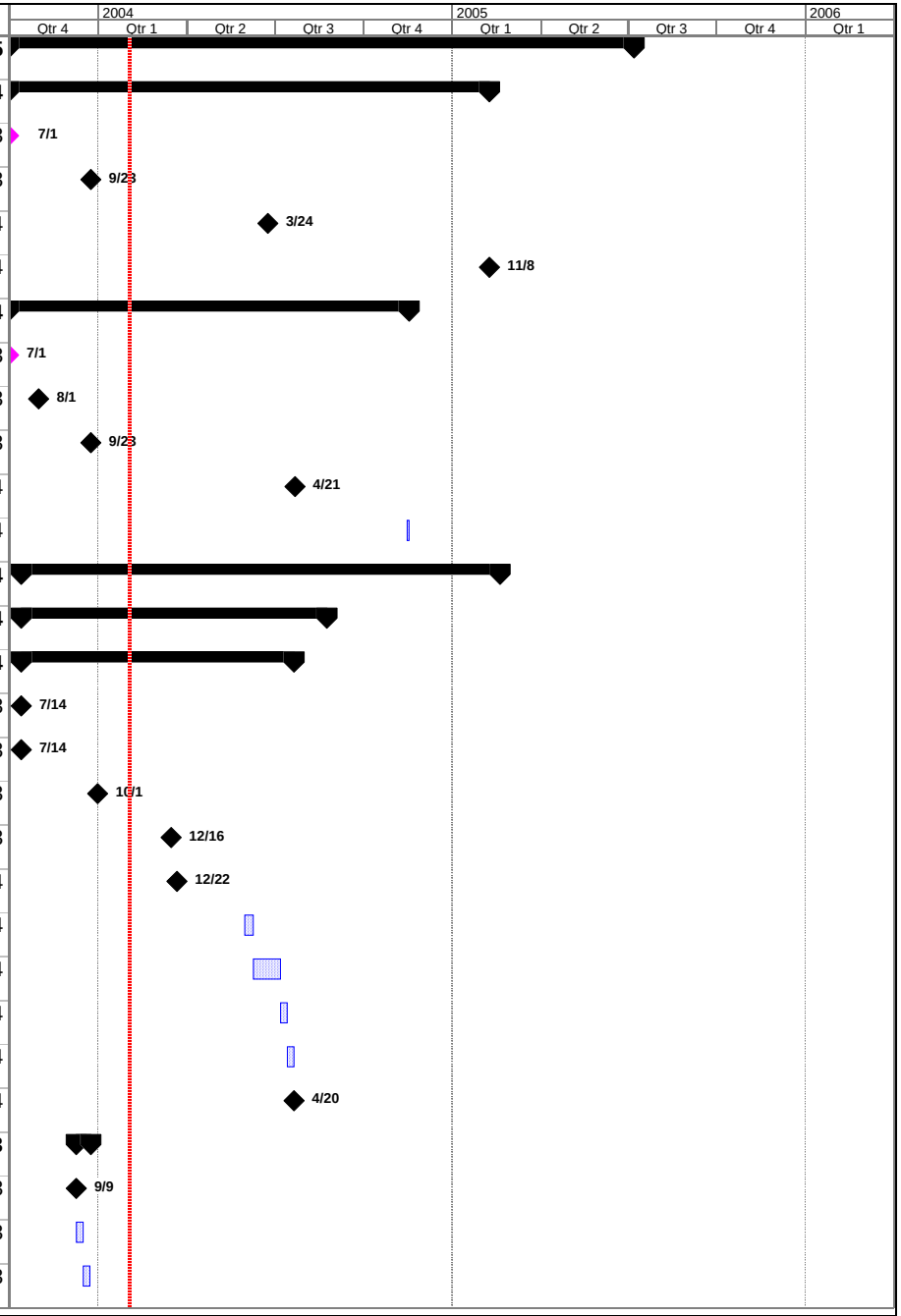
ID		Task Name	Finish
1		**Michigan_NIR**	**1/31/05**
3		**Multiplexor testing**	**11/6/03**
4		Begin Mux Testing	1/1/03
7		Complete 1st Round Mux Testing	7/1/03
10		Mux testing complete	11/6/03
11		**Instrumentation**	**2/18/04**
12		Begin Instrumentation Setup	7/1/03
14		Finish Interpixel Variation Test	10/3/03
16		QE Characterization Complete	2/18/04
18		Instrumentation complete (QE, interpixel, stability)	2/18/04
19		**EG testing**	**9/7/04**
20		Begin EG Testing	2/18/04
24		Begin Second Round EG Testing	5/4/04
23		Complete First Round EG Testing	6/3/04
27		EG testing complete	9/7/04
28		**SG testing**	**1/31/05**
29		Begin SG Testing	8/3/04
32		Complete 1st round of SG Testing	12/2/04
35		SG testing complete	1/31/05



Project: Michigan NIR
Date: 11/2/03

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

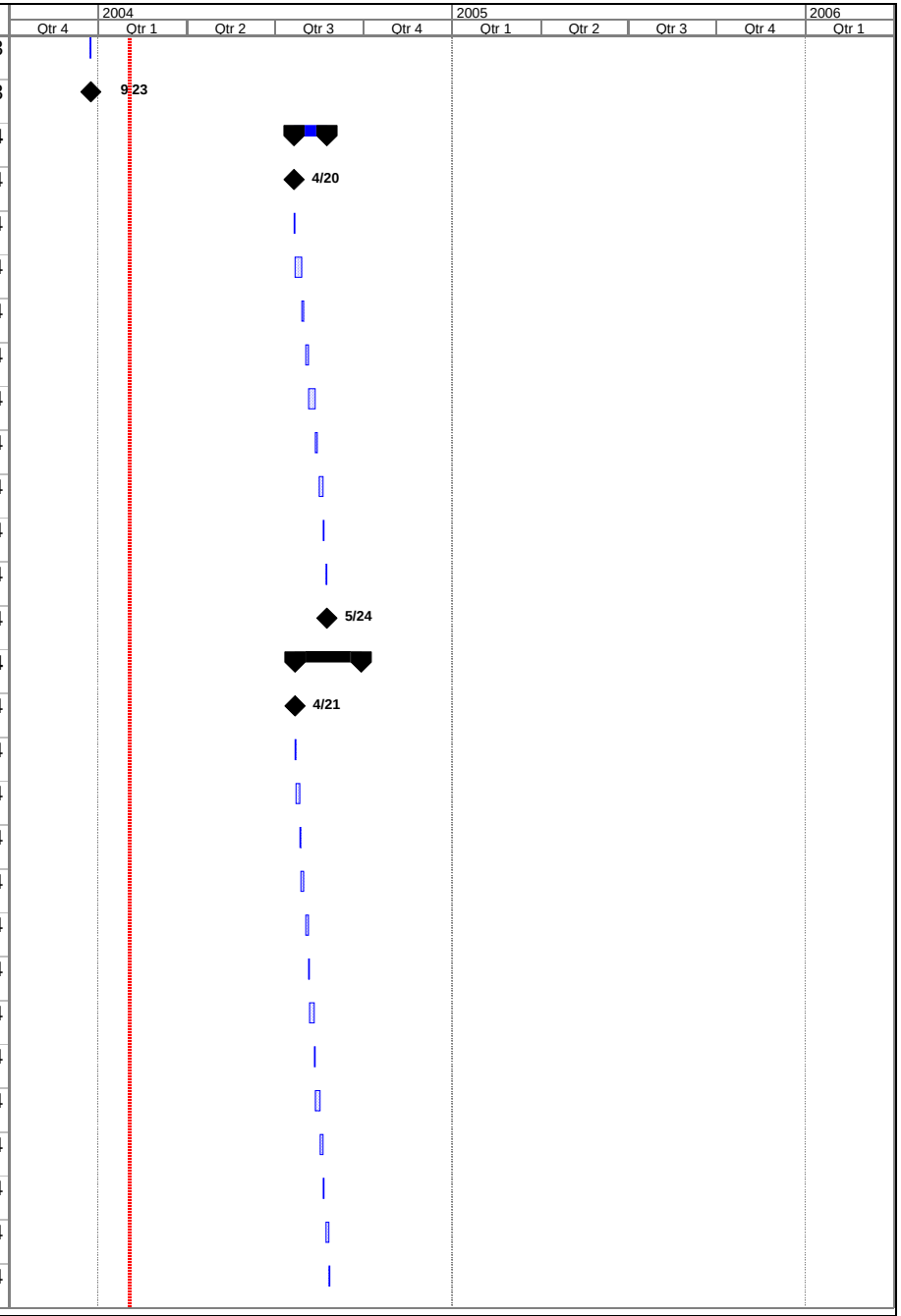
ID	Task Name	Finish
1	**SNAP - CalTech NIR**	**4/7/05**
2	**Rockwell Procurement**	**11/8/04**
3	Rockwell order accepetd	7/1/03
4	Delivery of H2RG mux	9/23/03
5	Delivery of 1.7um on H2RG fm lot 1 (eng gra	3/24/04
6	Delivery of 1.7um on H2RG fm lot 3 (science	11/8/04
65	**Raytheon Procurement**	**8/17/04**
66	Raytheon order accepted	7/1/03
67	Delivery of VIRGO 1K mux	8/1/03
68	Delivery of VIRGO 2K mux	9/23/03
69	Delivery of 1.7um on VIRGO 1K	4/21/04
70	Delivery of 1.7um on VIRGO 2K	8/17/04
71	**Raytheon Tests**	**11/19/04**
72	**Raytheon mux evaluation**	**5/24/04**
73	**Setup test dewar & Virgo detector moun**	**4/20/04**
74	**Test dewar available for VIRGO mux**	7/14/03
75	Design Virgo detector mount	9/30/03
76	Build Virgo detector mount	12/15/03
77	Define cabling outside and inside dewar	12/20/03
78	Design fanout board	2/27/04
79	Layout & procure Fanout PCB and flex ca	3/9/04
80	Delivery of fanout PCB and flex cable	4/6/04
81	Fanout bd assy & internal dewar wiring d	4/13/04
82	Test thermal control of Virgo mount	4/20/04
83	Virgo Setup complete	4/20/04
84	**Customize controller for Virgo**	**9/23/03**
85	**Marco's particpation in SIDECAR com**	9/9/03
86	Configure software (unscrambler, header	9/15/03
87	Define waveforms,bias voltges	9/22/03



Project: COO NIR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

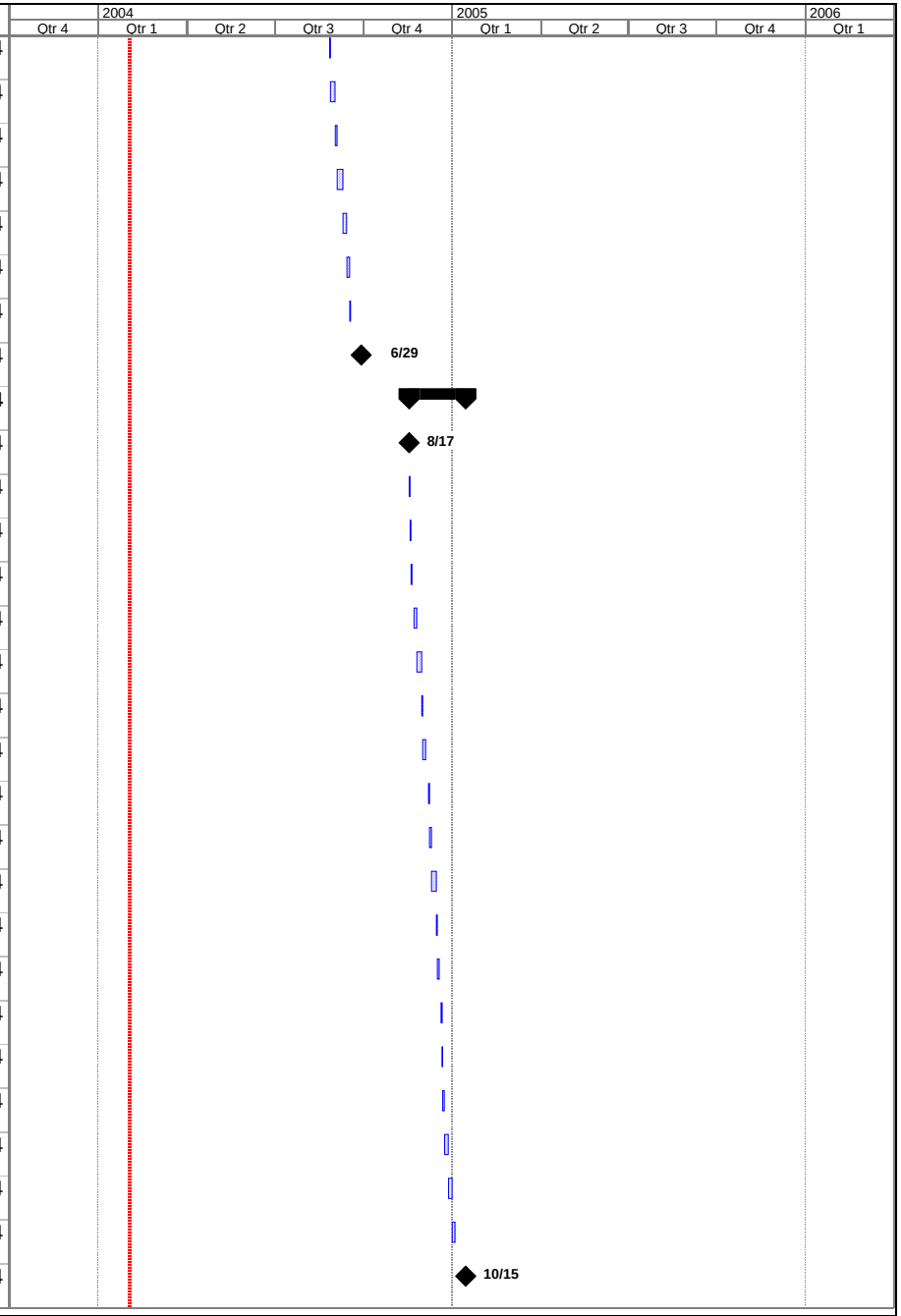
ID	Task Name	Finish
88	Check/modify clock edge rates	9/23/03
89	Virgo Controller Customization Complete	9/23/03
90	**Test Virgo mux**	**5/24/04**
91	Start Virgo Mux Test	4/20/04
92	Install Virgo Mux	4/21/04
93	Bias to video transfer functions (mux)	4/28/04
94	Virgo mux light sensitivity, well capacity, (	4/30/04
95	Virgo noise vs read rate & BW	5/5/04
96	Virgo bias frame stability and flateness vs	5/12/04
97	Virgo noise vs exposure time	5/14/04
98	Virgo charge injection per read	5/20/04
99	Virgo noise vs multiple samples	5/21/04
100	Virgo temperature sensitivity of video offs	5/24/04
101	Virgo Mux Test Complete	5/24/04
102	**1K Virgo with 1.7um HCT**	**6/29/04**
103	Begin Analysis of 1K Virgo w/1.7um MCT	4/21/04
104	Temperature sensitivity of video offset	4/22/04
105	Bias to video transfer functions	4/26/04
106	Measure e-/ADU through photon transfer	4/27/04
107	Noise vs pixel rate and BW	4/30/04
108	Noise & drift vs exposure time	5/5/04
109	Test reference pixel to compensate drift	5/6/04
110	Dark current vs temperature	5/11/04
111	Noise vs Temperature	5/12/04
112	Mux glow vs mux activity	5/17/04
113	Noise vs # non-destructive reads	5/20/04
114	Well capacity	5/21/04
115	Linearity vs bias voltages	5/26/04
116	Pixel Response Non Uniformity (flat fields)	5/27/04



Project: COO NIR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

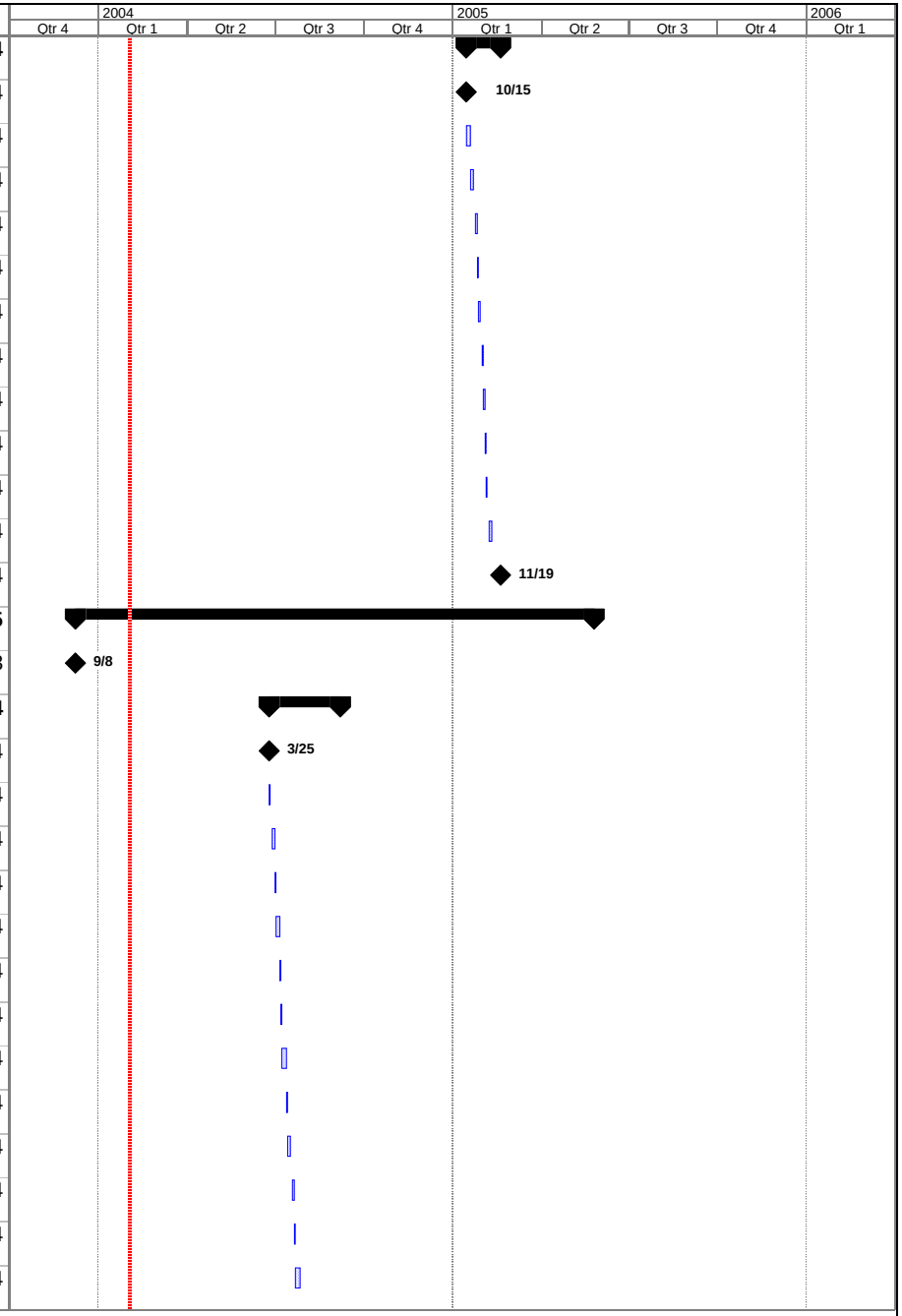
ID	Task Name	Finish
117	Image persistence (spot)	5/28/04
118	Image lag	6/2/04
119	Crosstalk vs intensity	6/4/04
120	QE vs temperature	6/10/04
121	Subraster waveforms and performance	6/14/04
122	Alternate readout algorithms	6/17/04
123	Measure detector flatness	6/18/04
124	Web pages and test report on 1K Virgo Co	6/29/04
125	**2K Virgo with 1.7um MCT (Sci Grade)**	**10/15/04**
126	Begin Analysis of 2K Virgo w/1.7um MCT (	8/17/04
127	Temperature sensitivity of video offset	8/18/04
128	Bias to video transfer functions	8/19/04
129	Measure e-/ADU through photon transfer	8/20/04
130	Noise vs pixel rate and BW	8/25/04
131	Noise & drift vs exposure time	8/30/04
132	Test reference pixel to compensate drift	8/31/04
133	Dark current vs temperature	9/3/04
134	Noise vs Temperature	9/7/04
135	Mux glow vs mux activity	9/9/04
136	Noise vs # non-destructive reads	9/14/04
137	Well capacity	9/15/04
138	Linearity vs bias voltages	9/17/04
139	Pixel Response Non Uniformity (flat fields)	9/20/04
140	Image persistence (spot)	9/21/04
141	Image lag	9/23/04
142	Crosstalk vs intensity	9/27/04
143	QE vs temperature	10/1/04
144	Measure detector flatness	10/4/04
145	Web pages and test report of Virgo SG Co	10/15/04



Project: COO NIR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

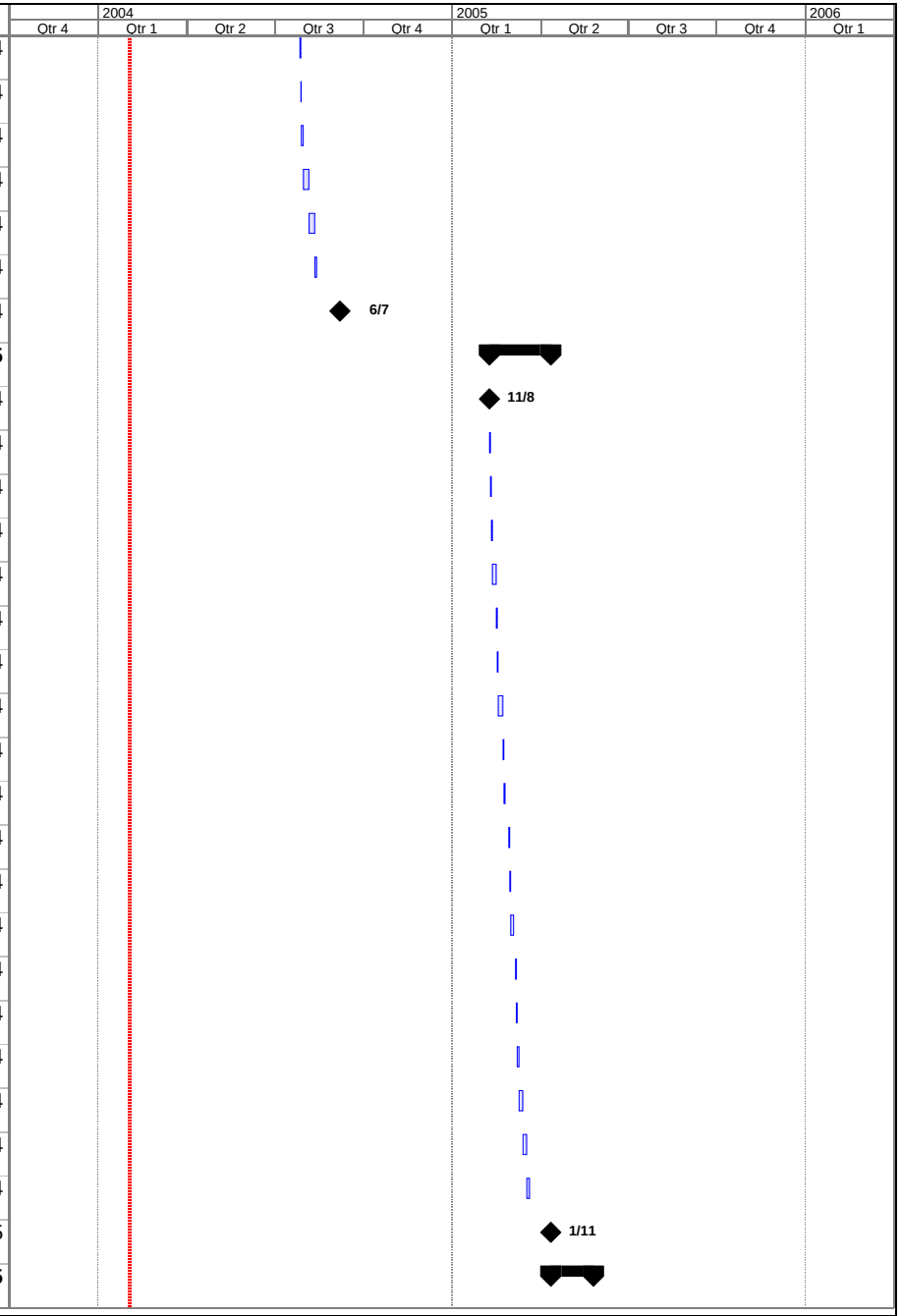
ID		Task Name	Finish
146		**Observing with Virgo**	**11/19/04**
147		Begin Observation w/Virgo	10/15/04
148		Transfer mount and wiring to CCD dewar	10/19/04
149		Test thermal control, tune servo	10/22/04
150		Verify noise, bias stability etc	10/26/04
151		Verify dark current	10/27/04
152		Verify e-/ADU, linearity, well capacity	10/29/04
153		Test imaging perfomance on target projectc	11/1/04
154		Install on spectrograph	11/3/04
155		Measure backfocal distance and tilt using s	11/4/04
156		Adjust backfocal distance & tilt	11/5/04
157		Observing run	11/10/04
158		Data analysis and report on Observing w/V	11/19/04
7		**Rockwell tests**	**2/24/05**
8		H2RG mux tested and setup ready	9/8/03
9		**1st lot of 1.7um MCT on H2RG (Engr Grad**	**6/7/04**
10		Begin Analysis w/ 1st lot of 1.7um HCT on	3/25/04
11		Temperature sensitivity of video offset	3/26/04
12		Bias to video transfer functions	3/31/04
13		Measure e-/ADU through photon transfer	4/1/04
14		Noise vs pixel rate and BW	4/5/04
15		Noise & drift vs exposure time	4/6/04
16		Test reference pixel to beat drift	4/7/04
17		Dark current vs temperature	4/12/04
18		Noise vs Temperature	4/13/04
19		Mux glow vs mux activity	4/16/04
20		Noise vs # non-destructive reads	4/20/04
21		Well capacity	4/21/04
22		Linearity vs bias voltages	4/26/04



Project: COO NIR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

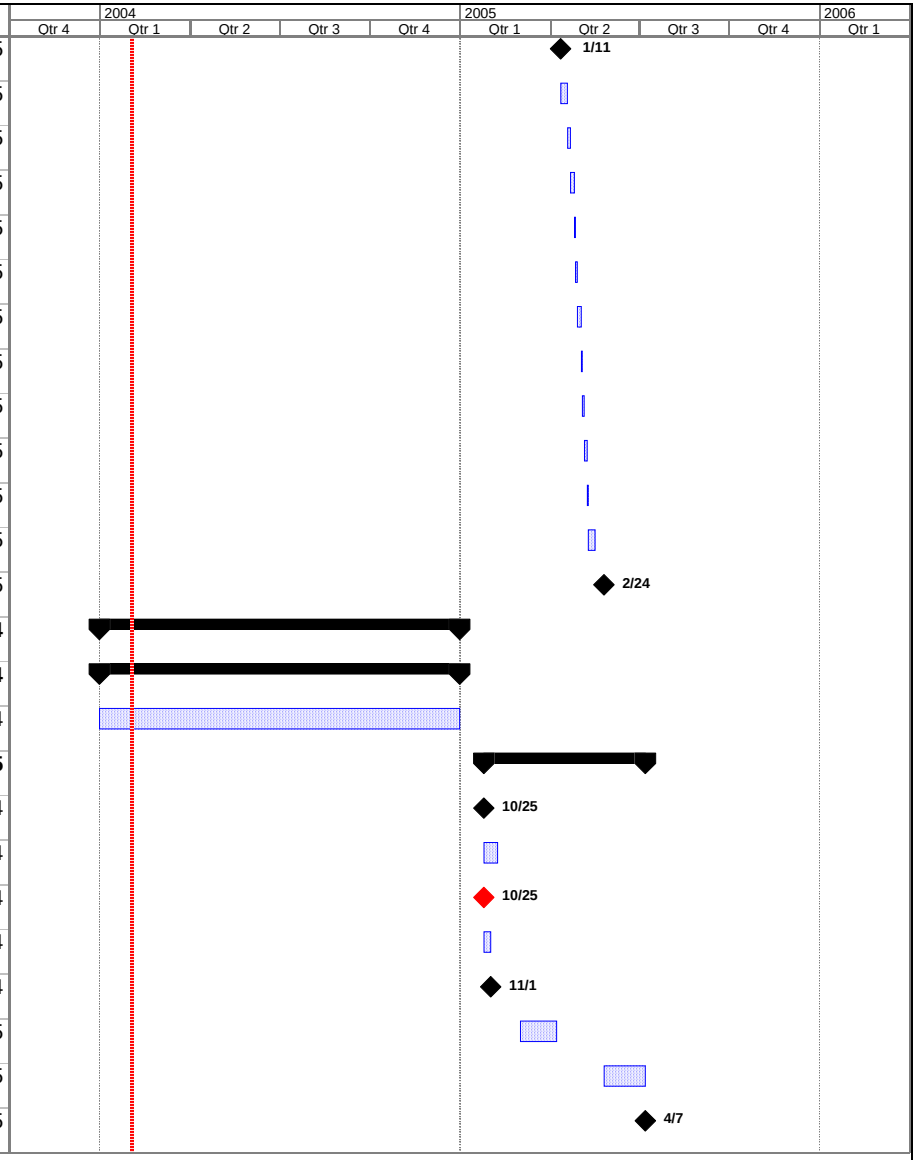
ID	Task Name	Finish
23	Pixel Response Non Uniformity (flat fields)	4/27/04
24	Image persistence (spot)	4/28/04
25	Image lag	4/30/04
26	Crosstalk vs intensity	5/6/04
27	QE vs temperature	5/12/04
28	Measure detector flatness	5/14/04
29	Web pages and test report of 1.7um MCT c	6/7/04
30	**3rd lot of 1.7um MCT on H2RG (Science G**	**1/11/05**
31	Begin Analysis w/3rd lot of 1.7um MCT on	11/8/04
32	Temperature sensitivity of video offset	11/9/04
33	Bias to video transfer functions	11/10/04
34	Measure e-/ADU through photon transfer	11/11/04
35	Noise vs pixel rate and BW	11/15/04
36	Noise & drift vs exposure time	11/16/04
37	Test reference pixel to beat drift	11/17/04
38	Dark current vs temperature	11/22/04
39	Noise vs Temperature	11/23/04
40	Mux glow vs mux activity	11/24/04
41	Noise vs # non-destructive reads	11/29/04
42	Well capacity	11/30/04
43	Linearity vs bias voltages	12/3/04
44	Pixel Response Non Uniformity (flat fields)	12/6/04
45	Image persistence (spot)	12/7/04
46	Image lag	12/9/04
47	Crosstalk vs intensity	12/13/04
48	QE vs temperature	12/17/04
49	Measure detector flatness	12/20/04
50	Web pages and test report Complete	1/11/05
51	**Observing with Science grade 1.7um H2R**	**2/24/05**



Project: COO NIR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

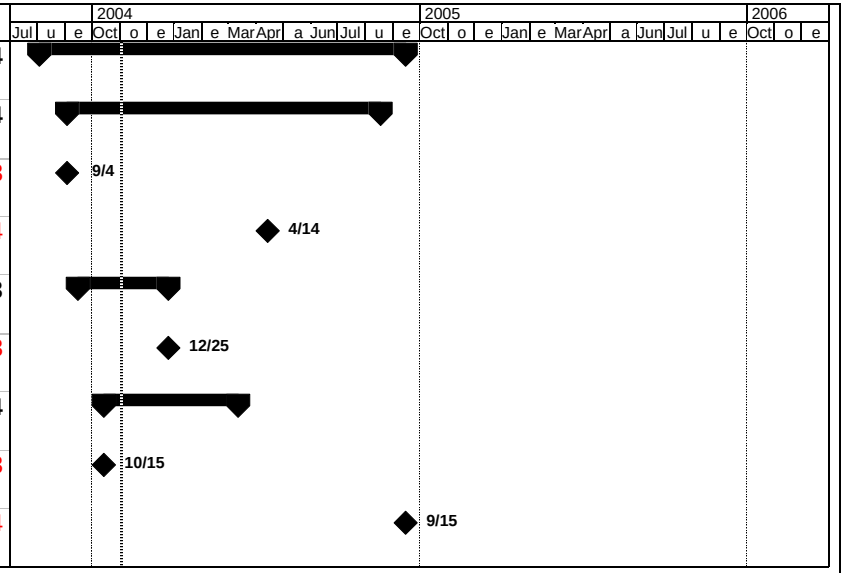
ID	Task Name	Finish
52	Begin Observation w/Sci Grade 1.7um H2F	1/11/05
53	Transfer mount and wiring to CCD dewar	1/18/05
54	Test thermal control, tune servo	1/21/05
55	Verify noise, bias stability etc	1/25/05
56	Verify dark current	1/26/05
57	Install IR LEDs in target projector	1/28/05
58	Verify e-/ADU, linearity, well capacity	2/1/05
59	Test imaging perfomance on target projectc	2/2/05
60	Install on spectrograph	2/4/05
61	Measure backfocal distance and tilt using s	2/7/05
62	Adjust backfocal distance & tilt	2/8/05
63	Observing run	2/15/05
64	RSC Science Grade Observation complete	2/24/05
168	**Resources**	**9/30/04**
169	**FY04**	**9/30/04**
170	CalTech	9/30/04
159	**Final HgCdTe performance comparison**	**4/7/05**
160	Define final selection criteria	10/25/04
161	Verify automated test process (both detectors	11/8/04
162	Automated test dewar must be available	10/25/04
163	Final approval of specs by SNAP project	11/1/04
164	Issue final specs/feedback to manufacturers	11/1/04
165	Automated test of final candidates	1/7/05
166	Preparation for SNAP CDR	4/7/05
167	Prep for CDR Complete	4/7/05



Project: COO NIR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

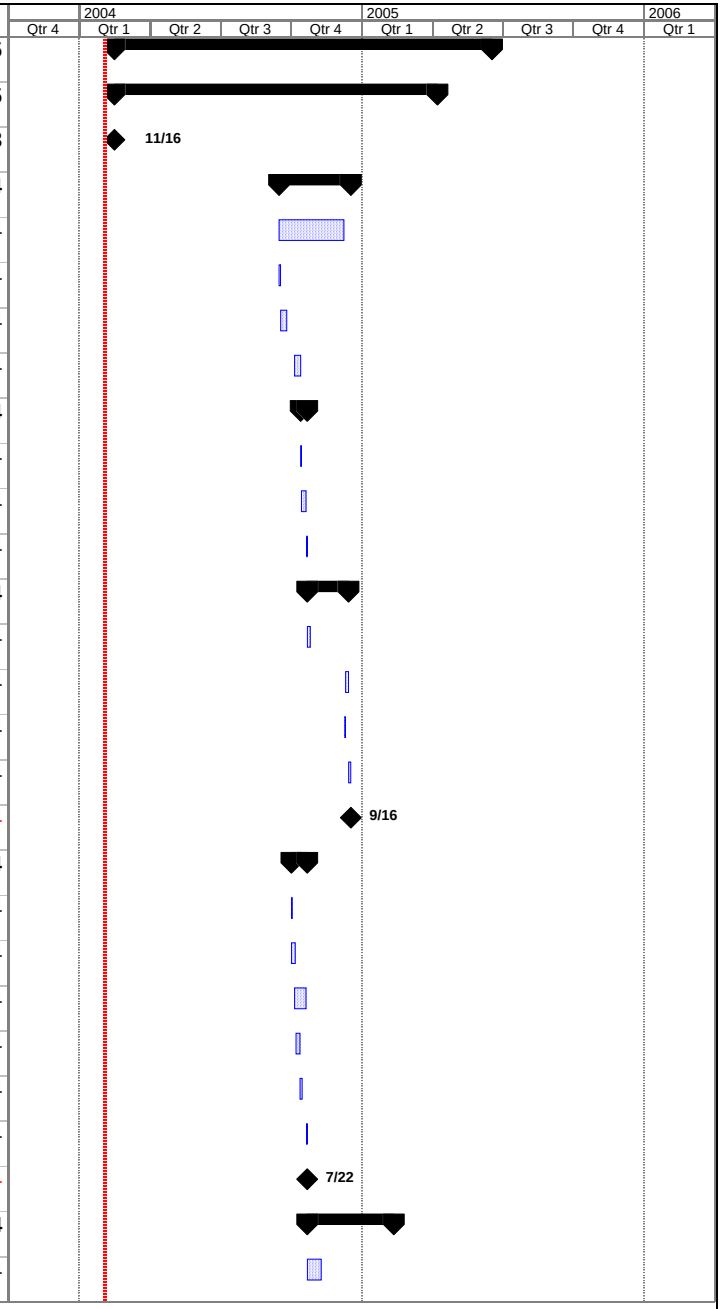
ID	Task Name	Finish
1	**JPL InGaAs Array Project**	**9/15/04**
48	**Test InGaAs on H1RG**	**8/18/04**
49	Order InGaAs Array on Mux	9/4/03
51	InGaAS array delivery	4/14/04
8	**Cryostat**	**12/25/03**
22	Test stand complete	12/25/03
36	**Test H1RG mux**	**3/12/04**
37	Rec H1RG mux from LBNL	10/15/03
70	InGaAs 1st tests complete	9/15/04



Project: SNAP
Date: 11/2/03

Task		Summary		Rolled Up Progress		Deadline	
Split		Rolled Up Task		External Tasks			
Progress		Rolled Up Split		Project Summary			
Milestone		Rolled Up Milestone		External Milestone			

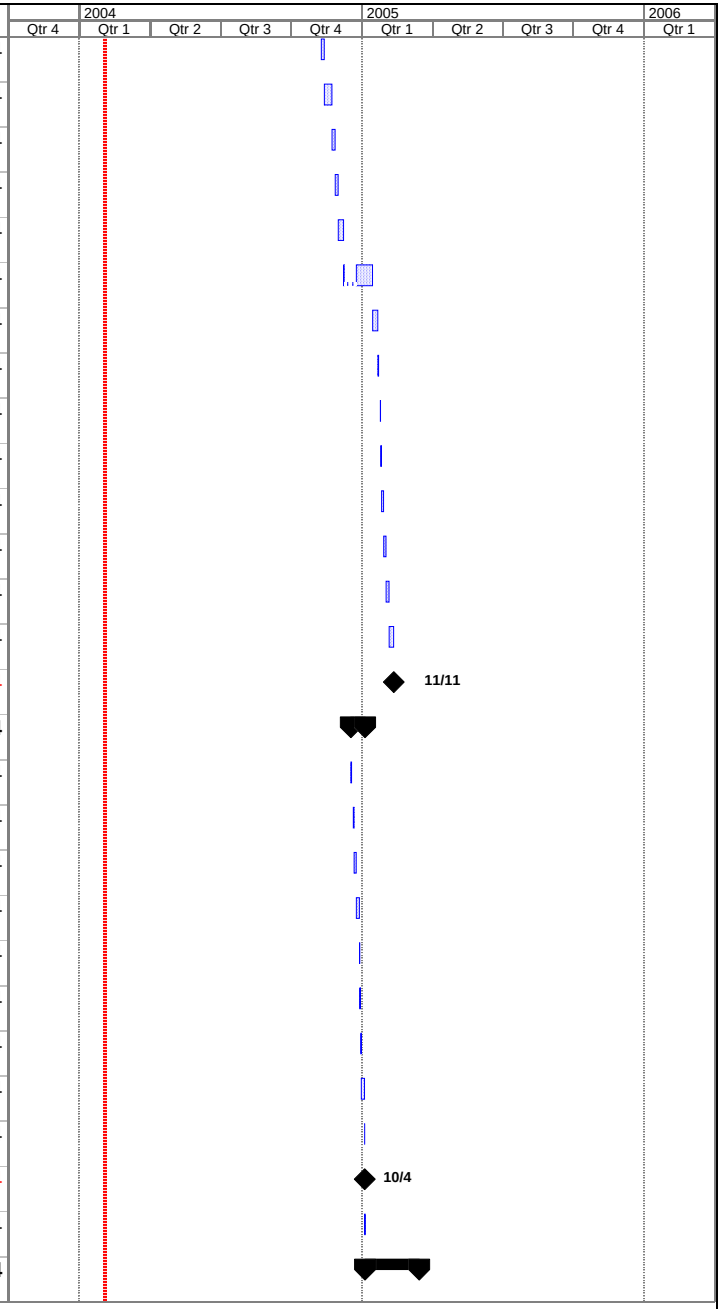
ID	Task Name	Finish
1	**SIDECAR**	**3/18/05**
7	**Test SIDECAR alone**	**1/6/05**
83	Mux performance benchmarked with Leach controller	11/16/03
40	**Setup test dewar**	**9/16/04**
41	**Extra lab dewar !!!!**	9/7/04
43	Concept for Mux & dual ASIC mounts	6/17/04
44	Mech design of Mux & dual ASIC mounts	6/25/04
45	Fabricate Mux & dual ASIC mounts	7/13/04
46	**Dewar interconnects**	**7/22/04**
47	Design interconnects	7/14/04
48	Build interconnects	7/20/04
49	Test interconnects	7/22/04
50	**Install cryocooler**	**9/13/04**
51	Design cryocooler interface to dewar	7/26/04
52	Modify dewar to accept cryocooler	9/13/04
42	Dewar assembly, pump & leak check	9/9/04
53	Test thermal control of mount	9/16/04
54	Test dewar setup complete	9/16/04
8	**Interface to ASIC**	**7/22/04**
9	Setup lab computer	7/2/04
11	Design ASIC to Systran fiber interface	7/6/04
10	Develop sw/ to communicate with ASIC	7/20/04
12	Fabricate ASIC to Systran fiber interface	7/12/04
13	Test ASIC to Fiber link, & reliability vs length	7/15/04
14	Measure max throughput of communication link	7/22/04
15	Interface to ASIC complete	7/22/04
16	**Confirm full functionality at room temp.**	**11/11/04**
17	Develop SIEDCAR control software	8/9/04



Project: COO SIDECAR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

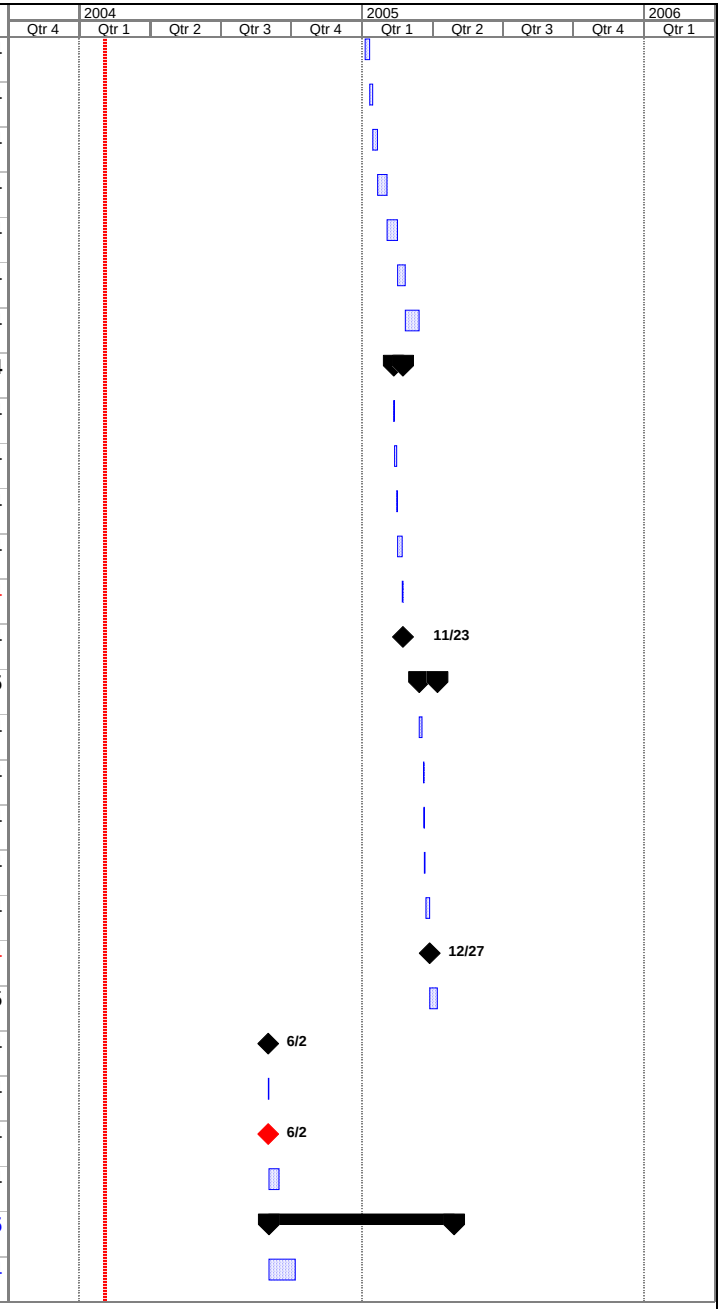
ID	Task Name	Finish
18	Verify software control of all features	8/13/04
19	Program waveforms	8/23/04
20	Evaluate readout algorithm flexibility	8/27/04
21	Evaluate data processing capability	8/31/04
22	Evaluate self diagnostic capabilities	9/7/04
23	Test abort of readout	10/14/04
24	Verify ability to synchronize two ASICs	10/21/04
25	Measure ADC differentail non- linearity	10/22/04
26	Bitwise histogram test	10/25/04
27	Measure ADC integral linearity	10/26/04
28	Measure clock timing jitter vs supply stability	10/29/04
29	Measure maximum data rate at various ADC resolutions	11/1/04
30	Measure range and linearity of clk & bias levels	11/5/04
31	Contingency	11/11/04
32	Room temp. functionality test complete	11/11/04
55	**Test ASIC vs temperature**	**10/5/04**
56	Data acquisition rate (1ch)	9/17/04
57	Data transfer rate	9/20/04
58	Clock drive current and settling	9/23/04
59	Differential-non-linearity (histogram tests)	9/27/04
60	Offset vs temperature	9/28/04
61	Offset drift over time	9/28/04
62	Input voltage noise	9/30/04
63	Thermal cycle dewar to change input config	10/4/04
64	Input current noise	10/4/04
66	ASIC temperature performance complete	10/4/04
65	Output noise	10/5/04
67	**Develop artificial video generator**	**12/14/04**



Project: COO SIDECAR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

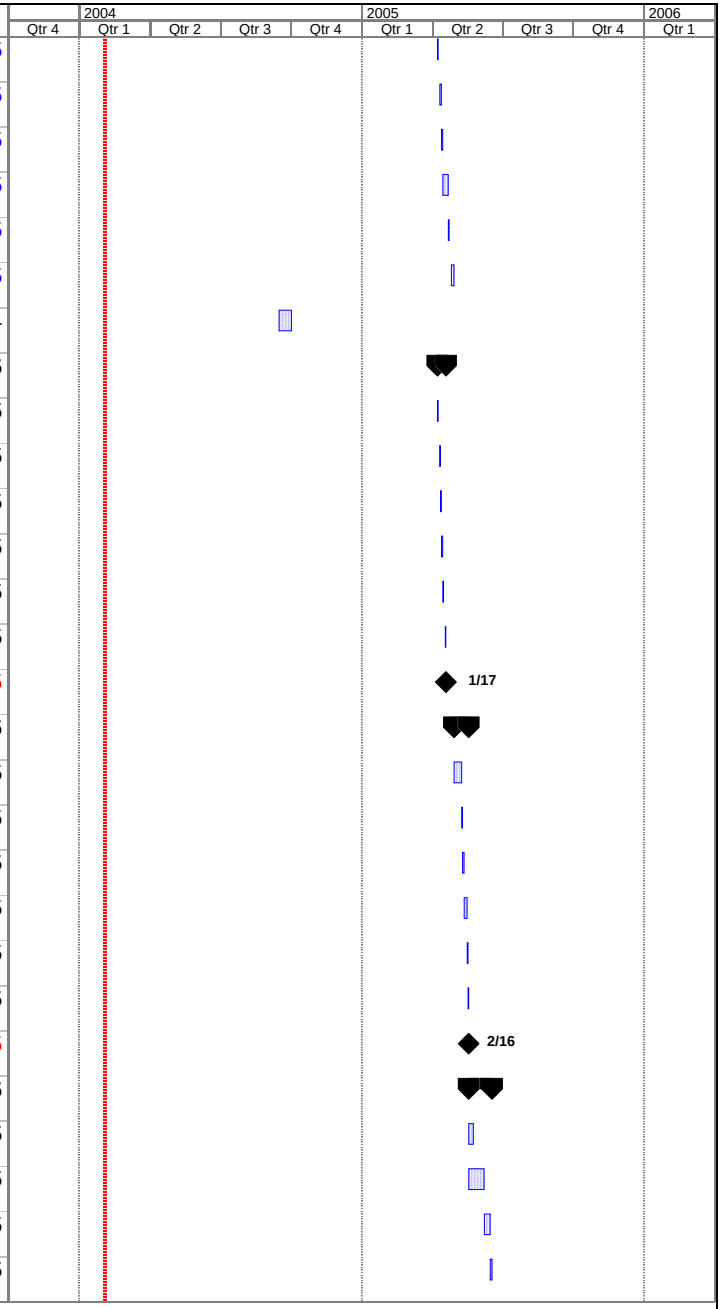
ID	Task Name	Finish
68	Specify ArtVideo generator	10/11/04
69	ArtVideo circuit design	10/15/04
70	ArtVideo baord layout	10/21/04
71	Select & learn Gate array programming tools	11/2/04
72	Gate array programming and simulation	11/16/04
73	Fab ArtVideo gen	11/26/04
74	Test ArtVideo gen	12/14/04
33	**Noise**	**11/23/04**
34	evaluate noise patterns (FFT)	11/12/04
35	noise vs input resistance	11/15/04
36	noise vs bandwidth	11/16/04
37	noise vs temperature	11/22/04
38	Measure Power Supply Rejection Ration vs freq	11/23/04
39	Noise evaluation complete	11/23/04
75	**Test ASIC signal chain with ArtVideo input**	**1/6/05**
76	Benchmark ArtVideo with Leach controller	12/17/04
77	Signal bandwidth / settling	12/20/04
78	Signal memory	12/20/04
79	Integral linearity	12/21/04
80	Crosstalk	12/27/04
82	Video generator test complete	12/27/04
81	Contingency	1/6/05
2	Start of SIDECAR evaluation	6/2/04
3	8.25% sales tax	6/2/04
4	**ASIC delivery [2] ?????**	6/2/04
5	Experiment design and review	6/15/04
92	**Cryogenic clock/bias amplifier evaluation (??cjb??)**	**1/28/05**
93	device search and procurement	7/6/04



Project: COO SIDECAR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

ID	Task Name	Finish
94	design fixtures for cold amp tests	1/7/05
95	assemble fixtures for cold amp tests	1/11/05
96	dewar wiring for cold amp tests	1/13/05
97	electrical characterization vs low temp	1/20/05
98	contingency	1/21/05
99	write report	1/28/05
6	Study ASIC documentation & liase with Rockwell	7/1/04
84	**Run H2RG mux with SIDECAR**	**1/17/05**
85	Verify correctness of clocking by ASIC	1/7/05
86	Offset drift over time	1/10/05
87	Signal settling	1/11/05
88	noise vs BW & pixel rate	1/13/05
89	Crosstalk (if there is response to light)	1/14/05
90	Signal memory (if there is a response to light)	1/17/05
91	SIDECARE-H2RG test complete	1/17/05
100	**Run Virgo mux with SIDECAR**	**2/16/05**
101	Setup clocking by ASIC, bias volates etc.	2/7/05
102	Offset drift over time	2/8/05
103	Signal settling	2/10/05
104	noise vs BW & pixel rate	2/14/05
105	Crosstalk (if there is response to light)	2/15/05
106	Signal memory (if there is a response to light)	2/16/05
107	SIDECAR-VIRGO test complete	2/16/05
108	**Reporting**	**3/18/05**
109	Meetings and progress reports	2/22/05
110	Detailed test reports	3/8/05
111	SPIE Paper: Rockwell ASIC evaluation	3/16/05
112	SPIE Paper: precision art video generator	3/18/05



Project: COO SIDECAR
Date: 11/2/03

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone