ID		Task Name	Start	Finish	Risk code pre TMA	Task Hazard Analysis	Risk code post TMA	Abs
1		**G3P installation**	**Mon 5/16/11**	**Fri 12/9/11 XXXXXX**				
2	!	Radcon	Mon 5/16/11	Mon 5/16/11				
3	!	Alignment	Mon 5/16/11	Mon 5/16/11				
4		Engineering electronics or electrical	Mon 5/16/11	Mon 5/16/11				
5		Engineering mechanical	Mon 5/16/11	Mon 5/16/11				
6		engineering Vacuum	Mon 5/16/11	Mon 5/16/11				
7		Hall A techs or users	Mon 5/16/11	Mon 5/16/11				
8		target group	Mon 5/16/11	Mon 5/16/11				
9		Ops software	Mon 5/16/11	Mon 5/16/11				
10								
11								
12		**beam line prep work**	**Mon 5/16/11**	**Mon 7/11/11 XXXXXX**				
13	✓	QA scan, radiometer and magnet stands	Mon 5/16/11	Mon 5/16/11	SOC			
14	✓	install power for slow raster and calorimeter	Mon 5/16/11	Mon 5/16/11	SOC			
15	✓	install power in Hall for FZ magnets	Mon 5/16/11	Mon 5/16/11				
16	✓	fab water manifolds for FZ magnets	Mon 5/16/11	Mon 5/16/11				
17	✓	rework power connections for septum magnet	Mon 5/16/11	Mon 5/16/11				
18	✓	rework water manifolds for septum magnet	Mon 5/16/11	Mon 5/16/11				
19	✓	design and fab new electrical shields for septum magnet	Mon 5/16/11	Mon 5/16/11				
20	✓	fab new beam pipe for septum magnet	Mon 5/16/11	Mon 5/16/11				
21		field map septum magnet	Mon 5/16/11	Mon 5/16/11				
22	!	pre survey beam dump	Mon 5/16/11	Mon 5/16/11				N
23	!	pre survey target can	Mon 5/16/11	Mon 5/16/11				N
24	!	pre survey target magnet	Mon 5/16/11	Mon 5/16/11				N
25	✓	close and unplug beam line vacuum valves	Mon 5/16/11	Mon 5/16/11	SOC			N
26	✓	turn off and valve off turbo pumps	Mon 5/16/11	Mon 5/16/11	SOC			N
27	✓	bleed up entrance beam line from diff pump to target	Mon 5/16/11	Mon 5/16/11	SOC			N
28	✓	reposition all metal beam line valve	Mon 5/16/11	Mon 5/16/11	SOC			N
29	✓	Target fiducial, 1.Mag.Top March 11	Mon 5/16/11	Mon 5/16/11				N
30	✓	Target fiducial, 2.Top.Can.Mar.11	Mon 5/16/11	Mon 5/16/11				N
31	✓	Septa fiducial (new locations) March 11	Mon 5/16/11	Mon 5/16/11				N
32	✓	Platform - check target mount	Fri 6/10/11	Fri 6/10/11				N
33	✓	Target top flange tube align	Fri 6/10/11	Fri 6/10/11				N
34	✓	Target fiducial, 2.Top.Can	Mon 7/11/11	Mon 7/11/11				N
35	✓	Dump I Sieve fid	Mon 7/11/11	Mon 7/11/11				N
36								
37		**LCW work**	**Mon 5/23/11**	**Mon 6/20/11 XXXXXX**				
38								
39								
40								
41	✓	remove EP	Mon 5/23/11	Wed 6/1/11				
42								
43		**install slow raster**	**Mon 5/16/11**	**Fri 12/9/11 XXXXXX**				
44		survey holes for stands	Mon 5/16/11	Tue 6/7/11	SOC			N
45		Drill holes	Wed 6/8/11	Thu 6/9/11	SOC			
46		mount stand	Fri 6/10/11	Mon 6/13/11				
47		survey stand	Tue 6/14/11	Wed 6/15/11	SOC			
48		grout stand	Mon 6/20/11	Tue 6/21/11	SOC			
49		grout set up time	Wed 6/22/11	Thu 6/23/11	SOC			
50		install slow raster	Mon 6/27/11	Wed 6/29/11				
51		connect beam line	Thu 6/30/11	Thu 6/30/11	SOC			
52		pump down beam line	Fri 7/1/11	Tue 7/5/11	SOC			
53		survey slow raster	Wed 7/6/11	Thu 7/7/11	SOC			N
54		install curtis	Fri 7/8/11	Fri 7/8/11	SOC			N
55		install and connect raster controls and power	Mon 7/11/11	Mon 7/11/11	SOC			N
56		ops check slow raster	Tue 7/12/11	Tue 7/12/11	SOC			N
57		software checkout and ops check	Mon 8/29/11	Wed 8/31/11				
58								
59		**install calorimeter**	**Mon 6/6/11**	**Fri 8/12/11 XXXXXX**				
60		survey holes for stand	Mon 6/6/11	Tue 6/7/11	SOC			N
61		Drill holes	Wed 6/8/11	Thu 6/9/11	SOC			
62		mount stand	Fri 6/10/11	Mon 6/13/11				
63		survey stand	Tue 6/14/11	Wed 6/15/11	SOC			N
64		grout stand	Mon 6/20/11	Tue 6/21/11	SOC			
65		set up time	Wed 6/22/11	Thu 6/23/11	SOC			
66		install calorimeter	Mon 6/27/11	Wed 6/29/11				
67		connect beam line	Thu 6/30/11	Thu 6/30/11				
68		pump down beam line	Fri 7/1/11	Tue 7/5/11				
69		leak check beam line	Tue 7/5/11	Tue 7/5/11	SOC			
70		connect motion and cooling lines	Wed 7/6/11	Wed 7/6/11				
71		survey calorimeter	Thu 7/7/11	Thu 7/7/11	SOC			N
72		install controls	Fri 7/8/11	Mon 7/11/11				
73		ops check	Tue 7/12/11	Tue 7/12/11	SOC			
74		software checkout and ops check	Mon 8/29/11	Fri 8/12/11				
75								
76		**remove dual quads & short girder**	**Thu 7/7/11**	**Wed 8/10/11 XXXXXX**				
77		Radcon support	Thu 7/7/11	Thu 7/7/11				
78		disconnect water and power on dual quad assembly	Thu 7/7/11	Thu 7/7/11	SOC			
79		bleed up vacuum	Fri 7/8/11	Fri 7/8/11	SOC			
80		disconnect vacuum lines	Mon 7/11/11	Tue 7/12/11	SOC			
81		remove quad girder	Wed 7/13/11	Wed 7/13/11				
82		remove lead from 3 inch beam line	Thu 7/14/11	Thu 7/14/11				
83		install new 3 inch beam line	Fri 7/15/11	Fri 7/15/11				
84	!	install beam line and corrector support girder	Mon 7/18/11	Mon 7/18/11	SOC			
85		install controls and power cabling	Tue 7/19/11	Fri 7/22/11				
86		install BLM	Mon 7/25/11	Mon 7/25/11	SOC			
87		install controls	Tue 7/26/11	Wed 7/27/11				
88		connect beam line	Thu 7/28/11	Thu 7/28/11				
89		install vacuum pump and controls	Fri 7/29/11	Tue 8/2/11				
90		pump down and leak check girder	Wed 8/3/11	Thu 8/4/11				
91	!	survey beam line	Fri 8/5/11	Fri 8/5/11				N
92		reinstall lead removed for 3 inch beam pipe	Wed 8/10/11	Wed 8/10/11				
93		ops check	Mon 8/8/11	Tue 8/9/11	SOC			
94								
95	✓	**remove girder**	**Mon 5/23/11**	**Thu 6/2/11 XXXXXX**				
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105		**install FZ magnets**	**Mon 6/6/11**	**Fri 11/4/11 XXXXXX**				
106		survey holes for stands	Mon 6/6/11	Tue 6/7/11	SOC			N
107		Drill holes	Wed 6/8/11	Thu 6/9/11	SOC			
108		mount stands	Mon 7/11/11	Tue 7/12/11				
109		survey stands	Wed 7/13/11	Thu 7/14/11	SOC			N
110		grout stands	Fri 7/15/11	Mon 7/18/11	SOC			
111		grout set up time	Tue 7/19/11	Wed 7/20/11	SOC			
112	✓	install cable tray	Wed 8/3/11	Fri 8/5/11				N
113	✓	run magnet power cables	Mon 8/8/11	Tue 8/9/11				N
114	✓	run instrumentation cables	Wed 8/10/11	Thu 8/11/11				
115	✓	connect AC power to power supplies	Fri 8/12/11	Mon 8/15/11	SOC			
116	✓	install FZ magnets	Tue 8/16/11	Mon 8/29/11				
117	✓	survey FZ magnets	Tue 8/30/11	Fri 9/2/11				N
118		install and connect DC power to magnets	Tue 9/6/11	Tue 9/6/11				
119		ops check magnets	Wed 9/7/11	Tue 9/13/11				
120		install FZ beam line supports	Wed 9/14/11	Fri 9/16/11				
121		install beam lines and beam diagnostics	Mon 9/19/11	Fri 9/23/11	SOC			
122		install vacuum system	Mon 9/26/11	Fri 9/30/11	SOC			
123	✓	reposition all metal valve	Mon 10/3/11	Mon 10/3/11	SOC			
124		install instrumentation	Tue 10/4/11	Fri 10/7/11	SOC			
125		pump down beam line	Mon 10/10/11	Tue 10/11/11	SOC			
126		leak check beam lines	Wed 10/12/11	Thu 10/13/11	SOC			
127	!	survey beam lines	Fri 10/14/11	Fri 10/14/11	SOC			N
128		ops check	Wed 10/19/11	Fri 10/21/11	SOC			
129	!	software checkout and ops check	Mon 10/31/11	Fri 11/4/11				
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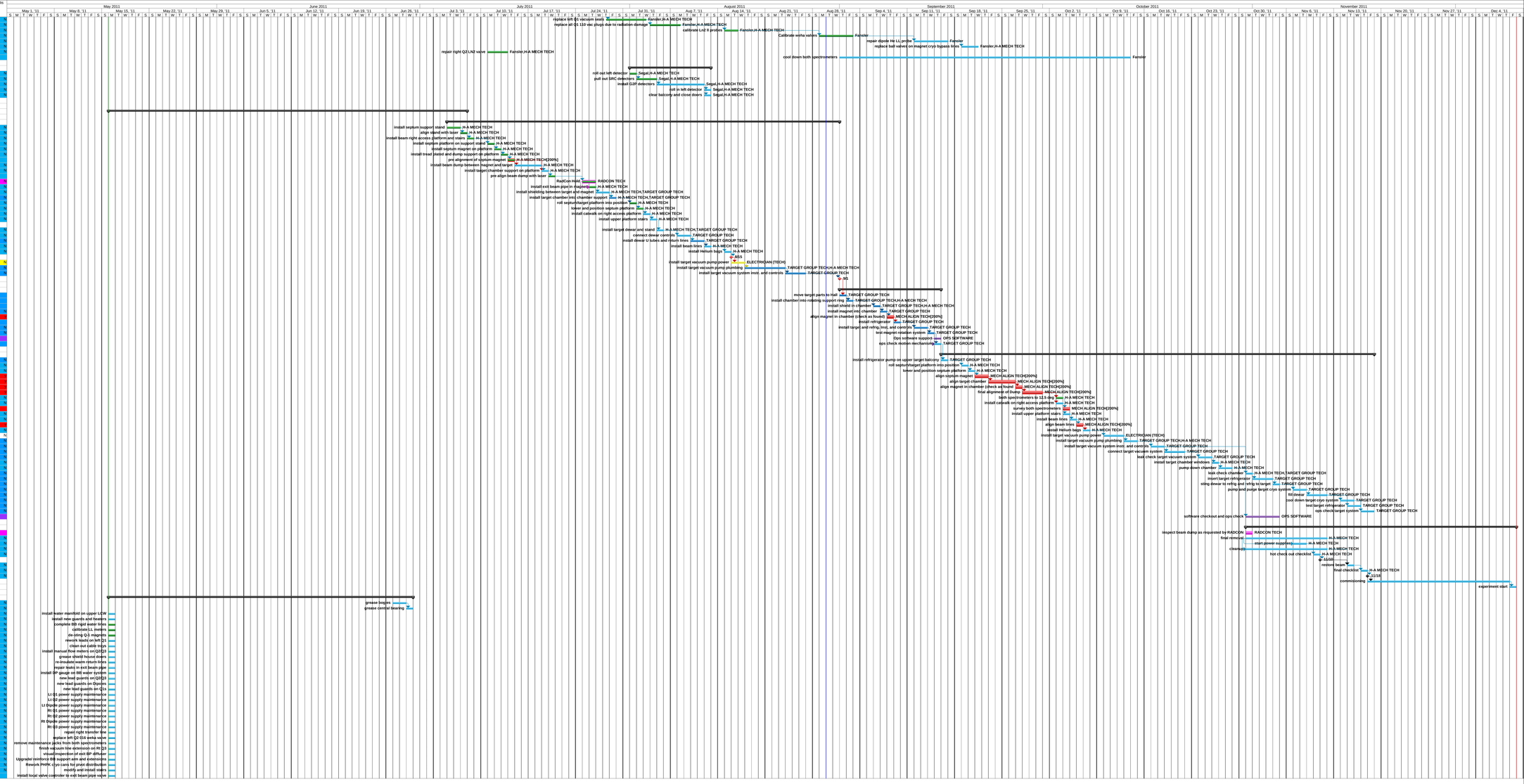
211		**target / septa prep work**	**Mon 5/16/11**	**Mon 5/16/11 XXXXXX**				
212								
213		**cryo work**	**Mon 5/16/11**	**Thu 10/13/11 XXXXXX**				
214		warm up both spectrometers	Mon 5/16/11	Fri 5/27/11	SOC			N
215		pump all magnets	Tue 5/31/11	Mon 6/6/11	SOC			N
216		pump all cryo lines	Mon 6/13/11	Fri 6/17/11	2	A-08-028-T	1	N
217		replace Q1 J7 valve heads with JLab valves	Mon 6/27/11	Fri 7/15/11	SOC			N
218		replace dipole LN2 probes	Mon 7/18/11	Mon 7/18/11	SOC			N
219		replace magnet pressure gauges	Tue 7/19/11	Thu 7/21/11	SOC			N
220		repair left Q1 leads	Thu 7/21/11	Thu 7/28/11	SOC			N

This schedule is managed by Ed Folts Ph # 7857 Tue 8/30/11

ID	Task Name	Start	Finish	Risk code pre TRA	Task Hazard Analysis	Risk code post TRA	Abs
224	replace left Q1 vacuum seals	Thu 7/28/11	Wed 8/3/11	SOC			N
225	replace all Q1 110 vac plugs due to radiation damage	Thu 8/4/11	Mon 8/8/11	SOC			N
226	calibrate LN2 8 probes	Mon 8/15/11	Tue 8/16/11	2	A-08-028-T	1	N
227	Calibrate weha valves	Mon 8/29/11	Fri 8/31/11	2	A-08-028-T	1	N
228	repair dipole He LL probe	Mon 9/12/11	Fri 9/16/11	SOC			N
229	replace ball valves on magnet cryo bypass lines	Mon 9/19/11	Wed 9/21/11	2	A-08-028-T	1	N
230	repair right Q2 LN2 valve	Mon 7/11/11	Wed 7/13/11	2	A-08-028-T	1	N
231	cool down both spectrometers	Thu 8/11/11	Thu 10/13/11				
232							
233	**Detector work**	**Mon 8/1/11**	**Fri 8/12/11**	**XXXXXX**			
234	roll out left detector	Mon 8/1/11	Mon 8/1/11	SOC			N
235	pull out SRC detectors	Tue 8/2/11	Thu 8/4/11	3	A-08-017-T	1	N
236	install G2P detectors	Fri 8/5/11	Thu 8/11/11	3	A-08-017-T	1	N
237	roll in left detector	Fri 8/12/11	Fri 8/12/11	SOC			N
238	clear balcony and close doors	Fri 8/12/11	Fri 8/12/11	SOC			N
239							
240							
241	**remove target**	**Mon 5/16/11**	**Thu 7/7/11**	**XXXXXX**			
281							
282	**install septum and target**	**Tue 7/5/11**	**Thu 9/1/11**	**XXXXXX**			
283	install septum support stand	Tue 7/5/11	Wed 7/6/11	3	A-08-017-T	1	N
284	align stand with laser	Thu 7/7/11	Thu 7/7/11	SOC		1	N
285	install beam right access platform and stairs	Fri 7/8/11	Fri 7/8/11	3	A-08-017-T	1	N
286	install septum platform on support stand	Mon 7/11/11	Mon 7/11/11	3	A-08-017-T	1	N
287	install septum magnet on platform	Tue 7/12/11	Tue 7/12/11	3	A-08-017-T	1	N
288	install tread plated and dump support on platform	Wed 7/13/11	Wed 7/13/11	3	A-08-017-T	1	N
289	pre alignment of septum magnet	Thu 7/14/11	Thu 7/14/11	SOC			N
290	install beam dump between magnet and target	Fri 7/15/11	Mon 7/18/11	3	A-08-017-T	1	N
291	install target chamber support on platform	Tue 7/19/11	Tue 7/19/11	3	A-08-017-T	1	N
292	pre align beam dump with laser	Wed 7/20/11	Wed 7/20/11	SOC			N
293	RadCon Hold	Mon 7/25/11	Tue 7/26/11	SOC			
294	install exit beam pipe in magnet	Tue 7/26/11	Tue 7/26/11	SOC			N
295	install shielding between target and magnet	Wed 7/27/11	Thu 7/28/11				N
296	install target chamber into chamber support	Fri 7/29/11	Fri 7/29/11	3	A-08-017-T	1	N
297	roll septum/target platform into position	Mon 8/1/11	Mon 8/1/11	SOC			N
298	lower and position septum platform	Tue 8/2/11	Tue 8/2/11	SOC			N
299	install catwalk on right access platform	Wed 8/3/11	Wed 8/3/11	3	A-08-017-T	1	N
300	install upper platform stairs	Thu 8/4/11	Thu 8/4/11	3	A-08-017-T	1	N
301							
302	install target dewar and stand	Fri 8/5/11	Fri 8/5/11	3	A-08-017-T	1	N
303	connect dewar controls	Mon 8/8/11	Tue 8/9/11	SOC			N
304	install dewar U tubes and return lines	Wed 8/10/11	Thu 8/11/11	3	A-08-017-T	1	N
305	install beam lines	Fri 8/12/11	Fri 8/12/11	SOC			N
306	install Helium bags	Mon 8/15/11	Mon 8/15/11	SOC			N
307	delivery date for target upper platform	Mon 8/15/11	Mon 8/15/11				
308	install target vacuum pump power	Tue 8/16/11	Wed 8/17/11				N
309	install target vacuum pump plumbing	Thu 8/18/11	Tue 8/23/11	3	A-08-017-T	1	N
310	install target vacuum system instr. and controls	Wed 8/24/11	Fri 8/26/11	SOC			N
311	**milestone for moving magnet to the Hall**	Thu 9/1/11	Thu 9/1/11				
312							
313	**re-assemble target assembly in Hall**	**Thu 9/1/11**	**Thu 9/15/11**				
314	move target parts to Hall	Thu 9/1/11	Thu 9/1/11	3	A-08-017-T	1	
315	install chamber into rotating support ring	Fri 9/2/11	Fri 9/2/11	3	A-08-017-T	1	
316	install shield in chamber	Tue 9/6/11	Tue 9/6/11	3	A-08-017-T	1	
317	install magnet into chamber	Wed 9/7/11	Wed 9/7/11	3	A-08-017-T	1	N
318	align magnet in chamber (check as found)	Thu 9/8/11	Thu 9/8/11	SOC			N
319	install refrigerator	Fri 9/9/11	Fri 9/9/11	SOC			N
320	install target and refrig. Inst. and controls	Mon 9/12/11	Tue 9/13/11	SOC			N
321	test magnet rotation system	Wed 9/14/11	Wed 9/14/11	SOC			N
322	Ops software support	Thu 9/15/11	Thu 9/15/11	OPS			
323	test check motion mechanism	Thu 9/15/11	Thu 9/15/11	SOC			
324							
325	**install target assembly on pivot**	**Fri 9/16/11**	**Fri 11/18/11**				
326	install refrigerator pump on upper target balcony	Fri 9/16/11	Fri 9/16/11	3	A-08-017-T	1	N
327	roll septum/target platform into position	Mon 9/19/11	Mon 9/19/11	SOC			N
328	lower and position septum platform	Tue 9/20/11	Tue 9/20/11	SOC			N
329	align septum magnet	Wed 9/21/11	Thu 9/22/11	SOC			N
330	align target chamber	Fri 9/23/11	Mon 9/26/11	SOC			N
331	align magnet in chamber (check as found	Tue 9/27/11	Tue 9/27/11	SOC			N
332	final alignment of Dump	Wed 9/28/11	Fri 9/30/11	SOC			N
333	both spectrometers to 12.5 deg	Mon 10/3/11	Mon 10/3/11	SOC			N
334	install catwalk on right access platform	Mon 10/3/11	Mon 10/3/11	3	A-08-017-T	1	N
335	survey both spectrometers	Tue 10/4/11	Tue 10/4/11	SOC			N
336	install upper platform stairs	Tue 10/4/11	Tue 10/4/11	3	A-08-017-T	1	N
337	install beam lines	Wed 10/5/11	Wed 10/5/11	SOC			N
338	align beam lines	Thu 10/6/11	Thu 10/6/11	SOC			N
339	install Helium bags	Fri 10/7/11	Fri 10/7/11	SOC			N
340	install target vacuum pump power	Mon 10/10/11	Wed 10/12/11				N
341	install target vacuum pump plumbing	Thu 10/13/11	Fri 10/14/11	3	A-08-017-T	1	N
342	install target vacuum system instr. and controls	Mon 10/17/11	Tue 10/18/11	SOC			N
343	connect target vacuum system	Wed 10/19/11	Fri 10/21/11				
344	leak check target vacuum system	Mon 10/24/11	Tue 10/25/11	SOC			N
345	install target chamber windows	Wed 10/26/11	Wed 10/26/11	SOC			N
346	pump down chamber	Thu 10/27/11	Fri 10/28/11	SOC			N
347	leak check chamber	Mon 10/31/11	Mon 10/31/11	SOC			N
348	insert target refrigerator	Tue 11/1/11	Thu 11/3/11	3	A-08-017-T	1	N
349	sting dewar to refrig and refrig to target	Fri 11/4/11	Fri 11/4/11	SOC			N
350	pump and purge target cryo system	Mon 11/7/11	Tue 11/8/11	SOC			N
351	fill dewar	Wed 11/9/11	Fri 11/11/11	SOC			N
352	cool down target cryo system	Mon 11/14/11	Tue 11/15/11	SOC			N
353	test target refrigerator	Tue 11/15/11	Wed 11/16/11	SOC			N
354	ops check target system	Thu 11/17/11	Fri 11/18/11	SOC			N
355	software checkout and ops check	Mon 10/31/11	Fri 11/18/11	OPS			
356							
357	**end stuff**	**Mon 10/31/11**	**Fri 12/9/11**	**XXXXXX**			
358	inspect beam dump as requested by RADCON	Mon 10/31/11	Mon 10/31/11	SOC			
359	final removal	Mon 10/31/11	Fri 11/11/11	SOC			N
360	start power supplies	Mon 11/7/11	Tue 11/8/11	SOC			N
361	cleanup	Mon 10/31/11	Fri 11/11/11	SOC			N
362	hot check out checklist	Thu 11/10/11	Thu 11/10/11	SOC			N
363	hot checkout	Thu 11/10/11	Thu 11/10/11				
364	restore beam	Tue 11/15/11	Tue 11/15/11	SOC			N
365	final checklist	Thu 11/17/11	Thu 11/17/11	SOC			N
366	begin commissioning	Fri 11/18/11	Fri 11/18/11	OPS			N
367	commissioning	Fri 11/18/11	Thu 12/8/11				
368	experiment start	Fri 12/9/11	Fri 12/9/11				
369							
370	**stuff to do**	**Mon 5/16/11**	**Wed 6/29/11**	**XXXXXX**			
371	grease bogies	Mon 6/27/11	Tue 6/28/11	SOC			N
372	grease central bearing	Wed 6/29/11	Wed 6/29/11	SOC			N
373	install water manifold on upper LCW	Mon 5/16/11	Mon 5/16/11				N
374	install new guards and heaters	Mon 5/16/11	Mon 5/16/11				N
375	complete BB rigid water lines	Mon 5/16/11	Mon 5/16/11				N
376	calibrate LL meters	Mon 5/16/11	Mon 5/16/11				N
377	de-sting Q-3 magnets	Mon 5/16/11	Mon 5/16/11				N
378	rework leads on left Q1	Mon 5/16/11	Mon 5/16/11				N
379	clean out cable trays	Mon 5/16/11	Mon 5/16/11	SOC			N
380	install manual flow meters on Q2/Q3	Mon 5/16/11	Mon 5/16/11	SOC			N
381	grease shield house doors	Mon 5/16/11	Mon 5/16/11				N
382	re-insulate warm return lines	Mon 5/16/11	Mon 5/16/11				N
383	repair leaks in exit beam pipe	Mon 5/16/11	Mon 5/16/11				N
384	install DP gauge on BB water system	Mon 5/16/11	Mon 5/16/11				N
385	new lead guards on Q2/Q3	Mon 5/16/11	Mon 5/16/11	SOC			N
386	new lead guards on Dipoles	Mon 5/16/11	Mon 5/16/11	SOC			N
387	new lead guards on Q1s	Mon 5/16/11	Mon 5/16/11	SOC			N
388	Lt Q1 power supply maintenance	Mon 5/16/11	Mon 5/16/11				N
389	Lt Q2 power supply maintenance	Mon 5/16/11	Mon 5/16/11				N
390	Lt Dipole power supply maintenance	Mon 5/16/11	Mon 5/16/11				N
391	Rt Q1 power supply maintenance	Mon 5/16/11	Mon 5/16/11				N
392	Rt Q2 power supply maintenance	Mon 5/16/11	Mon 5/16/11				N
393	Rt Dipole power supply maintenance	Mon 5/16/11	Mon 5/16/11				N
394	Rt Q3 power supply maintenance	Mon 5/16/11	Mon 5/16/11				N
395	repair right transfer line	Mon 5/16/11	Mon 5/16/11				N
396	replace left Q2 S16 weka valve	Mon 5/16/11	Mon 5/16/11				N
397	remove maintenance jacks from both spectrometers	Mon 5/16/11	Mon 5/16/11				N
398	finish vacuum line extension on Rt Q3	Mon 5/16/11	Mon 5/16/11				N
399	visual inspection of exit BP diffuser	Mon 5/16/11	Mon 5/16/11				N
400	Upgrade/ reinforce BB support arm and extensions	Mon 5/16/11	Mon 5/16/11				N
401	Rework PHPK cryo cans for pivot distribution	Mon 5/16/11	Mon 5/16/11				N
402	modify and install stairs	Mon 5/16/11	Mon 5/16/11				N
403	install local valve controller to exit beam pipe valve	Mon 5/16/11	Mon 5/16/11				



This schedule is managed by Ed Folts Ph # 7857 Tue 8/30/11