

# **TOST (Wrap-up/Delivery) of 069TI (T44 ORS)**

**Segment Boundaries**  
**Start: 2008-148T04:43:00**  
**End: 2008-150T21:12:00**

**Titan C/A= 2008-149T08:33:21 @ 1316 km;**

**Epoch = GMB\_E069\_Titan44**

**Sequence S40**

**January 16, 2004**

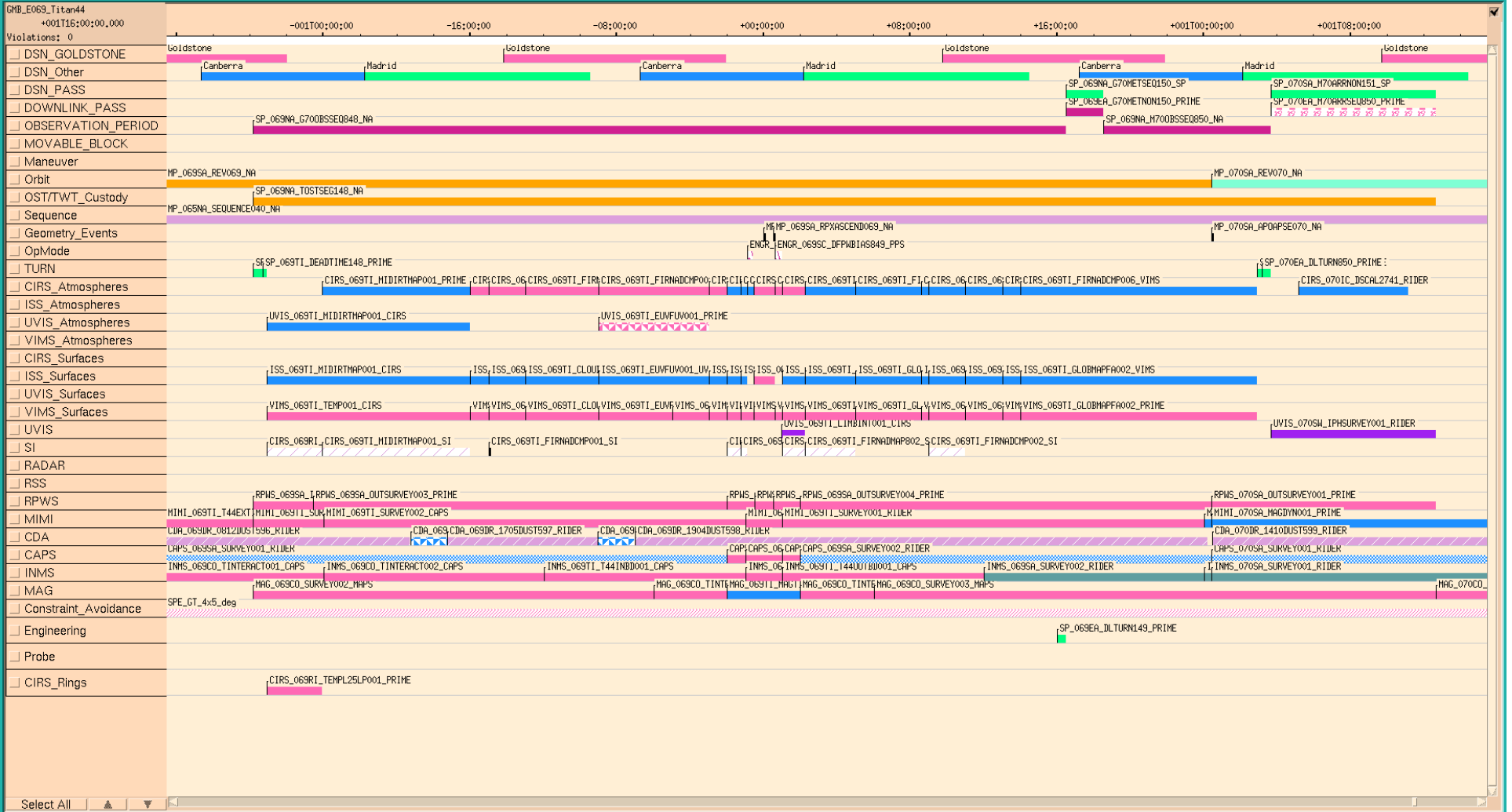
Doug Equils

Scott Bolton, Candy Hansen, Trina Ray, Dave Mohr, Jerod Gross, and Amanda Hendrix

## C/A= 2008-149T08:33:21 @ 1316 km; Unilluminated Approach

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
148T04:43	148T05:13	SP Turn to waypoint		DFPW Normal	S_N_ER_3	NEG_Y to Titan, POS_X to NTP
148T05:13	120T05:29	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-1T03:05	-1T00:05	CIRS-Rings Observation	Rings	DFPW Normal	S_N_ER_3	
-1T00:05	-16:00	CIRS	Mid-IR Temp Map	DFPW Normal	S_N_ER_3	Template M (modified)
-16:00	-15:00	ISS		DFPW Normal	S_N_ER_3	Template M
-15:00	-13:00	CIRS		DFPW Normal	S_N_ER_3	Template M
-13:00	-09:00	VIMS	Cloud Map	DFPW Normal	S_N_ER_3	Template O
-09:00	-05:00	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	Template P
-05:00	-03:00	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	Template U
-03:00	-02:00	ISS		DFPW Normal	S_N_ER_3	Template U
-02:00		BEGIN CUSTOM PERIOD			S_N_ER_3	
-02:00	-00:55	CIRS	Far IR Limb (INT)	DFPW Normal	S_N_ER_3	
-00:55	-0:34	Transition to Thrusters	Deadband 0.5, 20, 0.5	ORS(RCS)	S_N_ER_3	Disable SRU
-0:34	+00:37	ISS	NAC	ORS(RCS)	S_N_ER_3	
+00:37	+01:00	Transition to Wheels		DFPW Normal	S_N_ER_3	Enable SRU
+1:00	+02:00	CIRS	Far IR Limb	DFPW Normal	S_N_ER_3	
+2:00		END CUSTOM PERIOD			S_N_ER_3	
+02:00	+05:00	CIRS		DFPW Normal	S_N_ER_3	Template E
+05:00	+08:36	ISS	Global Map	DFPW Normal	S_N_ER_3	Template H
+08:36	+09:00	ISS	WAC Photom	DFPW Normal	S_N_ER_3	Template H
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Regional Map	DFPW Normal	S_N_ER_3	Template D
+14:00	+16:00	VIMS	Global Map	DFPW Normal	S_N_ER_3	Template B (modified)
+16:00	+16:30	SP Turn to Earth for				
+16:30	+18:30	Goldstone 70m		DFPW Normal	RTE_N_SPB	
+18:30	+1T02:53	VIMS	Global Map	DFPW Normal	S_N_ER_3	Template B (modified)
150T11:27	150T11:42	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
150T11:42	150T12:12	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
150T12:12	150T21:12	Madrid 70-m Array		DFPW Normal	RTE_N_SPB	

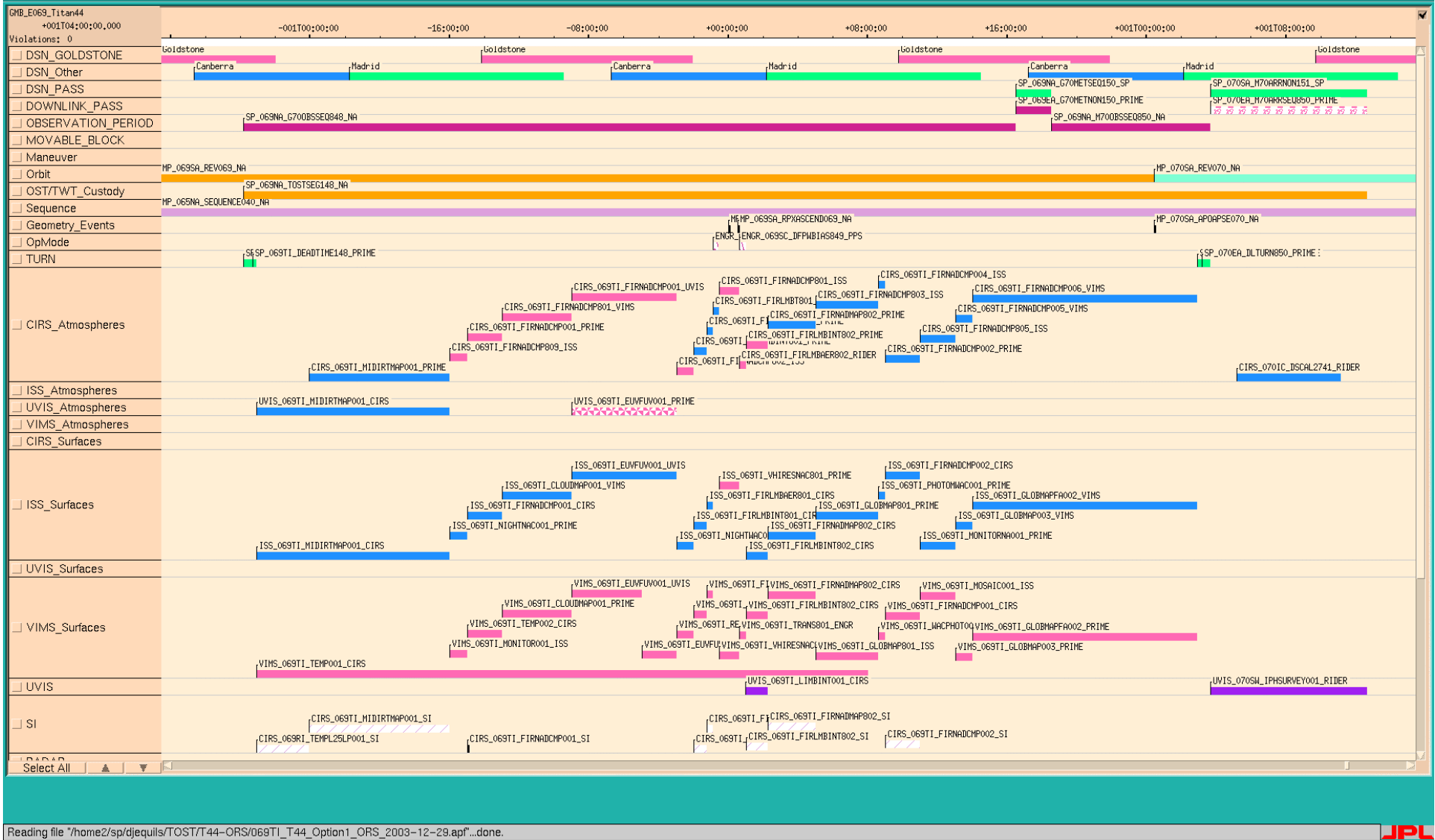
# 069TI (Titan-44 Flyby) Apgen -



Reading file "home2/sp/djequils/TOST/T44-ORS/069TI\_T44\_Option1\_ORS\_2003-12-29.apf"...done.

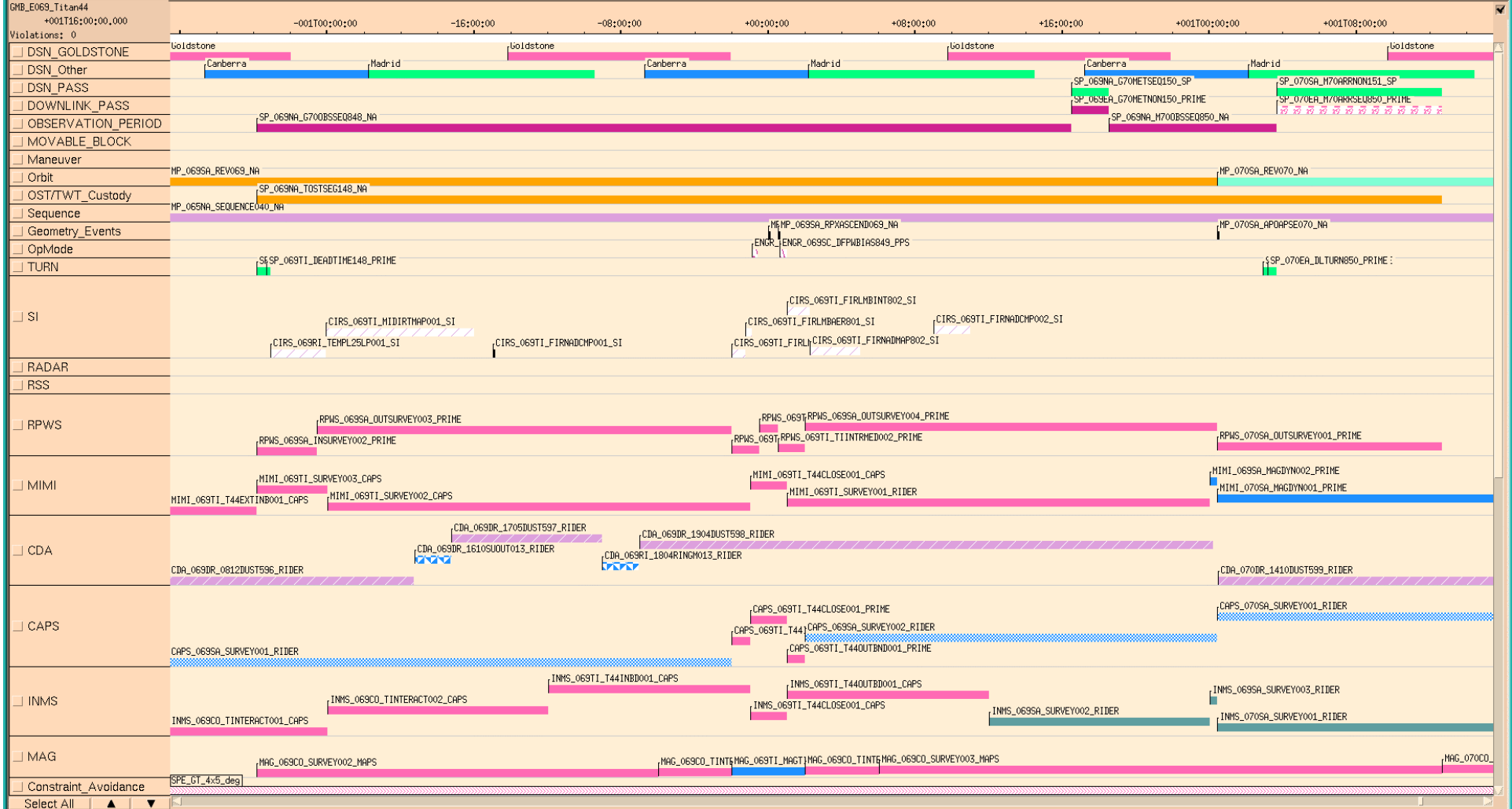


# 069TI (Titan-44 Flyby) Apgen - ORS



File Edit Activity Resource Constraints Scheduling Act Display Re Display Help

# 069TI (Titan-44 Flyby) Apgen – MAPS



Reading file "home2/sp/djequils/TOST/T44-ORS/069TI\_T44\_Option1\_ORS\_2003-12-29.apf"...done.





# TOL (All CIMS) Sorted by Team (1 of 3)1/13

069TI (T44 ORS)

Request	Start Time	Epoch Relative Start Time	Duration	EndTime	Effective	Data Volt	SPASS Type	Primary Pointing	Secondary Pointing	Agreement
CAPS_069SA_SURVEY001_RIDER	2008-142T23:24:13	E069_Apo+000T00:00:00	005T05:18:47	2008-148T04:43:00	1000	451.127	Non-SPASS			
CAPS_069SA_SURVEY003_RIDER	2008-148T04:43:00		001T02:05:21	2008-149T06:48:21	700	65.745	Non-SPASS			
CAPS_069TI_T44INBDN001_PRIME	2008-149T06:48:21	GMB_E069_Titan44-000T01:45:00	000T01:00:00	2008-149T07:48:21	4000	14.4	SPASS Rider			
CAPS_069TI_T44CLOSE001_PRIME	2008-149T07:48:21	GMB_E069_Titan44-001T00:45:00	000T01:30:00	2008-149T09:18:21	16000	86.4	SPASS Rider			
CAPS_069TI_T44OUTBND001_PRIME	2008-149T09:18:21	GMB_E069_Titan44+000T00:45:00	000T01:00:00	2008-149T10:18:21	4000	14.4	SPASS Rider			
CAPS_069SA_SURVEY002_RIDER	2008-149T10:18:21	GMB_E069_Titan44+000T01:45:00	000T14:44:39	2008-150T01:03:00	700	37.155	Non-SPASS			
CAPS_069SA_SURVEY004_RIDER	2008-150T01:03:00		000T07:55:03	2008-150T08:58:03	1000	28.503	Non-SPASS			
CAPS_070SA_SURVEY001_RIDER	2008-150T08:58:03	E070_Apo+000T00:00:00	001T19:28:57	2008-152T04:27:00	1000	156.537	Non-SPASS			
CDA_069DR_0812DUST596_RIDER	2008-147T11:40:50		001T01:35:37	2008-148T13:16:27	199.6	18.395	Non-SPASS			
CDA_069DR_1610SUOUTD13_RIDER	2008-148T13:17:28		000T02:00:00	2008-148T15:17:28	199.6	1.437	Non-SPASS			
CDA_069DR_1705DUST597_RIDER	2008-148T15:18:25		000T08:10:46	2008-148T23:29:11	199.6	5.879	Non-SPASS			
CDA_069RI_1804RINGM013_RIDER	2008-148T23:30:14		000T02:00:00	2008-149T01:30:14	524	3.773	Non-SPASS			
CDA_069DR_1904DUST598_RIDER	2008-149T01:31:17		001T07:13:42	2008-150T08:44:59	149.9	16.848	Non-SPASS			
CDA_070DR_1410DUST599_RIDER	2008-150T09:00:00		001T19:27:00	2008-152T04:27:00	199.6	31.228	Non-SPASS			
CIRS_069IC_DSCAL2740_RIDER	2008-147T21:43:00		000T06:00:00	2008-148T03:43:00	4000	86.4	SPASS Rider			
CIRS_069RI_TEMPL25LP001_PRIME	2008-148T05:28:21	GMB_E069_Titan44-001T03:05:00	000T03:00:00	2008-148T08:28:21	4000	43.2	Prime	CIRS_FP1 to Rings	POS_Z to NSP	
CIRS_069RI_TEMPL25LP001_SI	2008-148T05:28:21	GMB_E069_Titan44-001T03:05:00	000T03:00:00	2008-148T08:28:21	0	3	SPASS Rider			
CIRS_069TI_MIDIRTMAP001_PRIME	2008-148T08:28:21	GMB_E069_Titan44-001T00:05:00	000T08:05:00	2008-148T16:33:21	2000	58.2	Prime	CIRS_FPB to Titan	POS_X to Titan	
CIRS_069TI_MIDIRTMAP001_SI	2008-148T08:28:21	GMB_E069_Titan44-001T00:05:00	000T08:05:00	2008-148T16:33:21	0	8	SPASS Rider			
CIRS_069TI_FIRNADCMP009_ISS	2008-148T16:33:21	GMB_E069_Titan44-000T16:00:00	000T01:00:00	2008-148T17:33:21	4000	14.4	SPASS Rider			
CIRS_069TI_FIRNADCMP001_PRIME	2008-148T17:33:21	GMB_E069_Titan44-000T15:00:00	000T02:00:00	2008-148T19:33:21	4000	28.8	Prime	CIRS_FP1 to Titan	PIC	
CIRS_069TI_FIRNADCMP001_SI	2008-148T17:33:21		000T00:02:00	2008-148T17:35:21	0	2	SPASS Rider			
CIRS_069TI_FIRNADCMP001_VIMS	2008-148T19:33:21	GMB_E069_Titan44-000T13:00:00	000T04:00:00	2008-148T23:33:21	4000	57.6	SPASS Rider			
CIRS_069TI_FIRNADCMP001_UVIS	2008-148T23:33:21	GMB_E069_Titan44-000T09:00:00	000T06:00:00	2008-149T05:33:21	2000	43.2	SPASS Rider			
CIRS_069TI_FIRNADCMP002_ISS	2008-149T05:33:21	GMB_E069_Titan44-000T03:00:00	000T01:00:00	2008-149T06:33:21	4000	14.4	SPASS Rider			
CIRS_069TI_FIRLMBINT801_PRIME	2008-149T06:33:21	GMB_E069_Titan44-000T02:00:00	000T00:45:00	2008-149T07:18:21	4000	10.8	Prime	CIRS_FP1 to Titan	PIC	
CIRS_069TI_FIRLMBINT801_SI	2008-149T06:33:21		000T00:45:00	2008-149T07:18:21	0	1	SPASS Rider			
CIRS_069TI_FIRLMBIAER801_PRIME	2008-149T07:18:21	GMB_E069_Titan44-000T01:15:00	000T00:20:00	2008-149T07:38:21	4000	4.8	Prime	CIRS_FP1 to Titan	PIC	
CIRS_069TI_FIRLMBIAER801_SI	2008-149T07:18:21	GMB_E069_Titan44-000T01:15:00	000T00:20:00	2008-149T07:38:21	0	1	SPASS Rider			
CIRS_069TI_FIRLMBT801_RIDER	2008-149T07:38:21	GMB_E069_Titan44-000T00:55:00	000T00:21:00	2008-149T07:59:21	4000	5.04	SPASS Rider			
CIRS_069TI_FIRNADCMP001_ISS	2008-149T07:59:21	GMB_E069_Titan44-000T00:34:00	000T01:11:00	2008-149T09:10:21	4000	17.04	SPASS Rider			
CIRS_069TI_FIRLMBIAER802_RIDER	2008-149T09:10:21	GMB_E069_Titan44+000T00:37:00	000T00:23:00	2008-149T09:33:21	4000	5.52	SPASS Rider			
CIRS_069TI_FIRLMBINT802_PRIME	2008-149T09:33:21	GMB_E069_Titan44+000T01:00:00	000T01:15:00	2008-149T10:48:21	4000	18	Prime	CIRS_FP1 to Titan	PIC	
CIRS_069TI_FIRLMBINT802_SI	2008-149T09:33:21	GMB_E069_Titan44+000T01:00:00	000T01:15:00	2008-149T10:48:21	0	2	SPASS Rider			
CIRS_069TI_FIRNADMAP802_PRIME	2008-149T10:48:21	GMB_E069_Titan44+000T02:15:00	000T02:45:00	2008-149T13:33:21	4000	39.6	Prime	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_069TI_FIRNADMAP802_SI	2008-149T10:48:21	GMB_E069_Titan44+000T02:15:00	000T02:45:00	2008-149T13:33:21	0	3	SPASS Rider			
CIRS_069TI_FIRNADCMP003_ISS	2008-149T13:33:21	GMB_E069_Titan44+000T05:00:00	000T03:36:00	2008-149T17:09:21	4000	51.84	SPASS Rider			
CIRS_069TI_FIRNADCMP004_ISS	2008-149T17:09:21	GMB_E069_Titan44+000T08:36:00	000T00:24:00	2008-149T17:33:21	2000	2.88	SPASS Rider			
CIRS_069TI_FIRNADCMP002_PRIME	2008-149T17:33:21	GMB_E069_Titan44+000T09:00:00	000T02:00:00	2008-149T19:33:21	4000	28.8	Prime	CIRS_FP1 to Titan	PIC	
CIRS_069TI_FIRNADCMP002_SI	2008-149T17:33:21		000T02:00:00	2008-149T19:33:21	0	2	SPASS Rider			
CIRS_069TI_FIRNADCMP005_ISS	2008-149T19:33:21	GMB_E069_Titan44+000T11:00:00	000T02:00:00	2008-149T21:33:21	4000	28.8	SPASS Rider			
CIRS_069TI_FIRNADCMP005_VIMS	2008-149T21:33:21	GMB_E069_Titan44+000T13:00:00	000T01:00:00	2008-149T22:33:21	2000	7.2	SPASS Rider			
CIRS_069TI_FIRNADCMP006_VIMS	2008-149T22:33:21	GMB_E069_Titan44+000T14:00:00	000T12:53:00	2008-150T11:26:21	2000	92.76	SPASS Rider			
CIRS_070IC_DSCAL2741_RIDER	2008-150T13:42:00		000T06:00:00	2008-150T19:42:00	4000	86.4	SPASS Rider			
ENGR_069SC_DFPW148_PPS	2008-148T04:43:00		000T00:00:47	2008-148T04:43:47	0	0	Non-SPASS			
ENGR_069SC_ORSRCS849_PPS	2008-149T07:38:21	GMB_E069_Titan44-000T00:55:00	000T00:20:49	2008-149T07:59:10	0	0	Prime			Deadband = (0.5, 20, 0.5)
ENGR_069SC_DFPWBIAS849_PPS	2008-149T09:10:21	GMB_E069_Titan44+000T00:37:00	000T00:22:42	2008-149T09:33:03	0	0	Prime			



# TOL (All CIMS) Sorted by Team (2 of 3) 069TI (T44 ORS)

INMS_069CO_TINTERACT001_CAPS	2008-147T00:40:00		001T07:53:00	2008-148T08:33:00	100	11.478	Non-SPASS		
INMS_069CO_TINTERACT002_CAPS	2008-148T08:33:00		000T12:00:21	2008-148T20:33:21	100	4.322	Non-SPASS		
INMS_069TI_T44INBD001_CAPS	2008-148T20:33:21		000T11:00:00	2008-149T07:33:21	100	3.96	Non-SPASS		
INMS_069TI_T44CLOSE001_CAPS	2008-149T07:33:21	GMB_E069_Titan44-000T01:00:00	000T02:00:00	2008-149T09:33:21	1498	10.786	Non-SPASS		
INMS_069TI_T44OUTBD001_CAPS	2008-149T09:33:21	GMB_E069_Titan44+000T01:00:00	000T11:00:00	2008-149T20:33:21	100	3.96	Non-SPASS		
INMS_069SA_SURVEY002_RIDER	2008-149T20:33:21	GMB_E069_Titan44+000T12:00:00	000T11:59:39	2008-150T08:33:00	50	2.159	Non-SPASS		
INMS_069SA_SURVEY003_RIDER	2008-150T08:33:00		000T00:25:03	2008-150T08:58:03	50	0.075	Non-SPASS		
INMS_070SA_SURVEY001_RIDER	2008-150T08:58:03	E070_Apo+000T00:00:00	001T19:28:57	2008-152T04:27:00	50	7.827	Non-SPASS		
ISS_069TI_MIDIRTMAP001_CIRS	2008-148T05:28:21	GMB_E069_Titan44-001T03:05:00	000T11:05:00	2008-148T16:33:21	0	5	SPASS Rider		
ISS_069TI_NIGHTNAC001_PRIME	2008-148T16:33:21	GMB_E069_Titan44-000T16:00:00	000T01:00:00	2008-148T17:33:21	0	20	Prime	ISS_NAC to Titan	NEG_X to Sun
ISS_069TI_FIRNADCMP001_CIRS	2008-148T17:33:21	GMB_E069_Titan44-000T15:00:00	000T02:00:00	2008-148T19:33:21	0	5	SPASS Rider		
ISS_069TI_CLOUDMAP001_VIMS	2008-148T19:33:21	GMB_E069_Titan44-000T13:00:00	000T04:00:00	2008-148T23:33:21	0	5	SPASS Rider		
ISS_069TI_EUVFUV001_UVIS	2008-148T23:33:21	GMB_E069_Titan44-000T09:00:00	000T06:00:00	2008-149T05:33:21	0	5	SPASS Rider		
ISS_069TI_NIGHTWAC001_PRIME	2008-149T05:33:21	GMB_E069_Titan44-000T03:00:00	000T01:00:00	2008-149T06:33:21	0	98	Prime	ISS_NAC to Titan	NEG_X to Sun
ISS_069TI_FIRLMBINT801_CIRS	2008-149T06:33:21	GMB_E069_Titan44-000T02:00:00	000T00:45:00	2008-149T07:18:21	0	20	SPASS Rider		
ISS_069TI_FIRLMBAR801_CIRS	2008-149T07:18:21	GMB_E069_Titan44-000T01:15:00	000T00:20:00	2008-149T07:38:21	0	20	SPASS Rider		
ISS_069TI_VHIRESNAC801_PRIME	2008-149T07:59:21	GMB_E069_Titan44-000T00:34:00	000T01:11:00	2008-149T09:10:21	0	150	Prime	ISS_NAC to Titan	NEG_X to Sun
ISS_069TI_FIRLMBINT802_CIRS	2008-149T09:33:21	GMB_E069_Titan44+000T01:00:00	000T01:15:00	2008-149T10:48:21	0	20	SPASS Rider		
ISS_069TI_FIRNADMAP802_CIRS	2008-149T10:48:21	GMB_E069_Titan44+000T02:15:00	000T02:45:00	2008-149T13:33:21	0	20	SPASS Rider		
ISS_069TI_GLOBMAP801_PRIME	2008-149T13:33:21	GMB_E069_Titan44+000T05:00:00	000T03:36:00	2008-149T17:09:21	0	262	Prime	ISS_NAC to Titan	NEG_X to Sun
ISS_069TI_PHOTOMWAC001_PRIME	2008-149T17:09:21	GMB_E069_Titan44+000T08:36:00	000T00:24:00	2008-149T17:33:21	0	30	Prime	ISS_NAC to Titan	NEG_X to Sun
ISS_069TI_FIRNADCMP002_CIRS	2008-149T17:33:21	GMB_E069_Titan44+000T09:00:00	000T02:00:00	2008-149T19:33:21	0	5	SPASS Rider		
ISS_069TI_MONITORNAD01_PRIME	2008-149T19:33:21	GMB_E069_Titan44+000T11:00:00	000T02:00:00	2008-149T21:33:21	0	260	Prime	ISS_NAC to Sun	NEG_X to Sun
ISS_069TI_GLOBMAP003_VIMS	2008-149T21:33:21	GMB_E069_Titan44+000T13:00:00	000T01:00:00	2008-149T22:33:21	0	10	SPASS Rider		
ISS_069TI_GLOBMAPFA002_VIMS	2008-149T22:33:21	GMB_E069_Titan44+000T14:00:00	000T02:30:00	2008-150T01:03:21	0	5	SPASS Rider		
MAG_069CO_SURVEY002_MAPS	2008-148T04:43:00		000T21:50:21	2008-149T02:33:21	600	47.173	Non-SPASS		
MAG_069CO_TINTERACT002_MAPS	2008-149T02:33:21		000T04:00:00	2008-149T06:33:21	1976	28.454	Non-SPASS		
MAG_069TI_MAGTITAN001_PRIME	2008-149T06:33:21	GMB_E069_Titan44-000T02:00:00	000T04:00:00	2008-149T10:33:21	1976	28.454	Non-SPASS		
MAG_069CO_TINTERACT003_MAPS	2008-149T10:33:21	GMB_E069_Titan44+000T02:00:00	000T04:00:00	2008-149T14:33:21	1976	28.454	Non-SPASS		
MAG_069CO_SURVEY003_MAPS	2008-149T14:33:21	GMB_E069_Titan44+000T06:00:00	001T06:38:39	2008-150T21:12:00	600	66.191	Non-SPASS		
MAG_070CO_TINTERACT001_MAPS	2008-150T21:12:00		001T05:53:04	2008-152T03:05:04	1976	212.586	Non-SPASS		
MIMI_069TI_T44EXTINB001_CAPS	2008-147T19:20:00		000T09:23:00	2008-148T04:43:00	2000	67.56	SPASS Rider		
MIMI_069TI_SURVEY003_CAPS	2008-148T04:43:00		000T03:50:00	2008-148T08:33:00	900	12.42	SPASS Rider		
MIMI_069TI_SURVEY002_CAPS	2008-148T08:33:01		000T23:01:00	2008-149T07:34:01	900	74.574	SPASS Rider		
MIMI_069TI_T44CLOSE001_CAPS	2008-149T07:33:21	GMB_E069_Titan44-000T01:00:00	000T02:00:00	2008-149T09:33:21	2000	14.4	SPASS Rider		
MIMI_069TI_SURVEY001_RIDER	2008-149T09:34:00		000T22:59:00	2008-150T08:33:00	900	74.466	Non-SPASS		
MIMI_069SA_MAGDYN002_PRIME	2008-150T08:33:00		000T00:25:53	2008-150T08:58:53	1200	1.864	SPASS Rider		
MIMI_070SA_MAGDYN001_PRIME	2008-150T08:58:53		000T21:43:07	2008-151T06:42:00	1200	93.824	SPASS Rider		
MP_065NA_SEQUENCE040_NA	2008-110T07:18:00	E065_SEQUENCE_040+000T00:00:00	041T21:09:00	2008-152T04:27:00	0	0	SPASS Note		
MP_069SA_REV069_NA	2008-142T23:24:13		007T09:33:49	2008-150T08:58:02	0	0	Non-SPASS		
MP_069TI_FLYBYT044_NA	2008-149T08:33:21		000T00:00:01	2008-149T08:33:22	0	0	Non-SPASS		
MP_069SA_RPXASCEND069_NA	2008-149T09:05:37		000T00:00:01	2008-149T09:05:38	0	0	Non-SPASS		
MP_070SA_APOAPSED70_NA	2008-150T08:58:03		000T00:00:01	2008-150T08:58:04	0	0	Non-SPASS		
MP_070SA_REV070_NA	2008-150T08:58:03		007T02:39:30	2008-157T11:37:33	0	0	Non-SPASS		



# TOL (All CIMS) Sorted by Team (3 of 3) 069TI (T44 ORS)

RPWS_069SA_INSURVEY002_PRIME	2008-148T04:43:00		000T03:17:00	2008-148T08:00:00	1310	15.484	Non-SPASS			
RPWS_069SA_OUTSURVEY003_PRIME	2008-148T08:00:00		000T22:33:21	2008-149T06:33:21	1310	106.374	Non-SPASS			
RPWS_069TI_TIINTRMED001_PRIME	2008-149T06:33:21	GMB_E069_Titan44-000T02:00:00	000T01:30:00	2008-149T08:03:21	3499.8	18.899	Non-SPASS			
RPWS_069TI_TICAB01_PRIME	2008-149T08:03:21	GMB_E069_Titan44-000T00:30:00	000T01:00:00	2008-149T09:03:21	60927.4	219.339	Non-SPASS			
RPWS_069TI_TIINTRMED002_PRIME	2008-149T09:03:21	GMB_E069_Titan44+000T00:30:00	000T01:30:00	2008-149T10:33:21	3499.8	18.899	Non-SPASS			
RPWS_069SA_OUTSURVEY004_PRIME	2008-149T10:33:21	GMB_E069_Titan44+000T02:00:00	000T22:24:42	2008-150T08:58:03	1310	105.694	Non-SPASS			
RPWS_070SA_OUTSURVEY001_PRIME	2008-150T08:58:03	E070_Apo+000T00:00:00	000T12:13:57	2008-150T21:12:00	1310	57.689	Non-SPASS			
SP_069NA_G70OBSSEQ848_NA	2008-148T04:43:00		001T20:20:21	2008-150T01:03:21	0	0	Non-SPASS			
SP_069NA_TOSTSEG148_NA	2008-148T04:43:00		002T16:29:00	2008-150T21:12:00	0	0	SPASS Note			
SP_069TI_WAYPTTURN148_PRIME	2008-148T04:43:00		000T00:30:00	2008-148T05:13:00	0	0	New Waypoint	ISS_NAC to Titan	POS_X to North_Pole_Dir	SP Turn to Waypoint
SP_069TI_DEADTIME148_PRIME	2008-148T05:13:00		000T00:15:00	2008-148T05:28:00	0	0	Prime	ISS_NAC to Titan	NEG_X to Sun	
SP_069EA_DLTURN149_PRIME	2008-150T00:33:21	GMB_E069_Titan44+000T16:00:00	000T00:30:00	2008-150T01:03:21	0	0	Prime	NEG_Z to Earth	Rolling	
SP_069EA_G70METNON150_PRIME	2008-150T01:03:21	GMB_E069_Titan44+000T16:30:00	000T02:00:00	2008-150T03:03:21	0	0	Prime	XBAND to Earth	Rolling	
SP_069NA_G70METSEQ150_SP	2008-150T01:03:21	GMB_E069_Titan44+000T16:30:00	000T02:00:00	2008-150T03:03:21	0	0	Non-SPASS			
SP_069NA_M70OBSSEQ850_NA	2008-150T03:03:21	GMB_E069_Titan44+000T18:30:00	000T09:08:39	2008-150T12:12:00	0	0	Non-SPASS			
SP_070TI_DEADTIME850_PRIME	2008-150T11:27:00		000T00:15:00	2008-150T11:42:00	0	0	Prime	ISS_NAC to Titan	POS_X to North_Pole_Dir	
SP_070EA_DLTURN850_PRIME	2008-150T11:42:00		000T00:30:00	2008-150T12:12:00	0	0	Prime	XBAND to Earth	NEG_X to NEP	SP Turn to Earth
SP_070EA_M70ARRSEQ850_PRIME	2008-150T12:12:00		000T09:00:00	2008-150T21:12:00	0	0	Prime	XBAND to Earth	Rolling	
SP_070SA_M70ARR2ND151_SP	2008-150T12:12:00		000T09:00:00	2008-150T21:12:00	0	0	Non-SPASS			
SP_070SA_M70ARRNON151_SP	2008-150T12:12:00		000T09:00:00	2008-150T21:12:00	0	0	Non-SPASS			
UVIS_069TI_MIDIRTMAP001_CIRS	2008-148T05:28:21	GMB_E069_Titan44-001T03:05:00	000T11:05:00	2008-148T16:33:21	1283.2	51.198	SPASS Rider			
UVIS_069TI_EUVFUV001_PRIME	2008-148T23:33:21	GMB_E069_Titan44-000T09:00:00	000T06:00:00	2008-149T05:33:21	5032	108.691	Prime	UVIS_FUV to Titan	POS_X to North_Pole_Dir	
UVIS_069TI_LIMBINT001_CIRS	2008-149T09:30:21	GMB_E069_Titan44+000T00:57:00	000T01:18:00	2008-149T10:48:21	3209.6	15.021	SPASS Rider			
UVIS_070SW_IPHSURVEY001_RIDER	2008-150T12:12:00		000T09:00:00	2008-150T21:12:00	76	2.462	Non-SPASS			
VIMS_069TI_TEMP001_CIRS	2008-148T05:28:21	GMB_E069_Titan44-001T03:05:00	001T11:05:00	2008-149T16:33:21	467.1	59	SPASS Rider			
VIMS_069TI_MONITOR001_ISS	2008-148T16:33:21	GMB_E069_Titan44-000T16:00:00	000T01:00:00	2008-148T17:33:21	6111.1	22	SPASS Rider			
VIMS_069TI_TEMP002_CIRS	2008-148T17:33:21	GMB_E069_Titan44-000T15:00:00	000T02:00:00	2008-148T19:33:21	5000	36	SPASS Rider			
VIMS_069TI_CLOUDMAP001_PRIME	2008-148T19:33:21	GMB_E069_Titan44-000T13:00:00	000T04:00:00	2008-148T23:33:21	5000	72	Prime	ISS_NAC to Titan	NEG_X to Sun	
VIMS_069TI_EUVFUV001_UVIS	2008-148T23:33:21	GMB_E069_Titan44-000T09:00:00	000T04:00:00	2008-149T03:33:21	3125	45	SPASS Rider			
VIMS_069TI_EUVFUV002_UVIS	2008-149T03:33:21	GMB_E069_Titan44-000T05:00:00	000T02:00:00	2008-149T05:33:21	5555.6	40	SPASS Rider			
VIMS_069TI_REGMAP001_ISS	2008-149T05:33:21	GMB_E069_Titan44-000T03:00:00	000T01:00:00	2008-149T06:33:21	6111.1	22	SPASS Rider			
VIMS_069TI_FIRLMBINT801_CIRS	2008-149T06:33:21	GMB_E069_Titan44-000T02:00:00	000T00:45:00	2008-149T07:18:21	3333.3	9	SPASS Rider			
VIMS_069TI_FIRLMBIER801_CIRS	2008-149T07:18:21	GMB_E069_Titan44-000T01:15:00	000T00:20:00	2008-149T07:38:21	7500	9	SPASS Rider			
VIMS_069TI_VHIRESNAC801_ISS	2008-149T07:59:21	GMB_E069_Titan44-000T00:34:00	000T01:11:00	2008-149T09:10:21	8450.7	36	SPASS Rider			
VIMS_069TI_TRANS801_ENGR	2008-149T09:10:21	GMB_E069_Titan44+000T00:37:00	000T00:23:00	2008-149T09:33:21	6521.7	9	SPASS Rider			
VIMS_069TI_FIRLMBINT802_CIRS	2008-149T09:33:21	GMB_E069_Titan44+000T01:00:00	000T01:15:00	2008-149T10:48:21	2000	9	SPASS Rider			
VIMS_069TI_FIRNADMAP802_CIRS	2008-149T10:48:21	GMB_E069_Titan44+000T02:15:00	000T02:45:00	2008-149T13:33:21	909.1	9	SPASS Rider			
VIMS_069TI_GLOBMAP801_ISS	2008-149T13:33:21	GMB_E069_Titan44+000T05:00:00	000T03:36:00	2008-149T17:09:21	5015.4	65	SPASS Rider			
VIMS_069TI_WACPHOT001_ISS	2008-149T17:09:21	GMB_E069_Titan44+000T08:36:00	000T00:24:00	2008-149T17:33:21	12500	18	SPASS Rider			
VIMS_069TI_FIRNADCMP001_CIRS	2008-149T17:33:21	GMB_E069_Titan44+000T09:00:00	000T02:00:00	2008-149T19:33:21	5000	36	SPASS Rider			
VIMS_069TI_MOSAIC001_ISS	2008-149T19:33:21	GMB_E069_Titan44+000T11:00:00	000T02:00:00	2008-149T21:33:21	6250	45	SPASS Rider			
VIMS_069TI_GLOBMAP003_PRIME	2008-149T21:33:21	GMB_E069_Titan44+000T13:00:00	000T01:00:00	2008-149T22:33:21	10000	36	Prime	ISS_NAC to Titan	NEG_X to Sun	
VIMS_069TI_GLOBMAPFA002_PRIME	2008-149T22:33:21	GMB_E069_Titan44+000T14:00:00	000T02:00:00	2008-150T00:33:21	3750	27	Prime	ISS_NAC to Titan	NEG_X to Sun	
VIMS_069TI_GLOBMAPFA003_PRIME	2008-150T03:03:21	GMB_E069_Titan44+000T18:30:00	000T08:23:00	2008-150T11:26:21	3777.3	114	Prime	ISS_NAC to Titan	NEG_X to Sun	



# SPASS (Attitude Strategy Spreadsheet)12/30

Request	Riders	Start(SCET)	Start(Epoch)	Duration	End(SCET)	Primary Pointing	Secondary Pointing	Comments
Sequence SD40, length = 42 ...		2008-110T07:18:00	E065_SEQUENCE_040+000	041T21:09:00	2008-152T04:27:00			
TOST rev 69 Segment		2008-148T04:43:00		002T16:29:00	2008-150T21:12:00			
SP_069TI_WAYPTTURN148_PRIME	M	2008-148T04:43:00		000T00:30:00	2008-148T05:13:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	SP Turn to Waypoint
<b>NEW WAYPOINT</b>		<b>2008-148T05:13:00</b>		<b>002T15:59:00</b>	<b>2008-150T21:12:00</b>	<b>ISS_NAC to Titan</b>	<b>POS_X to North_Pole_Dir</b>	
<b>SP_069TI_DEADTIME148_PRIME</b>	<b>M</b>	<b>2008-148T05:13:00</b>		<b>000T00:15:00</b>	<b>2008-148T05:28:00</b>	<b>ISS_NAC to Titan</b>	<b>NEG_X to Sun</b>	
CIRS_069RI_TEMPL25LP001_PRIME	C, I, M, U,	2008-148T05:28:21	GMB_E069_Titan44-001T03:000T03:00:00	2008-148T08:28:21	2008-148T08:28:21	CIRS_FP1 to Rings	NEG_Z to NSP	
CIRS_069TI_MIDIRMAP001_PRIME	C, I, M, U,	2008-148T08:28:21	GMB_E069_Titan44-001T00:000T08:05:00	2008-148T16:33:21	2008-148T16:33:21	CIRS_FPB to Titan	POS_X to Titan	
ISS_069TI_NIGHTNAC001_PRIME	C, M, V	2008-148T16:33:21	GMB_E069_Titan44-000T16:000T01:00:00	2008-148T17:33:21	2008-148T17:33:21	ISS_NAC to Titan	NEG_X to Sun	
CIRS_069TI_FIRNADCMP001_PRIME	C, I, M, V	2008-148T17:33:21	GMB_E069_Titan44-000T15:000T02:00:00	2008-148T19:33:21	2008-148T19:33:21	CIRS_FP1 to Titan	PIC	
VIMS_069TI_CLOUDMAP001_PRIME	C, I, M, V	2008-148T19:33:21	GMB_E069_Titan44-000T13:000T04:00:00	2008-148T23:33:21	2008-148T23:33:21	ISS_NAC to Titan	NEG_X to Sun	
UVIS_069TI_EUVFUV001_PRIME	C, I, M, V	2008-148T23:33:21	GMB_E069_Titan44-000T09:000T06:00:00	2008-149T05:33:21	2008-149T05:33:21	UVIS_FUV to Titan	POS_X to North_Pole_Dir	
ISS_069TI_NIGHTWAC001_PRIME	C, M, V	2008-149T05:33:21	GMB_E069_Titan44-000T03:000T01:00:00	2008-149T06:33:21	2008-149T06:33:21	ISS_NAC to Titan	NEG_X to Sun	
<b>Begin Custom</b>		<b>2008-149T06:33:21</b>	<b>GMB_E069_Titan44-000T02:000T00:00:01</b>	<b>2008-149T06:33:22</b>				
CIRS_069TI_FIRLMBINT801_PRIME	C, I, M, V	2008-149T06:33:21	GMB_E069_Titan44-000T02:000T00:45:00	2008-149T07:18:21	2008-149T07:18:21	CIRS_FP1 to Titan	PIC	Pick up at unknown, unknown; Hand off at unknown, unknown.
CIRS_069TI_FIRLMBIAER801_PRIME	C, I, M, V	2008-149T07:18:21	GMB_E069_Titan44-000T01:1000T00:20:00	2008-149T07:38:21	2008-149T07:38:21	CIRS_FP1 to Titan	PIC	Pick up at unknown, unknown; Hand off at unknown, unknown.
ENGR_069SC_ORSRCS849_PPS	C, M, V	2008-149T07:38:21	GMB_E069_Titan44-000T00:000T00:20:49	2008-149T07:59:10	2008-149T07:59:10			Pick up at unknown, unknown; Hand off at unknown, unknown. Deadband = (0.5, 20, 0.5)
ISS_069TI_VHIRESNAC801_PRIME	C, M, V	2008-149T07:59:21	GMB_E069_Titan44-000T00:000T01:11:00	2008-149T09:10:21	2008-149T09:10:21	ISS_NAC to Titan	NEG_X to Sun	Pick up at unknown, unknown; Hand off at unknown, unknown.
ENGR_069SC_DFPWBAS849_PPS	C, M, U, V	2008-149T09:10:21	GMB_E069_Titan44+000T00:000T00:22:42	2008-149T09:33:03	2008-149T09:33:03			Pick up at unknown, unknown; Hand off at unknown, unknown.
CIRS_069TI_FIRLMBINT802_PRIME	C, I, M, U,	2008-149T09:33:21	GMB_E069_Titan44+000T01:000T01:15:00	2008-149T10:48:21	2008-149T10:48:21	CIRS_FP1 to Titan	PIC	Pick up at unknown, unknown; Hand off at unknown, unknown.
<b>End Custom</b>		<b>2008-149T10:33:21</b>	<b>GMB_E069_Titan44+000T02:000T00:00:01</b>	<b>2008-149T10:33:22</b>				
CIRS_069TI_FIRNADMAP802_PRIME	C, I, V	2008-149T10:48:21	GMB_E069_Titan44+000T02:000T02:45:00	2008-149T13:33:21	2008-149T13:33:21	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
ISS_069TI_GLOBMAP801_PRIME	C, V	2008-149T13:33:21	GMB_E069_Titan44+000T05:000T03:36:00	2008-149T17:09:21	2008-149T17:09:21	ISS_NAC to Titan	NEG_X to Sun	
ISS_069TI_PHOTOMWAC001_PRIME	C, V	2008-149T17:09:21	GMB_E069_Titan44+000T08:000T00:24:00	2008-149T17:33:21	2008-149T17:33:21	ISS_NAC to Titan	NEG_X to Sun	
CIRS_069TI_FIRNADCMP002_PRIME	C, I, V	2008-149T17:33:21	GMB_E069_Titan44+000T09:000T02:00:00	2008-149T19:33:21	2008-149T19:33:21	CIRS_FP1 to Titan	PIC	
ISS_069TI_MONITORAD001_PRIME	C, V	2008-149T19:33:21	GMB_E069_Titan44+000T11:000T02:00:00	2008-149T21:33:21	2008-149T21:33:21	ISS_NAC to Sun	NEG_X to Sun	
VIMS_069TI_GLOBMAP003_PRIME	C, I	2008-149T21:33:21	GMB_E069_Titan44+000T13:000T01:00:00	2008-149T22:33:21	2008-149T22:33:21	ISS_NAC to Titan	NEG_X to Sun	
VIMS_069TI_GLOBMAPFA002_PRIME	C, I	2008-149T22:33:21	GMB_E069_Titan44+000T14:000T02:00:00	2008-150T00:33:21	2008-150T00:33:21	ISS_NAC to Titan	NEG_X to Sun	
SP_069EA_DLTURN149_PRIME	C, I	2008-150T00:33:21	GMB_E069_Titan44+000T16:000T00:30:00	2008-150T01:03:21	2008-150T01:03:21	NEG_Z to Earth	Rolling	
SP_069EA_G70METNON150_PRIME	C	2008-150T01:03:21	GMB_E069_Titan44+000T16:000T02:00:00	2008-150T03:03:21	2008-150T03:03:21	XBAND to Earth	Rolling	
VIMS_069TI_GLOBMAPFA003_PRIME	C, M	2008-150T03:03:21	GMB_E069_Titan44+000T18:000T08:23:00	2008-150T11:26:21	2008-150T11:26:21	ISS_NAC to Titan	NEG_X to Sun	
<b>SP_070TI_DEADTIME850_PRIME</b>	<b>M</b>	<b>2008-150T11:27:00</b>	<b>000T00:15:00</b>	<b>2008-150T11:42:00</b>		<b>ISS_NAC to Titan</b>	<b>POS_X to North_Pole_Dir</b>	
SP_070EA_DLTURN850_PRIME	M	2008-150T11:42:00	000T00:30:00	2008-150T12:12:00	2008-150T12:12:00	XBAND to Earth	NEG_X to NEP	SP Turn to Earth
SP_070EA_M70ARRSEQ850_PRIME	C, M	2008-150T12:12:00	000T09:00:00	2008-150T21:12:00	2008-150T21:12:00	XBAND to Earth	Rolling	

WPs Checked – IN/OUT – NEG\_Y to Titan, POS\_X to NTP;  
 DOWNLINK – XBAND to Earth, NEG\_X to NEP  
 SP checked turns to and from Titan

# Data Volume Summary (1/13)

DATA VOLUME SUMMARY

DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	OBSERVATION_PERIOD								DOWNLINK_PASS						
			P4				P5				RECORDED		PLAYBACK				
			START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL CPACTY (Mb)	MARGIN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGIN (Mb)	CAROVR (Mb)			
SP_069EA_G70METNON150_PRIME	150 01:03	150 03:03	0	3266	154	3421	3567	147	4%	0	43	12	3476	841	-2635	-313%	2635
SP_070EA_M70ARRSEQ850_PRIME	150 12:12	150 21:12	2635	311	32	2977	3568	591	17%	0	230	53	3260	4016	756	19%	0

# Telemetry Mode Report

<u>SCET Time</u>	<u>Telemetry Mode</u>	<u>Parent Request</u>
2008-148T04:43:00	S_N_ER_3	SP_069NA_G70OBSSEQ848_NA
2008-150T01:03:21	RTE_N_SPB_142200	SP_069EA_G70METNON150_PRIME
2008-150T03:03:21	S_N_ER_3	SP_069NA_M70OBSSEQ850_NA
2008-150T12:12:00	RTE_N_SPB_110600	SP_070EA_M70ARRSEQ850_PRIME
2008-150T12:57:00	RTE_N_SPB_142200	SP_070EA_M70ARRSEQ850_PRIME
2008-150T15:12:00	RTE_N_SPB_165900	SP_070EA_M70ARRSEQ850_PRIME
2008-150T18:27:00	RTE_N_SPB_142200	SP_070EA_M70ARRSEQ850_PRIME
2008-150T20:27:00	RTE_N_SPB_124425	SP_070EA_M70ARRSEQ850_PRIME

# DSN Report

CASSINI DOWNLINK/DSN COVERAGE SUMMARY for 069TI\_T44\_Option1\_ORS\_2003-12-29.apf generated on 2003-Dec-30 14:49:26  
 (+ = pass overlaps with previous pass; \* = in conflict with DSN weekly maintenance)

DOWNLINK PASS					DSN PASS									
NAME	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	DATA_RATES kbps	ID	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	CALS min	RADIO_CONFIG R UD D UD MAR				
G70METNON150	150T01:03-03:03	150T02:21-04:21	02:00	142	14	150T01:03-03:03	150T02:20-04:25	02:05	60/15	R	XX	-	--	--0
M70ARRSEQ850	150T12:12-21:12	150T13:30-22:30	09:00	110,142,165,142,124	54	150T12:12-21:12	150T13:30-22:30	09:00	60/15	-	--	-	--	--0
				^-- and also -->	63*	150T12:12-21:12	150T13:30-22:30	09:00	75/15	R	XX	-	--	--0

**Note: There is no weekly maintenance conflict with the DSN.  
 Confirmed with John Smith. AP\_Downlink flags any conflict with the maintenance window which is 9 hours long. The maintenance period for Madrid is only 6 hours. The gains with the ERT/SCET conversion (69 mins) is offset by the extended Precal Time of 60 mins.**

## Open Issues

- High-level Science Summary for T44:
  - ISS: Very High Res and low phase angle opportunity.
  - ISS: Global-scale mapping (630-1080 m/pixel) of the bright-dark boundary and dark region
- Pointing Issues
- Data Volume Issues
  - None.
- CIMS Issues
- Power Issues
- Flight Rule/Mission Plan Guidelines and Constraint Issues
  - Are we on thruster control at 1300km?
    - T44 C/A is 1316km (source Titan Tour Atlas). No thruster control necessary.
  - Are all ORS observations are epoch relative? YES
  - OD uncertainty margin called out explicitly? YES
- **Lien: This Flyby should be reexamined later in the mission when we have greater understanding of Titan Flybys.**
- **Lien: Custom Pickup/Handoff Information is absent in CIMS. Teams have been contacted.**

**TWT/OST Integration Constraint and Guideline Checklist**

Below are Target Working Team (TWT) and Orbiter Science Team (OST) constraints that must be followed during segment implementation. Any exceptions to constraint numbers 3, 4, 6, or 7 must be approved by the Science Planning Manager.

Constraint	C=Comply V=Violate N/A=Not Applicable	Comments	Disposition
1. A. SP has checked all waypoints turns to and from waypoints. B. All initial downlink attitudes have been checked as waypoints.	C		
	C		
2. All turns to and from waypoints checked for violations and margins. <input checked="" type="checkbox"/> CAPS <input checked="" type="checkbox"/> CDA <input checked="" type="checkbox"/> CIRS <input checked="" type="checkbox"/> INMS <input checked="" type="checkbox"/> ISS <input checked="" type="checkbox"/> MIMI <input checked="" type="checkbox"/> MAG <input checked="" type="checkbox"/> NAV <input type="checkbox"/> RADAR <input checked="" type="checkbox"/> RPWS <input checked="" type="checkbox"/> RSS <input checked="" type="checkbox"/> UVIS <input checked="" type="checkbox"/> VIMS Each Prime Instrument agrees to accept a reduction in observation time during implementation if problems arise.	C		
3. Custom handoffs limited to: A. ±3 hours from targeted Icy Satellite flyby B. ±3 hours from targeted Titan Flyby C. OpNavs preceding/following a downlink			
	N/A		
	N/A		
4. Minimum 30 min SPASS Prime request duration outside ±5 hours from targeted satellite flyby (5 min. integer duration if >30 min.)	C		
5. Live and Ground Movable Blocks include appropriate time margins.	N/A	K. Klaasen's margin for flyby T44 is 15 min. according to memo dated Jan 7, 2003.	
6. Waypoints changes are ?3 per day A. All turns that accomplish the waypoint strategy are requested by SP or OpNav.	C		
	C		
7. Live Movable Blocks limited to the following orbits: 7, 8, 9, 10, 12, 28, 51, 56, 57, 60, 63, 64	C		

Guideline	Yes / No	Comments
1. Were repeatable/reusable templates used where possible?	No	
2. During Pre-Integration: Was 30 min. used for 90° RWA turns and/or 10 min. for RCS turns?	Yes	

(DOUBLE-CLICK TO MAKE CHANGES)