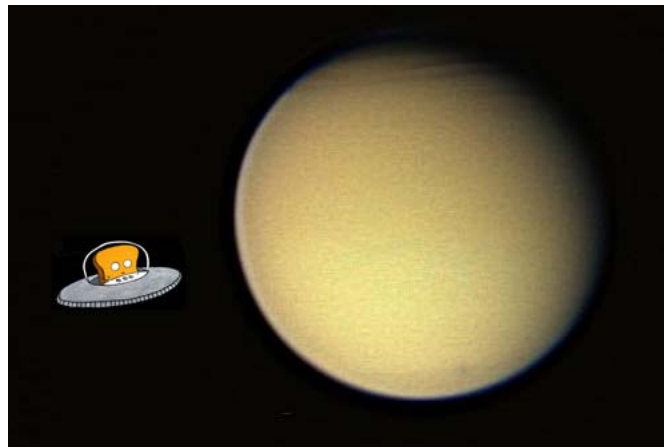




# TOST: Integration 106TI (T51) Wrap-Up



September 17, 2008

Kim Steadman, Trina Ray, Douglas Equils, Jo Pitesky

## T51 Segment Basics

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### Segment times:

BEG: 2009-085T10:05:00

END: 2009-087T16:50:00

Altitude: 1044 km

Time of C/A: 2009-086T04:43:37

Epoch: GMB\_E106\_Titan51



At least 2 weeks prior to the Kickoff Meeting make sure that all requests are in CIMS

## Kickoff Meeting

### Present

Master Timeline  
Draft Op Modes  
Draft Telem Modes  
Draft RCS Deadband

### Discuss

Timeline  
Op Modes  
Telem Modes  
Deadbands for RCS

### Homework

Custom Handoff Attitudes  
Unique Op Mode Requirements (SCO)  
Turn Assignments  
CCRs  
High Level Science

## Detailed Meeting

### Present

Master Timeline  
SMT Report  
Timeline Graphic  
TOL  
SPASS  
DSN Reports  
Dual Playback Science  
Draft Data Volume Cuts

### Discuss

Data Volume Cuts

### Homework

CCRs  
High Level Science Objectives

## Wrap-up Meeting

### Present

Wrap-up Package  
Checklist  
High Level Science Objectives

### Discuss

N/A

### Homework

N/A



# T51 High-level Science Objectives

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CIRS – Low southern latitude limb composition sounding, mid and far-infrared.

INMS – On T51, INMS Prime on the outbound leg. The observation is designed to measure the day side ionosphere, and the wake/outer flank of the magnetospheric interaction region.

ISS – ISS will acquire full-disk and global-mapping mosaics and high-resolution imaging of Titan's leading hemisphere at high southern latitudes. ISS will attempt very high-resolution imaging of the south-polar region, including Ontario Lacus, in ride-along with VIMS.

MAG – T51 is another near-noon (10.5 h SLT), upstream flank-out flyby, with a minimum altitude of 1000 km, which is almost parallel to T50. Therefore, the measurements will be complementary to T50, providing a description of the draping and the pileup of the external magnetic field around Titan on the dayside hemisphere. As in the previous flybys, Titan could be found in the magnetosheath during T51.

MIMI - Energetic ion and electron energy input to atmosphere; ENA imaging--High value

VIMS – will monitor tropical clouds. VIMS will do a mosaic of an area West of Tsegihi (30-60South, 60-100 W) at a resolution between 5 and 10 km per pixel. Then, VIMS will point to Ontario lake (-75, 180W) 20 minutes before closest approach and will perform the same kind of pointing with different emergence angles that has been successful during the T38 observation in order to obtain high quality spectra of the lake surface (VIMS106\_HIGHRES001\_PRIME). VIMS will be looking at changes on the South pole.

RSS - RSS observes bistatic scattering from Titan's surface on the outbound side. The observation probes the midnorthern latitude regions of Titan's surface (30-40 degs; ~190-200 degs west longitude). Same- and crosspolarized components of the quasi-specular surface echo, if detectable, provide information about the dielectric constant and physical state of the surface region probed



# Master Timeline for T51

<b>T51</b>	<b>960</b>
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Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
2009-085T10:11:00	2009-085T10:53:00	SP Turn to WP	Neg-Y to Titan, Neg-X to North_Pol_Dir	DFPW Normal	S_N_ER_3	
2009-085T10:53:00	C/A - 17:43:05	OD Uncertainty Dead Time				
C/A - 17:43:05	-14:00	CIRS	Template A	DFPW Normal	S_N_ER_3	
-14:00	-12:00	ISS	Template D2	DFPW Normal	S_N_ER_3	
-12:00	-09:00	CIRS	Template D2	DFPW Normal	S_N_ER_3	
-09:00	-05:00	ISS	Template H	DFPW Normal	S_N_ER_3	
-05:00	<b>-02:00</b>	VIMS	Template Y	DFPW Normal	S_N_ER_3	
		<b>begin custom period</b>				
<b>-02:00</b>	<b>-00:52</b>	ISS		DFPW_Norm/RSS_2_RWAF	S_N_ER_3	RSS_2_RWAF @ -1:43 to -0:52
<b>-00:52</b>	<b>-00:30</b>	<b>RWA to RCS Transition</b>	<b>Push in to C/A for ISS (?)</b>	<b>RSS 2 RCS</b>		<b>(.5, .5, 2); No CDA articulation</b>
<b>-00:30</b>	<b>-00:15</b>	VIMS	Neg_Y to Titan; Neg_X to RAM	RSS RCS	S_N_ER_3	ISS agreed to give up polarization
<b>-00:15</b>	<b>X</b>	Turn to VIMS C/A attitude		RSS RCS	S_N_ER_3	We can't be turning for long - Impact to ISS
<b>X</b>	<b>0</b>	VIMS	Neg_Y to Titan; Neg_X to RAM	RSS RCS	S_N_ER_3	<b>CIRS violations</b>
2009-086T04:43:05		<b>CLOSEST APPROACH</b>				
<b>0</b>	<b>+00:15</b>	INMS	Neg_X to RAM, Neg_Y to Titan	RSS RCS	S_N_ER_3	
<b>+00:15</b>	<b>+00:23</b>	Turn to RSS Bistat Attitude		RSS RCS	S_N_ER_3	
<b>+00:23</b>	<b>+01:20</b>	RSS Bistat	Xband to Titan; then Xband to Earth (secondary to be determined)	RSS RCS	S_N_ER_3	RSS agrees to not be thermally stabilized in Ka
<b>+01:20</b>	<b>+01:28</b>	<b>RSS turn to Neg Y to Titan, Neg X to RAM</b>	<b>IF NECESSARY</b>	RSS RCS	S_N_ER_3	
<b>+01:28</b>	<b>+01:52</b>	<b>RCS to RWA Transition</b>		RSS_K_RWAF	S_N_ER_3	
<b>+01:52</b>	<b>+05:00</b>	CIRS	Template T	RSS_K_RWAF	S_N_ER_3	
<b>+05:00</b>	<b>+09:00</b>	CIRS	Mid-IR Limb Template R	RSS_K_RWAF	S_N_ER_3	
		<b>end custom period</b>				
<b>+09:00</b>	<b>+10:00</b>	ISS	Template N	RSS_K_RWAF	S_N_ER_3	
<b>+10:00</b>	<b>+13:00</b>	CIRS	Template N	RSS_K_RWAF	S_N_ER_3	
<b>+13:00</b>	<b>+13:30</b>	ISS (stare)	Template M2	RSS_K_RWAF	S_N_ER_3	
<b>+13:30</b>	<b>C/A + 18:42</b>	CIRS	Template M2	RSS_K_RWAF	S_N_ER_3	
<b>C/A + 18:42</b>	<b>C/A + 19:12</b>	ISS (stare)	Template M2	RSS_K_RWAF	S_N_ER_3	
<b>C/A +19:12</b>	<b>2009-087T00:10:00</b>	OD Uncertainty Dead Time				
<b>2009-087T00:10:00</b>	<b>2009-087T00:50:00</b>	SP Turn to Earth for downlink		RSS_K_RWAF	S_N_ER_3	
<b>2009-087T00:50:00</b>	<b>2009-087T09:50:00</b>	Goldstone 70M		DFPW Normal	RTE_N_SPB	
<b>2009-087T09:50:00</b>	<b>2009-087T16:50:00</b>	C34M Array		DFPW Normal	RTE_N_SPB	



# T51 Telemetry Mode Report

## TELEMETRY MODE REPORT

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2009-085T10:05:00.000	001T14:45:00	S_N_ER_3	SP_106NA_G70OBSNON087_NA
	2009-087T00:50:00.000	01:00:00	RTE_N_SPB_142200	SP_107EA_G70METNON087_PRIME
	2009-087T01:50:00.000	07:30:00	RTE_N_SPB_165900	SP_107EA_G70METNON087_PRIME
	2009-087T09:20:00.000	00:30:00	RTE_N_SPB_142200	SP_107EA_G70METNON087_PRIME
	2009-087T09:50:00.000	05:15:00	RTE_N_SPB_66360	SP_107EA_C34ARRNON087_PRIME
	2009-087T15:05:00.000	01:15:00	RTE_N_SPB_47400	SP_107EA_C34ARRNON087_PRIME
	2009-087T16:20:00.000	00:15:00	RTE_N_SPB_41475	SP_107EA_C34ARRNON087_PRIME
	2009-087T16:35:00.000	00:15:00	RTE_N_SPB_33180	SP_107EA_C34ARRNON087_PRIME

# T51 SMT Report



DATA VOLUME SUMMARY --- TRANSFER FRAME OVERHEAD INCLUDED (80 BITS PER 8800-BIT FRAME)

DOWNLINK PASS NAME	OBSERVATION_PERIOD		DOWNLINK_PASS														
	Start doy hh:mm	End doy hh:mm	P4							P5	RECORDED		PLAYBACK				
			START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL (Mb)	CPACTY (Mb)	MRGN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	(%)	CAROVR (Mb)
SP_107EA_G70METNON087_PRIME	087 00:50	087 09:50	0	3356	180	3536	3516	-19	0	531	53	4100	4454	353	575	10%	0
SP_107EA_C34ARRNON087_PRIME	087 09:50	087 16:50	0	0	582	582	3516	2934	0	434	41	1057	1279	221	222	17%	0

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	085 10:05	087 00:50	240.3	73.1	338.2	27.7	745.0	123.3	135.6	0.0	632.7	199.3	795.0	0.0	48.1	3358.3
OBSERVATION_SI	085 10:05	087 00:50	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0
SP_107EA_G70METNON087_PRIME	087 00:50	087 09:50	32.4	17.0	86.4	3.2	0.0	19.4	29.2	0.0	334.0	4.9	0.0	0.0	0.0	526.6
OBSERVATION_NOR	085 10:05	087 09:50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	581.8	581.8
SP_107EA_C34ARRNON087_PRIME	087 09:50	087 16:50	25.2	13.2	86.4	2.5	0.0	15.1	24.1	0.0	259.8	3.8	0.0	0.0	0.0	430.2
DAILY TOTAL SCIENCE	085 10:05	087 16:50	297.9	103.3	526.0	33.5	745.0	157.9	188.9	0.0	1226.5	208.0	795.0	0.0		

	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)
TOTAL RECORDED (OPNAV data not included)	297.9	103.3	526.0	33.5	745.0	157.9	188.9	0.0	1226.5	208.0	795.0	0.0

# T51 DSN Report



CASSINI DOWNLINK/DSN COVERAGE SUMMARY for 106TI\_T51\_080908.apf on 2008-Sep-08 09:00:12  
 (+ = pass overlaps with previous pass; \* = conflicts with DSN maintenance; o = overlaps occultation)

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	LABEL	CNFG
G70METRSS086	-----	-----	----	(no downlink)	14	086T04:05-06:50	086T05:15-08:00	02:45	180/60	RSS T51	1639
G34BWG2ND086	-----	-----	----	(no downlink)	26	086T04:20-06:50	086T05:30-08:00	02:30	180/60	RSS T51	N750
G34BWGRSS086	-----	-----	----	(no downlink)	25	086T04:20-06:50	086T05:30-08:00	02:30	180/60	RSS T51	N748
G70METNON087	087T00:50-09:50	087T02:00-11:00	09:00	142,165,142	14	087T00:50-09:50	087T02:00-11:00	09:00	60 /15	TP	N003
+C34ARRNON087	087T09:50-16:50	087T11:00-18:00	07:00	66,47,41,33	34	087T09:30-16:50	087T10:40-18:00	07:20	90 /15	TP RSS G	N750
				^-- and also -->	45	087T09:30-16:50	087T10:40-18:00	07:20	60 /15	TP	N003

CCSD3ZF0000100000001NJPL3KS0L015\$\$MARK\$\$

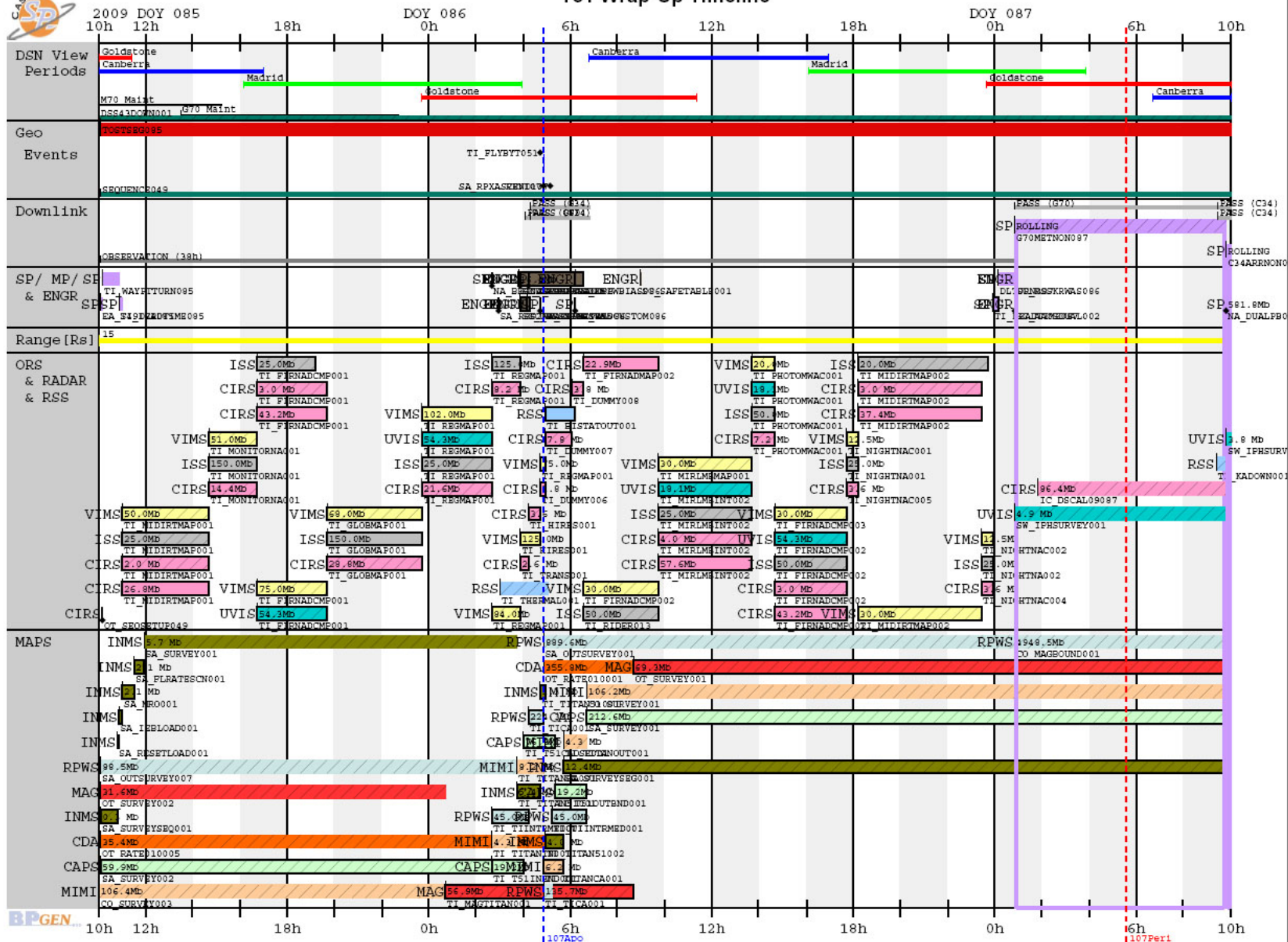
MISSION\_NAME = CASSINI;  
 SPACECRAFT\_NAME = CASSINI;  
 DSN\_SPACECRAFT\_NUM = 82;  
 DATA\_SET\_ID = DSN\_EIGHT\_WEEK\_SCHEDULE;  
 FILE\_NAME = 106TI\_T51\_080908.apf;  
 PRODUCT\_VERSION\_ID = 1.0;  
 APPLICABLE\_START\_TIME = 2009-085T10:05:00;  
 APPLICABLE\_STOP\_TIME = 2009-087T16:50:00;  
 PRODUCT\_CREATION\_TIME = 2008-252T09:00:41;  
 CCSD3RE00000\$\$MARK\$\$NJPL3IF0M00200000001

09 086 0215 0515 0800 0900 DSS-14 CAS	RSS T51 Bistatic	1639	1A1
09 086 0230 0530 0800 0900 DSS-26 CAS	RSS T51 Bistatic	N750	1A1
09 086 0230 0530 0800 0900 DSS-25 CAS	RSS T51 Bistatic	N748	1A1
09 087 0100 0200 1100 1115 DSS-14 CAS	TKG PASS	N003	1A1
09 087 0910 1040 1800 1815 DSS-34 CAS	TKG PASS RSS GSE	N750	1A1
09 087 0940 1040 1800 1815 DSS-45 CAS	TKG PASS	N003	1A1





# T51 Wrap-Up Timeline



# T51 TOL page 1



Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
MP 099NA DSS43DOWN001 NA	MILESTONE	2009-004T22:46:00		098T00:01:42	2009-102T22:47:42	0	0	Non-SPASS		
MIMI 106CO SURVEY003 RIDER	MIMI 8000	2009-084T17:52:41		001T08:50:56	2009-086T02:43:37	900	106.43	Non-SPASS		
CAPS 106SA SURVEY002 PRIME	CAPS 16000	2009-085T10:05:00	E106_SEQUENCE_049+000T00:00:00	000T16:38:37	2009-086T02:43:37	1000	59.917	Non-SPASS		
CDA 106OT RATE010005 RIDER	CDA 524	2009-085T10:05:00		000T18:46:00	2009-086T04:51:00	524	35.401	Non-SPASS		
INMS 106SA SURVEYSEQ001 INMS	INMS 1498	2009-085T10:05:00	E106_SEQUENCE_049+000T00:00:00	000T00:43:00	2009-085T10:48:00	100	0.258	Non-SPASS		
MAG 106OT SURVEY002 PRIME	MAG 1976	2009-085T10:05:00		000T14:38:37	2009-086T00:43:37	600	31.63	Non-SPASS		
MP 106NA SEQUENCE049 NA	MILESTONE	2009-085T10:05:00		039T21:11:00	2009-125T07:16:00	0	0	SPASS Note		
RPWS 106SA OUTSURVEY007 PRIME	RPWS 30464	2009-085T10:05:00		000T18:46:00	2009-086T04:51:00	1310	88.504	Non-SPASS		
SP 106EA S491VP085 PRIME	MILESTONE	2009-085T10:05:00		000T00:06:00	2009-085T10:11:00	0	0	Prime	XBAND to Earth	POS X to NEP
SP 106NA G70OBSNON087 NA	OBSERVATION	2009-085T10:05:00		001T14:45:00	2009-087T00:50:00	0	0	Non-SPASS		
SP 106NA T0STSEG085 NA	MILESTONE	2009-085T10:05:00		002T06:45:00	2009-087T16:50:00	0	0	SPASS Note		
CIRS 106OT SEQSETUP049 PRIME	CIRS 4000	2009-085T10:10:00	E106_SEQUENCE_049+000T00:05:00	000T00:02:00	2009-085T10:12:00	0	0	Non-SPASS		
SP 106TI WAYPTTURN085 PRIME	MILESTONE	2009-085T10:11:00		000T00:42:00	2009-085T10:53:00	0	0	New Waypoint	NEG Y to Titan	NEG X to North Pole Dir
INMS 106SA RESETLOAD001 INMS	INMS 1498	2009-085T10:48:00	E106_SEQUENCE_049+000T00:43:00	000T00:07:00	2009-085T10:55:00	1	0	Non-SPASS		
SP 106TI DEADTIME085 PRIME	MILESTONE	2009-085T10:53:00		000T00:07:32	2009-085T11:00:32	0	0	Prime	NEG Y to Titan	NEG X to North Pole Dir
INMS 106SA IELOAD001 INMS	INMS 1498	2009-085T10:55:00	E106_SEQUENCE_049+000T00:50:00	000T00:05:00	2009-085T11:00:00	1	0	Non-SPASS		
INMS 106SA MRO001 INMS	INMS 1498	2009-085T11:00:00	E106_SEQUENCE_049+000T00:55:00	000T00:33:00	2009-085T11:33:00	1044	2.067	Non-SPASS		
CIRS 106TI MIDIRTMAP001 PRIME	CIRS 4000	2009-085T11:00:32	GMB E106 Titan51-000T17:43:05	000T03:43:05	2009-085T14:43:37	2000	26.77	Prime	CIRS FPB to Titan	POS X to North Pole Dir
CIRS 106TI MIDIRTMAP001 SI	ISS SUPPORT	2009-085T11:00:32	GMB E106 Titan51-000T17:43:05	000T03:43:05	2009-085T14:43:37	0	2	SPASS Rider		
ISS 106TI MIDIRTMAP001 CIRS	ISS Phot 1 by	2009-085T11:00:32	GMB E106 Titan51-000T17:43:05	000T03:43:05	2009-085T14:43:37	0	25	SPASS Rider		
VIMS 106TI MIDIRTMAP001 CIRS	VIMS 18432	2009-085T11:00:32	GMB E106 Titan51-000T17:43:05	000T03:43:05	2009-085T14:43:37	3736	50	SPASS Rider		
INMS 106SA FLRATESCN001 INMS	INMS 1498	2009-085T11:33:00	E106_SEQUENCE_049+000T01:28:00	000T00:22:59	2009-085T11:55:59	1498	2.066	Non-SPASS		
INMS 106SA SURVEY001 INMS	INMS 1498	2009-085T11:55:59		000T15:47:38	2009-086T03:43:37	100	5.686	Non-SPASS		
CIRS 106TI MONITORNA001 ISS	CIRS 4000	2009-085T14:43:37	GMB E106 Titan51-000T14:00:00	000T02:00:00	2009-085T16:43:37	2000	14.4	SPASS Rider		
ISS 106TI MONITORNA001 PRIME	ISS Phot 1 by	2009-085T14:43:37	GMB E106 Titan51-000T14:00:00	000T02:00:00	2009-085T16:43:37	0	150	Prime	ISS NAC to Titan	NEG X to Sun
VIMS 106TI MONITORNA001 ISS	VIMS 18432	2009-085T14:43:37	GMB E106 Titan51-000T14:00:00	000T02:00:00	2009-085T16:43:37	7083	51	SPASS Rider		
CIRS 106TI FIRNADCOMP001 PRIME	CIRS 4000	2009-085T16:43:37	GMB E106 Titan51-000T12:00:00	000T03:00:00	2009-085T19:43:37	4000	43.2	Prime	CIRS FP1 to Titan	PIC
CIRS 106TI FIRNADCOMP001 SI	ISS SUPPORT	2009-085T16:43:37	GMB E106 Titan51-000T12:00:00	000T03:00:00	2009-085T19:43:37	0	3	SPASS Rider		
ISS 106TI FIRNADCOMP001 CIRS	ISS Phot 1 by	2009-085T16:43:37	GMB E106 Titan51-000T12:00:00	000T02:30:00	2009-085T19:13:37	0	25	SPASS Rider		
UVIS 106TI FIRNADCOMP001 CIRS	UVIS 5032	2009-085T16:43:37	GMB E106 Titan51-000T12:00:00	000T03:00:00	2009-085T19:43:37	5032	54.346	SPASS Rider		
VIMS 106TI FIRNADCOMP001 CIRS	VIMS 18432	2009-085T16:43:37	GMB E106 Titan51-000T12:00:00	000T03:00:00	2009-085T19:43:37	6944	75	SPASS Rider		
CIRS 106TI GLOBMAP001 ISS	CIRS 4000	2009-085T19:43:37	GMB E106 Titan51-000T09:00:00	000T04:00:00	2009-085T23:43:37	2000	28.8	SPASS Rider		
ISS 106TI GLOBMAP001 PRIME	ISS Phot 1 by	2009-085T19:43:37	GMB E106 Titan51-000T09:00:00	000T04:00:00	2009-085T23:43:37	0	150	Prime	ISS NAC to Titan	NEG X to Sun
VIMS 106TI GLOBMAP001 ISS	VIMS 18432	2009-085T19:43:37	GMB E106 Titan51-000T09:00:00	000T04:00:00	2009-085T23:43:37	4722	68	SPASS Rider		
CIRS 106TI REGMAP001 VIMS	CIRS 4000	2009-085T23:43:37	GMB E106 Titan51-000T05:00:00	000T03:00:00	2009-086T02:43:37	2000	21.6	SPASS Rider		
ISS 106TI REGMAP001 VIMS	ISS Phot 1 by	2009-085T23:43:37	GMB E106 Titan51-000T05:00:00	000T03:00:00	2009-086T02:43:37	0	25	SPASS Rider		
UVIS 106TI REGMAP001 VIMS	UVIS 5032	2009-085T23:43:37	GMB E106 Titan51-000T05:00:00	000T03:00:00	2009-086T02:43:37	5032	54.346	SPASS Rider		
VIMS 106TI REGMAP001 PRIME	VIMS 18432	2009-085T23:43:37	GMB E106 Titan51-000T05:00:00	000T03:00:00	2009-086T02:43:37	9444	102	Prime	VIMS IR to Titan	NEG X to Sun
MAG 106TI MAGTITAN001 PRIME	MAG 1976	2009-086T00:43:37	GMB E106 Titan51-000T04:00:00	000T08:00:00	2009-086T08:43:37	1976	56.909	Non-SPASS		
CAPS 106TI T51INBND001 PRIME	CAPS 16000	2009-086T02:43:37	GMB E106 Titan51-000T02:00:00	000T01:20:00	2009-086T04:03:37	4000	19.2	SPASS Rider		
CIRS 106TI REGMAP001 ISS	CIRS 4000	2009-086T02:43:37	GMB E106 Titan51-000T02:00:00	000T01:08:00	2009-086T03:51:37	2000	8.16	SPASS Rider		
ISS 106TI REGMAP001 PRIME	ISS Phot 1 by	2009-086T02:43:37	GMB E106 Titan51-000T02:00:00	000T01:08:00	2009-086T03:51:37	0	125	Prime	ISS NAC to Titan	NEG X to Sun
MIMI 106TI TITANIN001 RIDER	MIMI 8000	2009-086T02:43:37		000T01:00:00	2009-086T03:43:37	1200	4.32	SPASS Rider		

# T51 TOL page 2



Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
RPWS 106TI TIINTRMED001 PRIME	RPWS 30464	2009-086T02:43:37	GMB E106 Titan51-000T02:00:00	000T01:30:00	2009-086T04:13:37	8332	44.992	Non-SPASS		
SP 106NA BEGCUSTOM086 NA	MILESTONE	2009-086T02:43:37	GMB E106 Titan51-000T02:00:00	000T00:00:01	2009-086T02:43:38	0	0	SPASS Note		
VIMS 106TI REGMAP001 ISS	VIMS 18432	2009-086T02:43:37	GMB E106 Titan51-000T02:00:00	000T01:08:00	2009-086T03:51:37	20588	84	SPASS Rider		
ENGR 106SA RSS2RWAF085 PPS	OpMode	2009-086T02:58:31	GMB E106 Titan51-000T01:45:06	000T00:00:06	2009-086T02:58:37	0	0	Non-SPASS		
RSS 106TI THERMAL001 RSS	RSS Activity	2009-086T03:01:10		000T02:05:00	2009-086T05:06:10	0	0	SPASS Rider		
INMS 106TI TITAN51001 INMS	INMS 1498	2009-086T03:43:37	GMB E106 Titan51-000T01:00:00	000T01:00:00	2009-086T04:43:37	1498	5.393	Non-SPASS		
MIMI 106TI TITANCA001 RIDER	MIMI 8000	2009-086T03:43:37		000T01:08:23	2009-086T04:52:00	2000	8.206	SPASS Rider		
ENGR 106SC AACSDUAL001 CDS	ENGR 1638	2009-086T03:48:37	GMB E106 Titan51-000T00:55:00	000T02:47:00	2009-086T06:35:37	1638	16.413	Non-SPASS		
CIRS 106TI TRANS001 ENGR	CIRS 4000	2009-086T03:51:37	GMB E106 Titan51-000T00:52:00	000T00:22:00	2009-086T04:13:37	2000	2.64	SPASS Rider		
ENGR 106SC URSS2RCS085 PPS	OpMode	2009-086T03:51:37	GMB E106 Titan51-000T00:52:00	000T00:20:48	2009-086T04:12:25	0	0	Non-SPASS		
ENGR 106SC URSS2RCS085 PRIME	MILESTONE	2009-086T03:51:37	GMB E106 Titan51-000T00:52:00	000T00:01:00	2009-086T03:52:37	0	0	Prime	ISS NAC to Titan	NEG X to Titan_SC RAM
VIMS 106TI HIRES001 PRIME	VIMS 18432	2009-086T03:52:37	GMB E106 Titan51-000T00:51:00	000T00:51:00	2009-086T04:43:37	40850	125	Prime	VIMS IR to Titan	NEG X to Titan_SC RAM
CAPS 106TI T51CLOSE001 PRIME	CAPS 16000	2009-086T04:03:37	GMB E106 Titan51-000T00:40:00	000T01:20:00	2009-086T05:23:37	16000	76.8	SPASS Rider		
SP 106NA G70METRSSH086 SP	DSN PASS	2009-086T04:05:00		000T02:45:00	2009-086T06:50:00	0	0	Non-SPASS		
ENGR 106SC URSS3RCS085 PPS	OpMode	2009-086T04:12:27	GMB E106 Titan51-000T00:31:10	000T00:05:04	2009-086T04:17:31	0	0	Non-SPASS		
CIRS 106TI HIRES001 VIMS	CIRS 4000	2009-086T04:13:37	GMB E106 Titan51-000T00:30:00	000T00:30:00	2009-086T04:43:37	2000	3.6	SPASS Rider		
RPWS 106TI TICA001 PRIME	RPWS 182784	2009-086T04:13:37	GMB E106 Titan51-000T00:30:00	000T00:37:23	2009-086T04:51:00	99983	224.262	Non-SPASS		
SP 106NA BEGHIVAL086 NA	MILESTONE	2009-086T04:13:37	GMB E106 Titan51-000T00:30:00	000T00:00:01	2009-086T04:13:38	0	0	SPASS Note		
SP 106NA G34BWG2ND086 SP	DSN PASS	2009-086T04:20:00		000T02:30:00	2009-086T06:50:00	0	0	Non-SPASS		
SP 106NA G34BWGRSS086 SP	DSN PASS	2009-086T04:20:00		000T02:30:00	2009-086T06:50:00	0	0	Non-SPASS		
CIRS 106TI DUMMY006 INMS	CIRS 4000	2009-086T04:43:37	GMB E106 Titan51+000T00:00:00	000T00:15:00	2009-086T04:58:37	2000	1.8	SPASS Rider		
INMS 106TI TITAN51001 PRIME	INMS 1498	2009-086T04:43:37	GMB E106 Titan51+000T00:00:00	000T00:15:00	2009-086T04:58:37	1498	1.348	Prime	NEG X to Titan_SC	NEG Y to Titan
MP 106TI FLYBYT051 NA	MILESTONE	2009-086T04:43:37		000T00:00:01	2009-086T04:43:38	0	0	SPASS Note		
SP 106NA ENDDIVAL086 NA	MILESTONE	2009-086T04:43:37	GMB E106 Titan51+000T00:00:00	000T00:00:01	2009-086T04:43:38	0	0	SPASS Note		
VIMS 106TI REGMAP001 INMS	VIMS 18432	2009-086T04:43:37	GMB E106 Titan51+000T00:00:00	000T00:15:00	2009-086T04:58:37	83333	75	SPASS Rider		
CDA 107OT RATE010001 RIDER	CDA 524	2009-086T04:51:00		007T20:38:00	2009-094T01:29:00	524	355.838	Non-SPASS		
RPWS 107SA OUTSURVEY001 PRIME	RPWS 30464	2009-086T04:51:00		007T20:38:00	2009-094T01:29:00	1310	889.604	Non-SPASS		
RPWS 107TI TICA001 PRIME	RPWS 182784	2009-086T04:51:00		000T00:22:37	2009-086T05:13:37	99983	135.677	Non-SPASS		
MP 107SA APOAPSE107 NA	MILESTONE	2009-086T04:51:36		000T00:00:01	2009-086T04:51:37	0	0	SPASS Note		
MP 107SA REV107 NA	MILESTONE	2009-086T04:51:36		000T00:00:01	2009-086T04:51:37	0	0	Non-SPASS		
MIMI 107TI TITANCA001 RIDER	MIMI 8000	2009-086T04:52:00	E107 Apo+000T00:00:00	000T00:51:37	2009-086T05:43:37	2000	6.194	SPASS Rider		
CIRS 107TI DUMMY007 RSS	CIRS 4000	2009-086T04:58:37	GMB E106 Titan51+000T00:15:00	000T01:13:00	2009-086T06:11:37	2000	8.76	SPASS Rider		
INMS 107TI TITAN51002 INMS	INMS 1498	2009-086T04:58:37	GMB E106 Titan51+000T00:15:00	000T00:45:00	2009-086T05:43:37	1498	4.045	Non-SPASS		
RSS 107TI BISTATOUT001 PRIME	RSS Activity	2009-086T04:58:37	GMB E106 Titan51+000T00:15:00	000T01:13:00	2009-086T06:11:37	0	0	Prime	XBAND to Titan	NEG Y to 110.5/26.0
MP 107SA RPXASCEND107 NA	MILESTONE	2009-086T05:09:52		000T00:00:01	2009-086T05:09:53	0	0	Non-SPASS		
RPWS 107TI TIINTRMED001 PRIME	RPWS 30464	2009-086T05:13:37	GMB E106 Titan51+000T00:30:00	000T01:30:00	2009-086T06:43:37	8332	44.992	Non-SPASS		
CAPS 107TI T51OUTBND001 PRIME	CAPS 16000	2009-086T05:23:37	GMB E106 Titan51+000T00:40:00	000T01:20:00	2009-086T06:43:37	4000	19.2	SPASS Rider		
INMS 107SA SURVEYSEG001 INMS	INMS 1498	2009-086T05:43:37	GMB E106 Titan51+000T01:00:00	001T10:21:23	2009-087T16:05:00	100	12.368	Non-SPASS		
MIMI 107TI TITANOUT001 RIDER	MIMI 8000	2009-086T05:43:37		000T01:00:00	2009-086T06:43:37	1200	4.32	SPASS Rider		
CIRS 107TI DUMMY008 SP	CIRS 4000	2009-086T06:11:37	GMB E106 Titan51+000T01:28:00	000T00:24:00	2009-086T06:35:37	2000	2.88	SPASS Rider		
ENGR 107SA DFPWBIAS086 PPS	OpMode	2009-086T06:11:37	GMB E106 Titan51+000T01:28:00	000T00:21:07	2009-086T06:32:44	0	0	Prime	NEG Y to Titan	POS X to South_Pole_Dir
CIRS 107TI FIRNADMAP002 PRIME	CIRS 4000	2009-086T06:32:44	GMB E106 Titan51+000T01:49:07	000T03:10:53	2009-086T09:43:37	2000	22.906	Prime	CIRS FP1 to Titan	POS X to South_Pole_Dir
ISS 107TI RIDER013 CIRS	ISS Phot 1 by	2009-086T06:35:37	GMB E106 Titan51+000T01:52:00	000T03:08:00	2009-086T09:43:37	0	50	SPASS Rider		
VIMS 107TI FIRNADCMP002 CIRS	VIMS 18432	2009-086T06:35:37	GMB E106 Titan51+000T01:52:00	000T03:08:00	2009-086T09:43:37	2660	30	SPASS Rider		
CAPS 107SA SURVEY001 PRIME	CAPS 16000	2009-086T06:43:37	GMB E106 Titan51+000T02:00:00	002T11:03:23	2009-088T17:47:00	1000	212.603	Non-SPASS		

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Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
MIMI 107CO SURVEY001 RIDER	MIMI 8000	2009-086T06:43:37		001T08:46:59	2009-087T15:30:36	900	106.217	Non-SPASS		
MAG 107OT SURVEY001 PRIME	MAG 1976	2009-086T08:43:37	GMB E106 Titan51+000T04:00:00	001T08:06:23	2009-087T16:50:00	600	69.35	Non-SPASS		
ENGR 107SC SAFETABLE001 AACS	MILESTONE	2009-086T09:00:00		000T00:01:00	2009-086T09:01:00	0	0	Non-SPASS		
CIRS 107TI MIRLMBINT002_PRIME	CIRS 4000	2009-086T09:43:37	GMB E106 Titan51+000T05:00:00	000T04:00:00	2009-086T13:43:37	4000	57.6	Prime	CIRS_FP1 to Titan	PIC
CIRS 107TI MIRLMBINT002_SI	ISS SUPPORT	2009-086T09:43:37	GMB E106 Titan51+000T05:00:00	000T04:00:00	2009-086T13:43:37	0	4	SPASS Rider		
ISS 107TI MIRLMBINT002_CIRS	ISS Phot 1 by	2009-086T09:43:37	GMB E106 Titan51+000T05:00:00	000T04:00:00	2009-086T13:43:37	0	25	SPASS Rider		
UVIS 107TI MIRLMBINT002_CIRS	UVIS 5032	2009-086T09:43:37	GMB E106 Titan51+000T05:00:00	000T04:00:00	2009-086T13:43:37	1258	18.115	SPASS Rider		
VIMS 107TI MIRLMBMAP001_CIRS	VIMS 18432	2009-086T09:43:37	GMB E106 Titan51+000T05:00:00	000T04:00:00	2009-086T13:43:37	2083	30	SPASS Rider		
CIRS 107TI PHOTOMWAC001_ISS	CIRS 4000	2009-086T13:43:37	GMB E106 Titan51+000T09:00:00	000T01:00:00	2009-086T14:43:37	2000	7.2	SPASS Rider		
ISS 107TI PHOTOMWAC001_PRIME	ISS Phot 1 by	2009-086T13:43:37	GMB E106 Titan51+000T09:00:00	000T01:00:00	2009-086T14:43:37	0	50	Prime	ISS_NAC to Titan	NEG_X to Sun
SP 107NA ENDCUSTOM086_NA	MILESTONE	2009-086T13:43:37	GMB E106 Titan51+000T09:00:00	000T00:00:01	2009-086T13:43:38	0	0	SPASS Note		
UVIS 107TI FIRNADCMP002_ISS	UVIS 5032	2009-086T13:43:37	GMB E106 Titan51+000T09:00:00	000T01:00:00	2009-086T14:43:37	5032	18.115	SPASS Rider		
VIMS 107TI PHOTOMWAC001_ISS	VIMS 18432	2009-086T13:43:37	GMB E106 Titan51+000T09:00:00	000T01:00:00	2009-086T14:43:37	5556	20	SPASS Rider		
CIRS 107TI FIRNADCMP002_PRIME	CIRS 4000	2009-086T14:43:37	GMB E106 Titan51+000T10:00:00	000T03:00:00	2009-086T17:43:37	4000	43.2	Prime	CIRS_FP1 to Titan	PIC
CIRS 107TI FIRNADCMP002_SI	ISS SUPPORT	2009-086T14:43:37	GMB E106 Titan51+000T10:00:00	000T03:00:00	2009-086T17:43:37	0	3	SPASS Rider		
ISS 107TI FIRNADCMP002_CIRS	ISS Phot 1 by	2009-086T14:43:37	GMB E106 Titan51+000T10:00:00	000T03:00:00	2009-086T17:43:37	0	50	SPASS Rider		
UVIS 107TI FIRNADCMP002_CIRS	UVIS 5032	2009-086T14:43:37	GMB E106 Titan51+000T10:00:00	000T03:00:00	2009-086T17:43:37	5032	54.346	SPASS Rider		
VIMS 107TI FIRNADCMP003_CIRS	VIMS 18432	2009-086T14:43:37	GMB E106 Titan51+000T10:00:00	000T03:00:00	2009-086T17:43:37	2778	30	SPASS Rider		
CIRS 107TI NIGHTNAC005_ISS	CIRS 4000	2009-086T17:43:37	GMB E106 Titan51+000T13:00:00	000T00:30:00	2009-086T18:13:37	2000	3.6	SPASS Rider		
ISS 107TI NIGHTNAC001_PRIME	ISS Phot 1 by	2009-086T17:43:37	GMB E106 Titan51+000T13:00:00	000T00:30:00	2009-086T18:13:37	0	25	Prime	ISS_NAC to Titan	NEG_X to Sun
VIMS 107TI NIGHTNAC001_ISS	VIMS 18432	2009-086T17:43:37	GMB E106 Titan51+000T13:00:00	000T00:30:00	2009-086T18:13:37	6944	12.5	SPASS Rider		
CIRS 107TI MIDIRTMAP002_PRIME	CIRS 4000	2009-086T18:13:37	GMB E106 Titan51+000T13:30:00	000T05:12:00	2009-086T23:25:37	2000	37.44	Prime	CIRS_FP1 to Titan	POS_X to North_Pole_Dir
CIRS 107TI MIDIRTMAP002_SI	ISS SUPPORT	2009-086T18:13:37	GMB E106 Titan51+000T13:30:00	000T05:12:00	2009-086T23:25:37	0	3	SPASS Rider		
ISS 107TI MIDIRTMAP002_CIRS	ISS Phot 1 by	2009-086T18:13:37	GMB E106 Titan51+000T13:30:00	000T05:30:00	2009-086T23:43:37	0	20	SPASS Rider		
VIMS 107TI MIDIRTMAP002_CIRS	VIMS 18432	2009-086T18:13:37	GMB E106 Titan51+000T13:30:00	000T05:12:00	2009-086T23:25:37	1603	30	SPASS Rider		
CIRS 107TI NIGHTNAC004_ISS	CIRS 4000	2009-086T23:25:37	GMB E106 Titan51+000T18:42:00	000T00:30:00	2009-086T23:55:37	2000	3.6	SPASS Rider		
ISS 107TI NIGHTNAC002_PRIME	ISS Phot 1 by	2009-086T23:25:37	GMB E106 Titan51+000T18:42:00	000T00:30:00	2009-086T23:55:37	0	25	Prime	ISS_NAC to Titan	NEG_X to Sun
VIMS 107TI NIGHTNAC002_ISS	VIMS 18432	2009-086T23:25:37	GMB E106 Titan51+000T18:42:00	000T00:30:00	2009-086T23:55:37	6944	12.5	SPASS Rider		
SP 107TI DEADTIME087_PRIME	MILESTONE	2009-086T23:55:37	GMB E106 Titan51+000T19:12:00	000T00:14:23	2009-087T00:10:00	0	0	Prime	NEG_Y to Titan	NEG_X to North_Pole_Dir
SP 107EA DLTURN087_PRIME	MILESTONE	2009-087T00:10:00		000T00:40:00	2009-087T00:50:00	0	0	Prime	XBAND to Earth	POS_X to NEP
ENGR 107SC AACSDUAL002_CDS	MILESTONE	2009-087T00:49:47		000T00:00:02	2009-087T00:49:49	0	0	Non-SPASS		
ENGR 107SC RSSKRWAS086_PPS	OpMode	2009-087T00:50:00		000T00:05:08	2009-087T00:55:08	0	0	Non-SPASS		
RPWS 107CO MAGBOUND001_CAPS	RPWS 30464	2009-087T00:50:00		006T08:44:00	2009-093T09:34:00	9000	4948.55	Non-SPASS		
SP 107EA G70METNON087_PRIME	DOWNLINK P	2009-087T00:50:00		000T09:00:00	2009-087T09:50:00	0	0	Prime	XBAND to Earth	Rolling
SP 107NA G70METNON087_SP	DSN PASS	2009-087T00:50:00		000T09:00:00	2009-087T09:50:00	0	0	Non-SPASS		
UVIS 107SW IPHSURVEY001 RIDER	UVIS 5032	2009-087T00:50:00		000T09:00:00	2009-087T09:50:00	152.5	4.94	Non-SPASS		
CIRS 107IC DSCAL09087_SP	CIRS 4000	2009-087T01:50:00		000T08:00:00	2009-087T09:50:00	3000	86.4	SPASS Rider		
MP 107SA PERIAPSE107_NA	MILESTONE	2009-087T05:33:16		000T00:00:01	2009-087T05:33:17	0	0	SPASS Note		
RSS 107TI KADOWN001_RSS	RSS Activity	2009-087T09:25:00		000T07:25:00	2009-087T16:50:00	0	0	SPASS Rider		
SP 107NA C34BWGNON087_SP	DSN PASS	2009-087T09:30:00		000T07:20:00	2009-087T16:50:00	0	0	Non-SPASS		
SP 107NA C34HEF2ND087_SP	DSN PASS	2009-087T09:30:00		000T07:20:00	2009-087T16:50:00	0	0	Non-SPASS		
SP 107EA C34ARRNON087_PRIME	DOWNLINK P	2009-087T09:50:00		000T07:00:00	2009-087T16:50:00	0	0	Prime	XBAND to Earth	Rolling
SP 107NA DUALPB087_SP	ENGR 1638	2009-087T09:50:00		000T00:00:01	2009-087T09:50:01	6E+08	581.766	SPASS Note		
UVIS 107SW IPHSURVEY002 RIDER	UVIS 5032	2009-087T09:50:00		000T07:00:00	2009-087T16:50:00	152.5	3.842	Non-SPASS		
CIRS 107IC DSCAL09487_SP	CIRS 4000	2009-087T10:50:00		000T06:00:00	2009-087T16:50:00	4000	86.4	SPASS Rider		
MIMI 107SA MAGDYN001 RIDER	MIMI 8000	2009-087T15:30:36		001T02:16:24	2009-088T17:47:00	1200	113.501	Non-SPASS		
INMS 107SA SURVEYSEG002_INMS	INMS 1498	2009-087T16:05:00		001T00:00:00	2009-088T16:05:00	100	8.64	Non-SPASS		
ENGR 107SC DFPW087_PPS	OpMode	2009-087T16:49:48		000T00:00:12	2009-087T16:50:00	0	0	Non-SPASS		



# T51 SPASS

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S49, length = 40 days		2009-085T10:05:00		039T21:11:00	2009-125T07:16:00			
Titan Flyby T51 Segment		2009-085T10:05:00		002T06:45:00	2009-087T16:50:00			
SP_106EA_S49IVP085_PRIME		2009-085T10:05:00		000T00:06:00	2009-085T10:11:00	XBAND to Earth	POS_X to NEP	S49 IVP Gap
SP_106TI_WAYPTTURN085_PRIME		2009-085T10:11:00		000T00:42:00	2009-085T10:53:00	NEG_Y to Titan	NEG_X to North_Pole_Dir	
<b>NEW WAYPOINT</b>		<b>2009-085T10:53:00</b>		<b>002T05:57:00</b>	<b>2009-087T16:50:00</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to North_Pole_Dir</b>	
<b>SP_106TI_DEADTIME085_PRIME</b>		<b>2009-085T10:53:00</b>		<b>000T00:07:32</b>	<b>2009-085T11:00:32</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to North_Pole_Dir</b>	
CIRS_106TI_MIDIRMAP001_PRIME	C, I, V	2009-085T11:00:32	GMB_E106_Titan51-000T17:43:05	000T03:43:05	2009-085T14:43:37	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
ISS_106TI_MONITORNA001_PRIME	C, V	2009-085T14:43:37	GMB_E106_Titan51-000T14:00:00	000T02:00:00	2009-085T16:43:37	ISS_NAC to Titan	NEG_X to Sun	
CIRS_106TI_FIRNADCOMP001_PRIME	C, I, U, V	2009-085T16:43:37	GMB_E106_Titan51-000T12:00:00	000T03:00:00	2009-085T19:43:37	CIRS_FP1 to Titan	PIC	
ISS_106TI_GLOBMAP001_PRIME	C, V	2009-085T19:43:37	GMB_E106_Titan51-000T09:00:00	000T04:00:00	2009-085T23:43:37	ISS_NAC to Titan	NEG_X to Sun	
VIMS_106TI_REGMAP001_PRIME	C, I, U	2009-085T23:43:37	GMB_E106_Titan51-000T05:00:00	000T03:00:00	2009-086T02:43:37	VIMS_IR to Titan	NEG_X to Sun	
<b>Begin Custom Period</b>		<b>2009-086T02:43:37</b>	<b>GMB_E106_Titan51-000T02:00:00</b>	<b>000T00:00:01</b>	<b>2009-086T02:43:38</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to North_Pole_Dir</b>	
ISS_106TI_REGMAP001_PRIME	C, M, R, V	2009-086T02:43:37	GMB_E106_Titan51-000T02:00:00	000T01:08:00	2009-086T03:51:37	ISS_NAC to Titan	NEG_X to Sun	Pick up at NEG_Y to Titan, NEG_X to North_Pole_Dir; Hand off at ISS_NAC to Titan, NEG_X to Titan_SC_RAM
ENGR_106SC_URSS2RCS085_PRIME	C, M, R	2009-086T03:51:37	GMB_E106_Titan51-000T00:52:00	000T00:01:00	2009-086T03:52:37	ISS_NAC to Titan	NEG_X to Titan_SC_RAM	Pick up at ISS_NAC to Titan, NEG_X to Titan_SC_RAM; Hand off at ISS_NAC to Titan, NEG_X to Titan_SC_RAM, DB (.5,5.2)
VIMS_106TI_HIRES001_PRIME	C, M, R	2009-086T03:52:37	GMB_E106_Titan51-000T00:51:00	000T00:51:00	2009-086T04:43:37	VIMS_IR to Titan	NEG_X to Titan_SC_RAM	Pick up at ISS_NAC to Titan, NEG_X to Titan_SC_RAM; Hand off at NEG_X to Titan_SC_RAM, NEG_Y to Titan.
Begin Dual Playback Science		2009-086T04:13:37	GMB_E106_Titan51-000T00:30:00	000T00:00:01	2009-086T04:13:38			
106TI (t) T51 TITAN Outbo...		2009-086T04:43:37		000T00:00:01	2009-086T04:43:38			
End Dual Playback Science		2009-086T04:43:37	GMB_E106_Titan51+000T00:00:00	000T00:00:01	2009-086T04:43:38			
INMS_106TI_TITAN51001_PRIME	C, M, R, V	2009-086T04:43:37	GMB_E106_Titan51+000T00:00:00	000T00:15:00	2009-086T04:58:37	NEG_X to Titan_SC_RAM	NEG_Y to Titan	Pick up at NEG_X to Titan_SC_RAM, NEG_Y to Titan; Hand off at NEG_X to Titan_SC_RAM, NEG_Y to Titan.
Apoapse Per = 16.5 d, inc ...		2009-086T04:51:36		000T00:00:01	2009-086T04:51:37			
RSS_107TI_BISTATOUT001_PRIME	C, M, R	2009-086T04:58:37	GMB_E106_Titan51+000T00:15:00	000T01:13:00	2009-086T06:11:37	XBAND to Titan	NEG_Y to 110.5/26.0	Pick up at NEG_X to Titan_SC_RAM, NEG_Y to Titan; Hand off at NEG_Y to Titan, POS_X to South_Pole_Dir. 1. Pointing, driven with ivd file, to specular point on Titan.
ENGR_107SA_DFPWBIAS086_PPS	C, M	2009-086T06:11:37	GMB_E106_Titan51+000T01:28:00	000T00:21:07	2009-086T06:32:44	NEG_Y to Titan	POS_X to South_Pole_Dir	Pick up at NEG_Y to Titan, POS_X to South_Pole_Dir; Hand off at NEG_Y to Titan, POS_X to South_Pole_Dir.
CIRS_107TI_FIRNADMAP002_PRIME	C, I, M, V	2009-086T06:32:44	GMB_E106_Titan51+000T01:49:07	000T03:10:53	2009-086T09:43:37	CIRS_FP1 to Titan	POS_X to South_Pole_Dir	Pick up at NEG_Y to Titan, POS_X to South_Pole_Dir; Hand off at CIRS_FPB to Titan, PIC.
CIRS_107TI_MIRLMBINT002_PRIME	C, I, U, V	2009-086T09:43:37	GMB_E106_Titan51+000T05:00:00	000T04:00:00	2009-086T13:43:37	CIRS_FPB to Titan	PIC	Pick up at CIRS_FPB to Titan, PIC; Hand off at NEG_Y to Titan, NEG_X to North_Pole_Dir.
<b>End Custom Period</b>		<b>2009-086T13:43:37</b>	<b>GMB_E106_Titan51+000T09:00:00</b>	<b>000T00:00:01</b>	<b>2009-086T13:43:38</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to North_Pole_Dir</b>	
ISS_107TI_PHOTOMWAC001_PRIME	C, U, V	2009-086T13:43:37	GMB_E106_Titan51+000T09:00:00	000T01:00:00	2009-086T14:43:37	ISS_NAC to Titan	NEG_X to Sun	
CIRS_107TI_FIRNADCOMP002_PRIME	C, I, U, V	2009-086T14:43:37	GMB_E106_Titan51+000T10:00:00	000T03:00:00	2009-086T17:43:37	CIRS_FP1 to Titan	PIC	
ISS_107TI_NIGHTNA001_PRIME	C, V	2009-086T17:43:37	GMB_E106_Titan51+000T13:00:00	000T00:30:00	2009-086T18:13:37	ISS_NAC to Titan	NEG_X to Sun	
CIRS_107TI_MIDIRMAP002_PRIME	C, I, V	2009-086T18:13:37	GMB_E106_Titan51+000T13:30:00	000T05:12:00	2009-086T23:25:37	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
ISS_107TI_NIGHTNA002_PRIME	C, I, V	2009-086T23:25:37	GMB_E106_Titan51+000T18:42:00	000T00:30:00	2009-086T23:55:37	ISS_NAC to Titan	NEG_X to Sun	
<b>SP_107TI_DEADTIME087_PRIME</b>		<b>2009-086T23:55:37</b>	<b>GMB_E106_Titan51+000T19:12:00</b>	<b>000T00:14:23</b>	<b>2009-087T00:10:00</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to North_Pole_Dir</b>	
SP_107EA_DLTURN087_PRIME		2009-087T00:10:00		000T00:40:00	2009-087T00:50:00	XBAND to Earth	POS_X to NEP	
SP_107EA_G70METNON087_PRIME	C, R	2009-087T00:50:00		000T09:00:00	2009-087T09:50:00	XBAND to Earth	Rolling	POS_X to NEP
Periapse R = 19.667 Rs, lat...		2009-087T05:33:16		000T00:00:01	2009-087T05:33:17			
Pointer Reset in preparatio...		2009-087T09:50:00		000T00:00:01	2009-087T09:50:01			
SP_107EA_C34ARRNON087_PRIME	C, R	2009-087T09:50:00		000T07:00:00	2009-087T16:50:00	XBAND to Earth	Rolling	POS_X to NEP



# T51 Liens and Open Issues

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- Lien – RSS not warming up for the full duration. RSS agreed.
- Lien – No CDA articulation during transition to thrusters.
- The waypoint turn at the beginning of the segment may need an SID suspend. CTV did not state it was needed but PDT did.
- CIRS is using PIC in their custom pointing between CIRS observations. Since only CIRS is involved this isn't an issue.