

Flight Data File Crew Activity Plan

STS 51-G

Mission Operations Directorate
Operations Division

Final
May 1, 1985

EVENT:	CDT		
Launch	06:31	Wed	Jun 12
MORELOS Deploy	14:36	Wed	Jun 12
ARABSAT Deploy	08:54	Thu	Jun 13
TELSTAR Deploy	06:18	Fri	Jun 14
SPARTAN Deploy	10:59	Sat	Jun 15
SPARTAN Rendezvous	07:54	Mon	Jun 17
Crew Conference	06:16	Tue	Jun 18
KSC Landing	06:47	Wed	Jun 19

17
18
19
20
21
22
23



National Aeronautics and
Space Administration

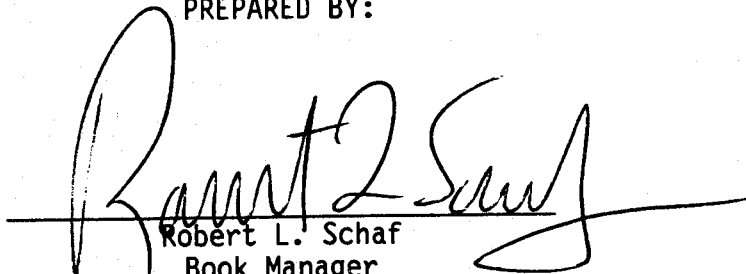
Lyndon B. Johnson Space Center
Houston, Texas

MISSION OPERATIONS DIRECTORATE


STS 51-G CREW ACTIVITY PLAN

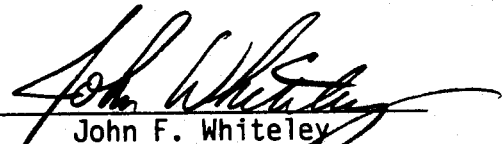
FINAL
May 1, 1985


PREPARED BY:

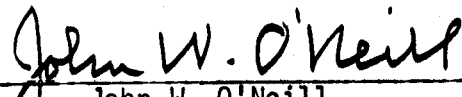

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This document is under the configuration control of the Crew Procedures Control Board (CPCB). All proposed changes must be submitted on standard JSC form 482 to DH4/FDF Manager, Bldg 4, Room 352, 713-483-2868.

Comments concerning this document may be addressed to DH4/Robert L. Schaf or DH4/Barbara A. Schwartz, Bldg 4, Rm 338, 713-483-5871.

Changes to the distribution list should be submitted in writing to DH4/Gwen Butler, Bldg 4, Rm 373, 713-483-5224.

Incorporates 482

No: CAP-303	CAP-335A	CAP-345	
CAP-323	CAP-336A	CAP-346A	FDf-551A
CAP-324	CAP-337	CAP-350A	FDf-555
CAP-325	CAP-338	CAP-353	FDf-561
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CAP-333A	CAP-343A	CAP-359	

ACKNOWLEDGMENTS

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LIST OF EFFECTIVE PAGES

FINAL 05/01/85

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STS 51-G CAP CUE CARDS

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UNIV PTG (Back of DAP Book Front Cover).....	5-4	CAP/51-G/O/FIN
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INTRODUCTION

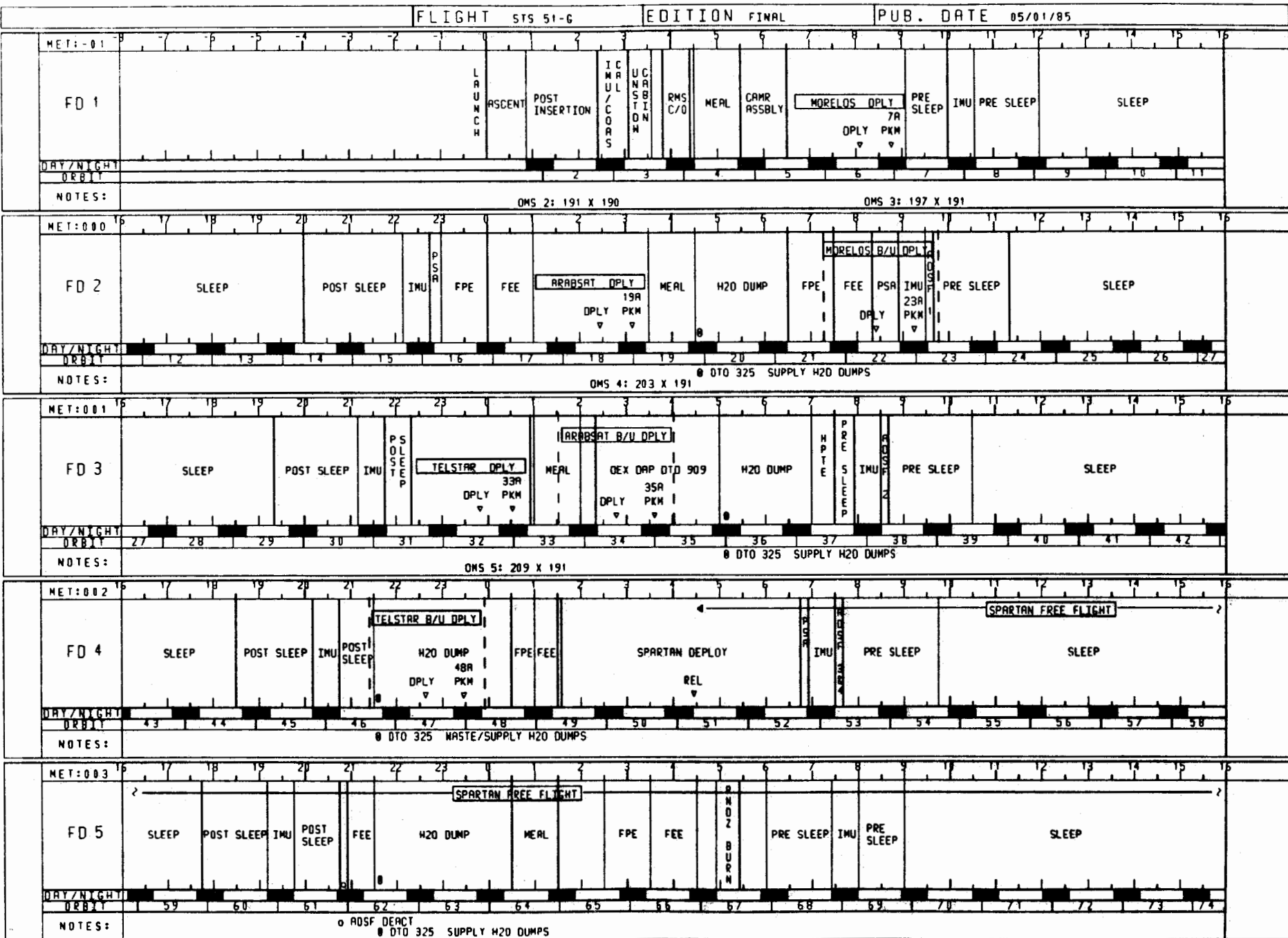
The STS 51-G Crew Activity Plan is the flight data file article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Rendezvous, Deorbit Prep, and Entry Checklists. The STS 51-G Rendezvous book contains all RMS procedures which are to be conducted during the rendezvous operational timelines. All other RMS procedures are in the PDRS OPS Checklist. For continuity, the entire flight is shown in the summary level timeline.

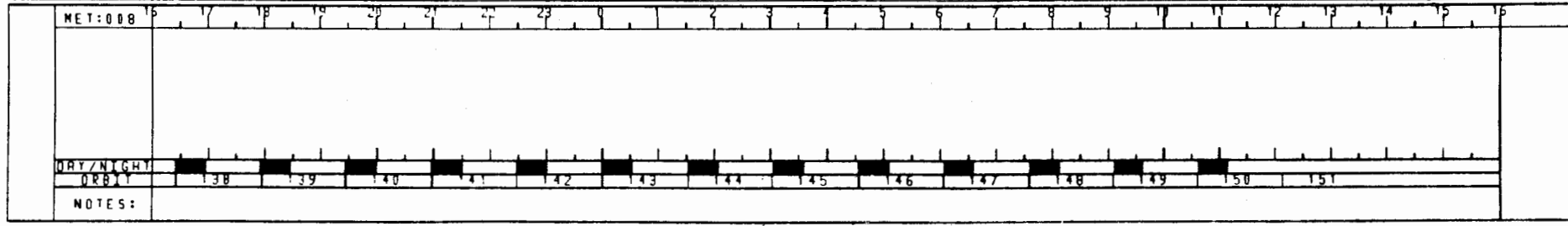
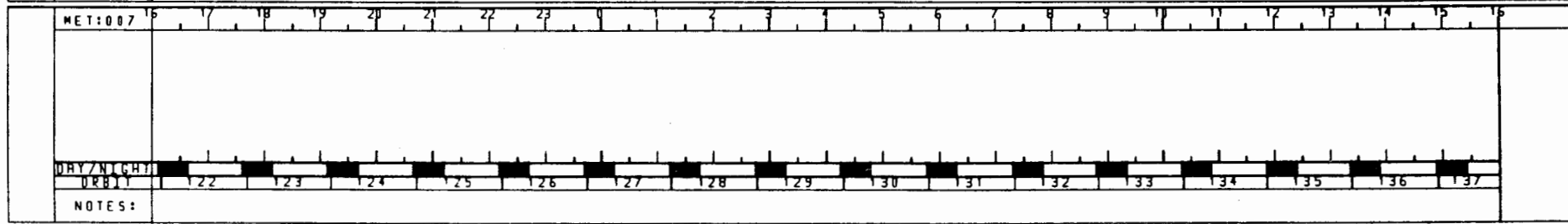
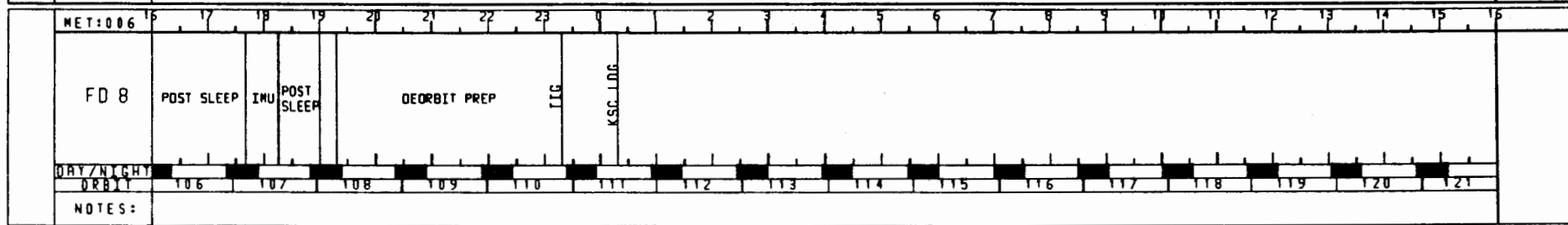
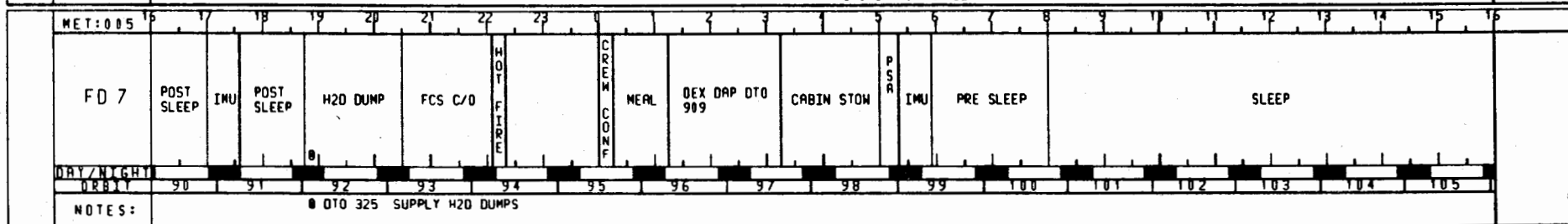
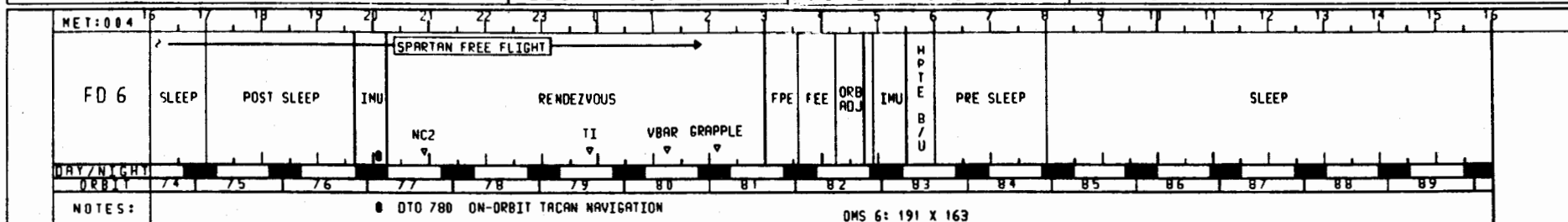
This on-orbit timeline satisfies the objectives specified in the Flight Definition and Requirements Directive and the requirements of the STS 51-G Flight Requirements Document.

The operational flight profile (Cycle 3 trajectory data) used for this Crew Activity Plan is for a launch date of June 12, 1985, at 11:31 GMT. Orbiter inertial attitudes are expressed relative to the Mean of 1950 (M50) reference frame.

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**51-G
OVERVIEW**



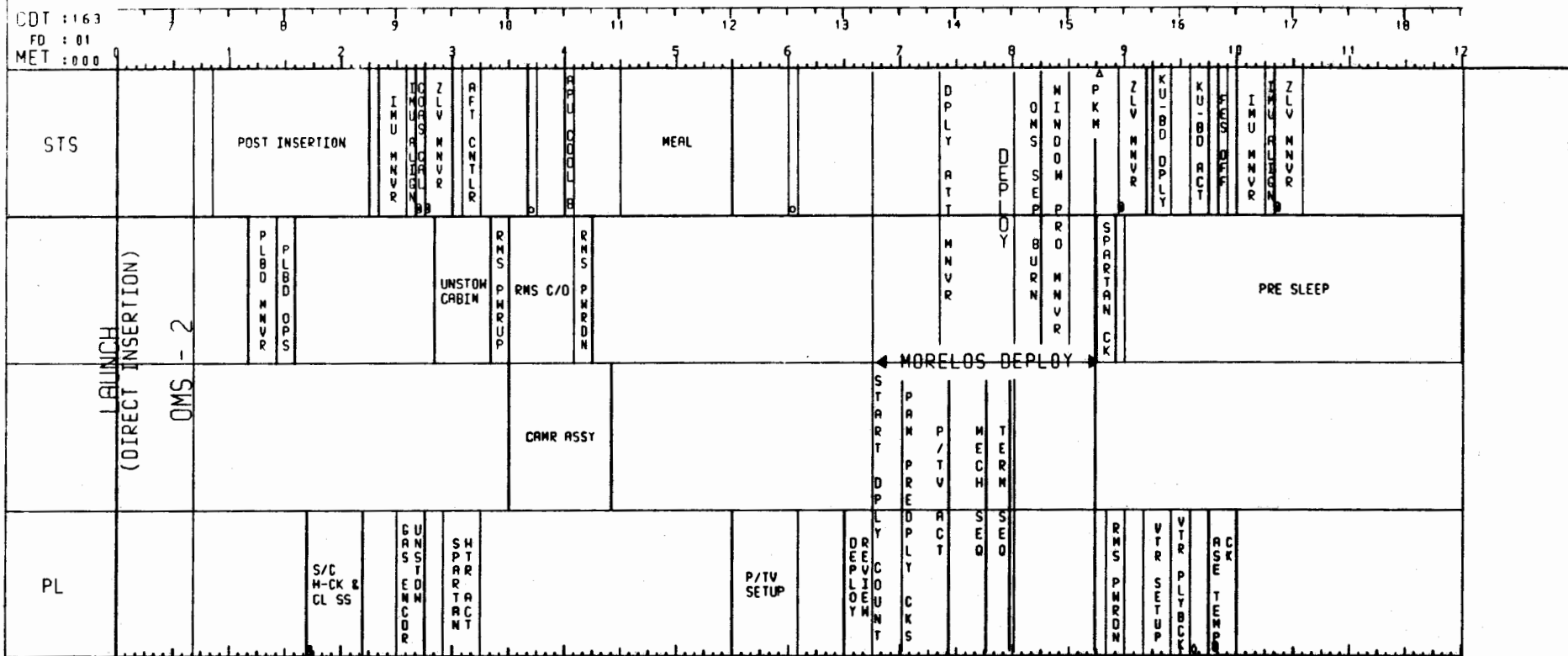


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SUMMARY TIMELINE

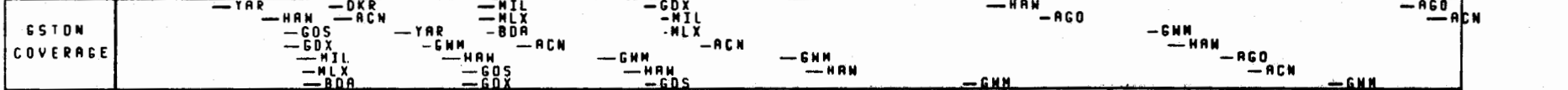
SUMMARY TIMELINE

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
163:11:31/ 163:23:31	000:00:00/ 000:12:00	163:06:31/ 163:18:31	01/ 163 CDT	18.1		JUNE 12, 1985	STS 51-G	FINAL	05/01/85



DAY/NIGHT

ORBIT



ATTITUDE

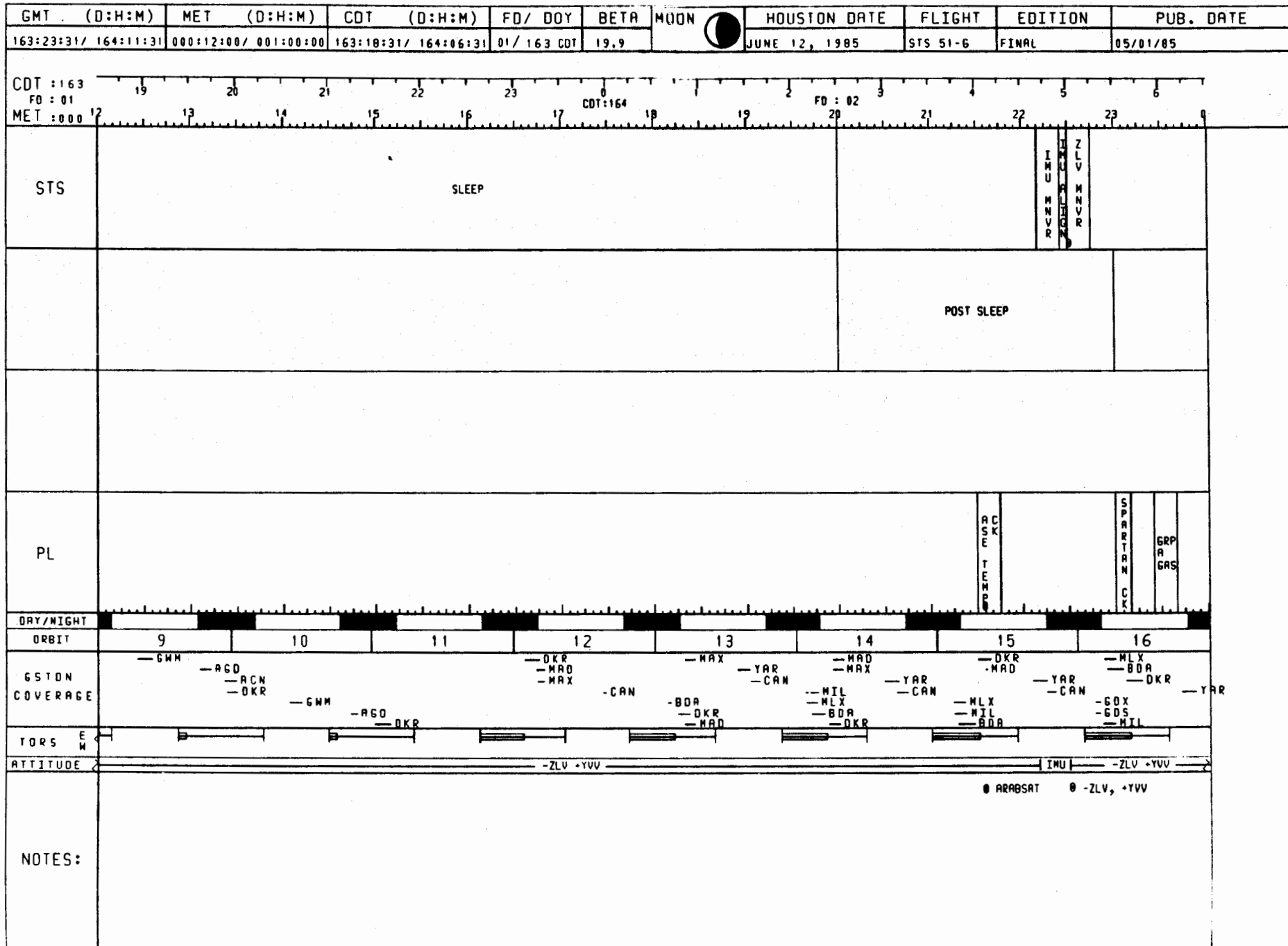
NOTES:


- TELSTAR/ARABSAT/MORELOS
- AFT STATION ○ APU NTR DEACT
- -ZLV, +YUV
- APU NTR RECONFIG
- -ZLV, +YUV
- TV/VTR DEACT
- TELSTAR

FEE ACTIVITIES (PS) MET

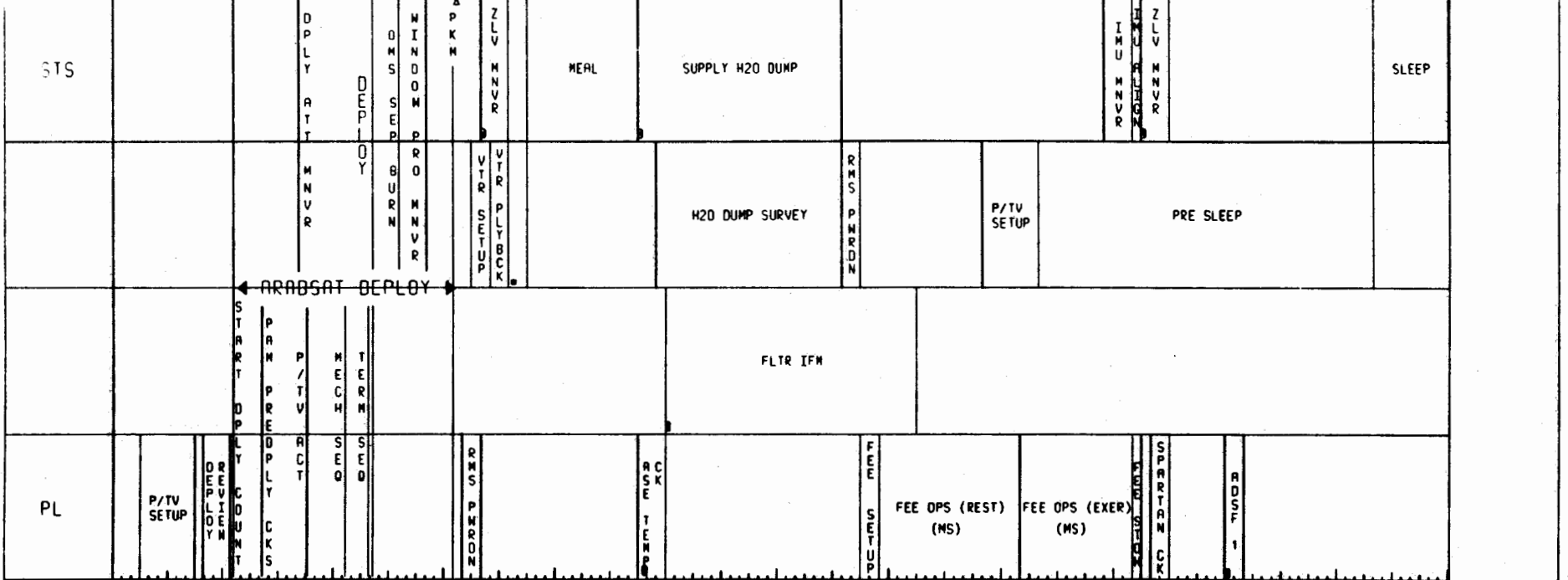
Note: FEE ACTIVITIES shown are those scheduled on detail pages. EZ-CAP ACTIVITIES are not shown here.

SETUP	0/08:20 - 0/08:30
REST TEST	0/08:30 - 0/09:45
STON	0/09:45 - 0/09:50

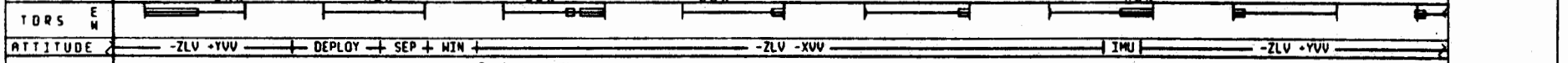


GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ OOV	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
164:11:31/ 164:23:31	001:00:00/ 001:12:00	164:06:31/ 164:18:31	02/ 164 CDT	21.9		JUNE 13, 1985	STS 51-G	FINAL	05/01/85

CDT : 164
 FD : 02
 MET : 001



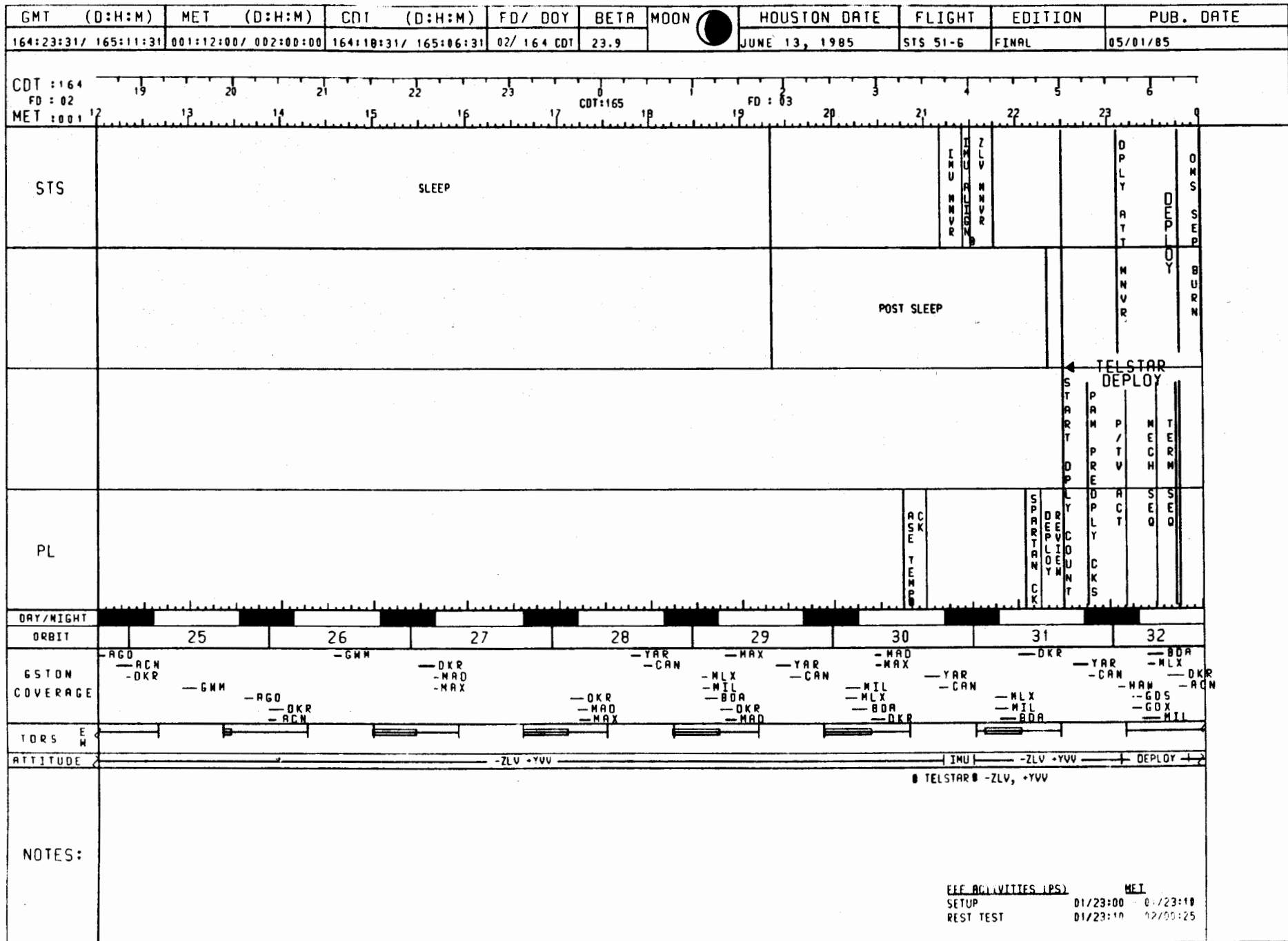
ORBIT: 17, 18, 19, 20, 21, 22, 23, 24



NOTES:

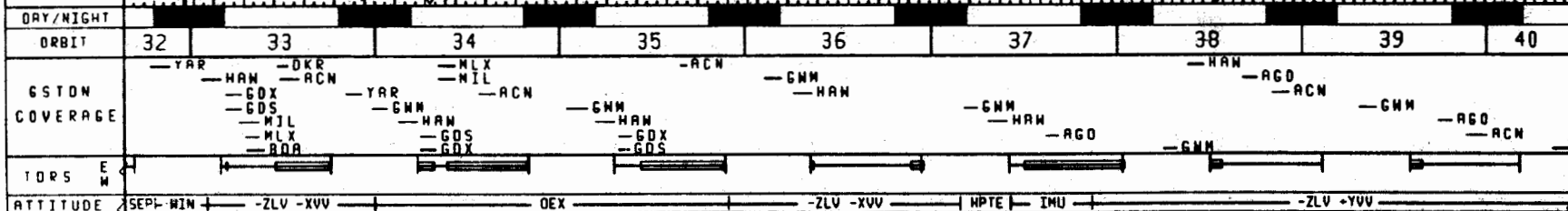
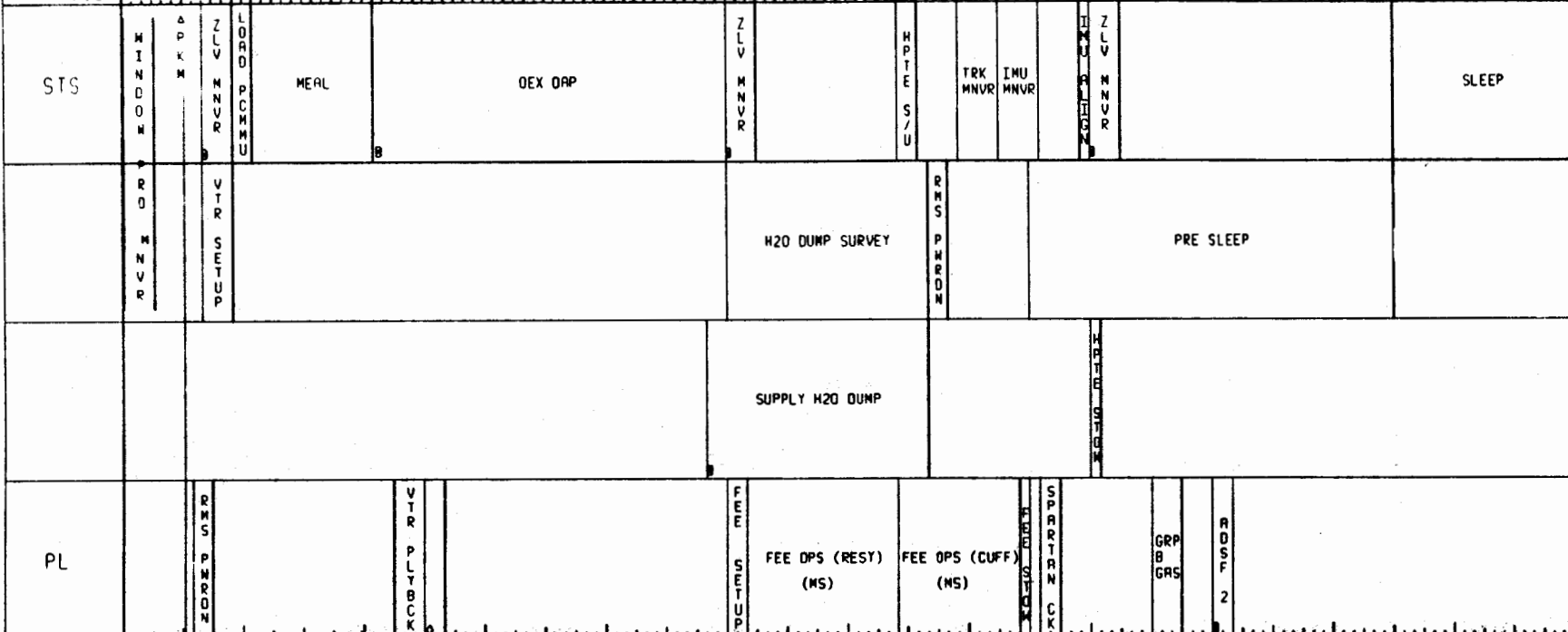
- -ZLV, -XUV
- TELSTAR
- TV/VTR DEACT
- FILTER CLEANING
- DTO 0325 WASTE AND SUPPLY WATER DUMPS
- -ZLV, +YVV
- INITIATE PAUSE

FEE ACTIVITIES (PS)	MET
SETUP	01:00:05 - 01:00:15
REST TEST	01:00:15 - 01:01:30
CUFF TEST	01:01:30 - 01:02:30
STOM	01:02:30 - 01:02:35



GMT (O:H:M)	MET (O:H:M)	CDT (O:H:M)	FD/ DDY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
165:11:31 / 165:23:31	002:00:00 / 002:12:00	165:06:31 / 165:18:31	03 / 165 CDT	25.9	☉	JUNE 14, 1985	STS 51-G	FINAL	05/01/85

CDT : 165
FD : 03
MET : 002




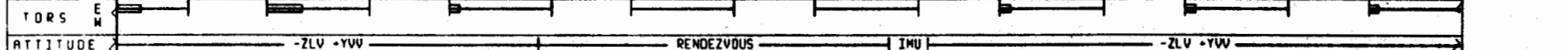
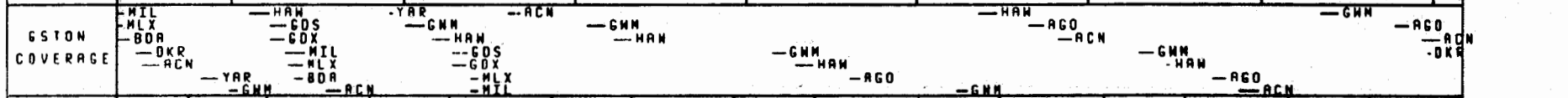
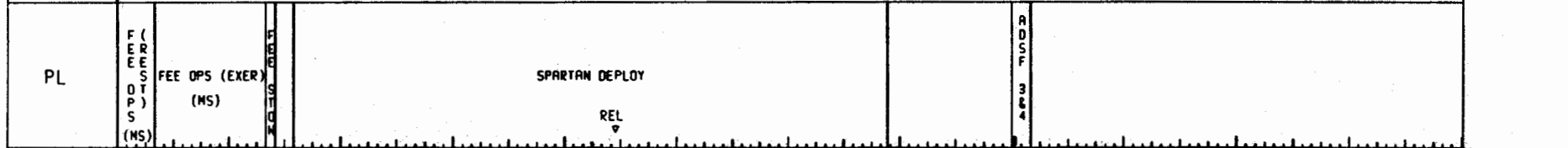
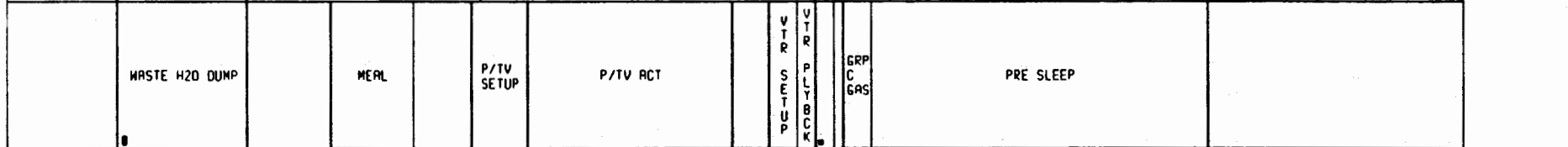
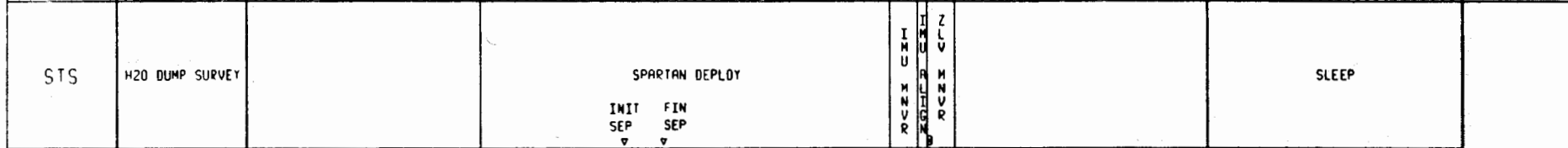
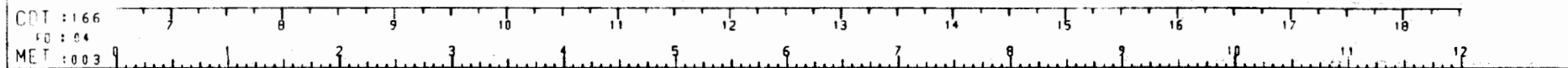
NOTES:

● -ZLV, -XVV ○ TV/VTR DEACT
 ● OTD 0325 WASTE AND SUPPLY WATER DUMPS ● -ZLV, +YVV
 ● OTD 909 OEX ADVANCED AUTO PILOT PERFORMANCE
 ● -ZLV, -XVV ● INITIATE PAUSE

FEE ACTIVITIES (PS) MET
 REST TEST 01/23:10 - 02/00:25
 EXERCISE TEST 02/00:25 - 02/00:55
 STOW 02/00:55 - 02/01:00

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EOITION	PUB. DATE			
165:23:31 / 166:11:31	002:12:00 / 003:00:00	165:18:11 / 166:06:31	04 / 165 CDT	27.9		JUNE 14, 1985	STS 51-G	FINAL	05/01/85			
CDT : 165 FD : 03 MET : 002												
STS	SLEEP					I W U M N V R Z L V M N V R	R M S P W R U P	H2O DUMP SURVEY	H2O DUMP SURVEY			
						POST SLEEP		SUPPLY H2O DUMP	WASTE H2O DUMP			
PL							S P A R T A N C K		F E E S E T U P	FEE OPS (REST) (MS)		
DAY/NIGHT												
ORBIT	40	41	42	43	44	45	46	47	48			
GSTON COVERAGE	-AGD -ACN -DKR	-GMM	-AGD -DKR -MAD	-DKR -MAD -MAX	YAR -CAN	-MIL -BDA	-DKR -MAD -MAX	-BDA -DKR -MAD -MAX	-MLX -BDA -DKR	-YAR -CAN	-GDS -MIL -BDA -MLX -DKR -ACN	-HAW -GDS -GDX -MIL -MLX -BDA
TDRS E M												
ATTITUDE	-ZLV -YVU											
NOTES:	• -ZLV, -YVU • DTD 0325 WASTE AND SUPPLY WATER DUMPS • DTD 0325 WASTE AND SUPPLY WATER DUMPS											

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FO/DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
166:11:31 / 166:23:31	003:00:00 / 003:12:00	166:06:31 / 166:18:31	04 / 166 CDT	29.8		JUNE 15, 1985	STS 51-G	FINAL	05/01/85




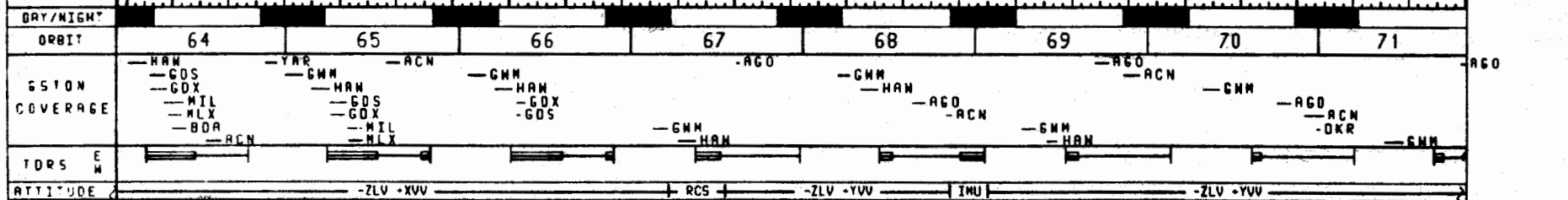
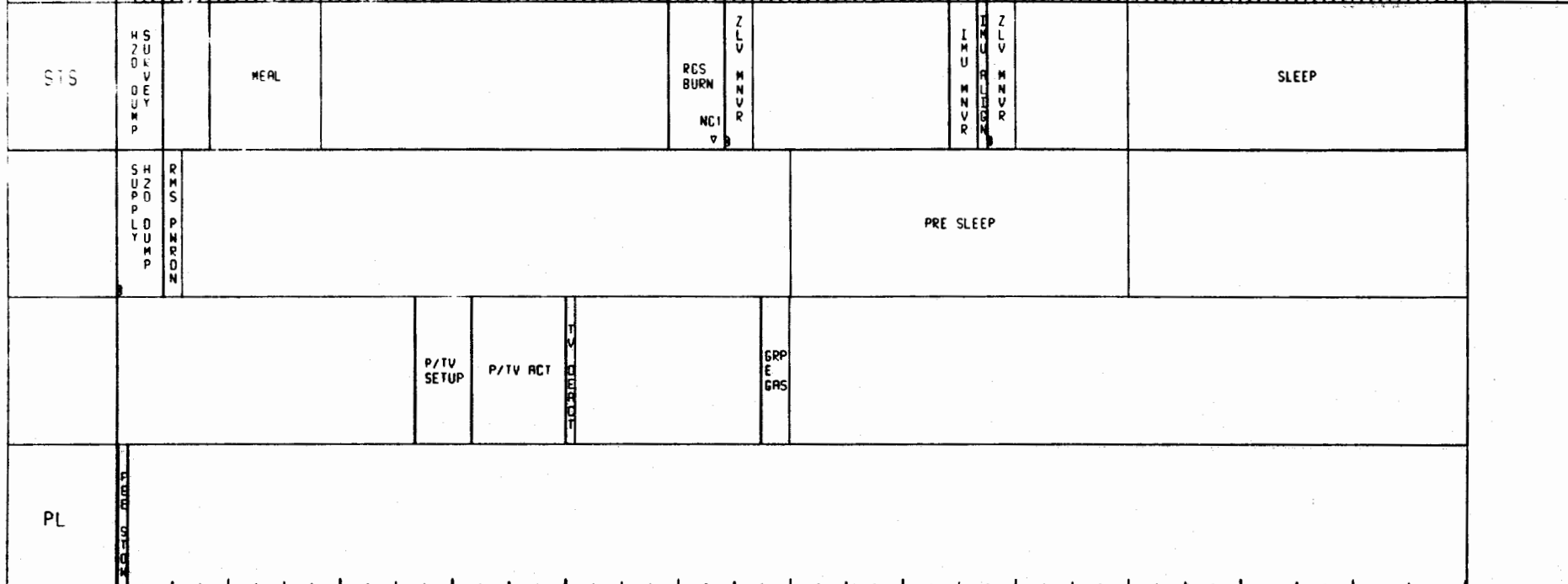
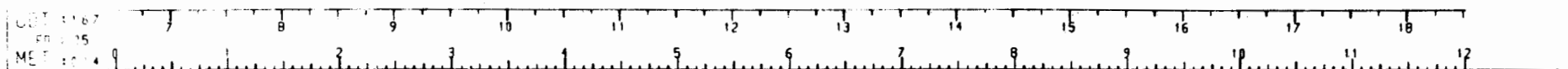
ATTITUDE: -ZLV -YVW RENDEZVOUS IMU -ZLV -YVW

NOTES: 0 DTD 0325 WASTE AND SUPPLY WATER DUMPS TV/VTR DEACT INITIATE AUTD -ZLV, -YVW

FREE ACTIVITIES (PS)	MET
SETUP	03/05:20 - 03/05:30
REST TEST	03/05:30 - 03/06:45
CUFF TEST	03/06:45 - 03/07:45
STON	03/07:45 - 03/07:50

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	RETR	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE	
166:23:31/ 167:11:31	003:12:00/ 004:00:00	166:18:31/ 167:06:31	04/ 166 CDT	J1.0		JUNE 15, 1985	STS 51-G	FINAL	05/01/85	
CDT : 166 FD : 04 MET : 003										
CDT : 167 FD : 0518										
STS	SLEEP				IMU MNV R	ZLV MNV R	RMS PWRUP	H2O DUMP SURVEY	H2O DUMP SURVEY	
					POST SLEEP			WASTE H2O DUMP	SUPPLY H2O DUMP	
								FLTR IFM		
PL							RDS DEACT	FEE SETUP	FEE OPS (REST) (MS)	FEE OPS (CUFF) (MS)
DAY/NIGHT										
ORBIT	56	57	58	59	60	61	62	63		
GSTON COVERAGE	-GMM	-AGD -DKR -ACN	-MAX	-CAN	-CAN	-MIL -MLX -BDA -DKR -MAD -MAX	-YAR -CAN	-YAR -CAN	-DKR -YAR -MLX -DKR -ACN -YAR	-MLX -DKR -ACN -YAR
TDRS										
ATTITUDE	-ZLV -YUV -ZLV, -XVW									
NOTES:	0 DTD 0325 WASTE AND SUPPLY WATER DUMPS 0 DTD 0325 WASTE AND SUPPLY WATER DUMPS									

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FO/DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
04:23:00	04:00:00 / 004:12:00	167:06:31 / 167:18:31	05/167 CDT	33.7		JUNE 16, 1985	STS 51-G	FINAL	05/01/85



NOTES:

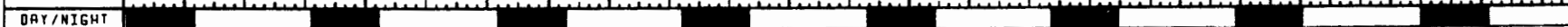
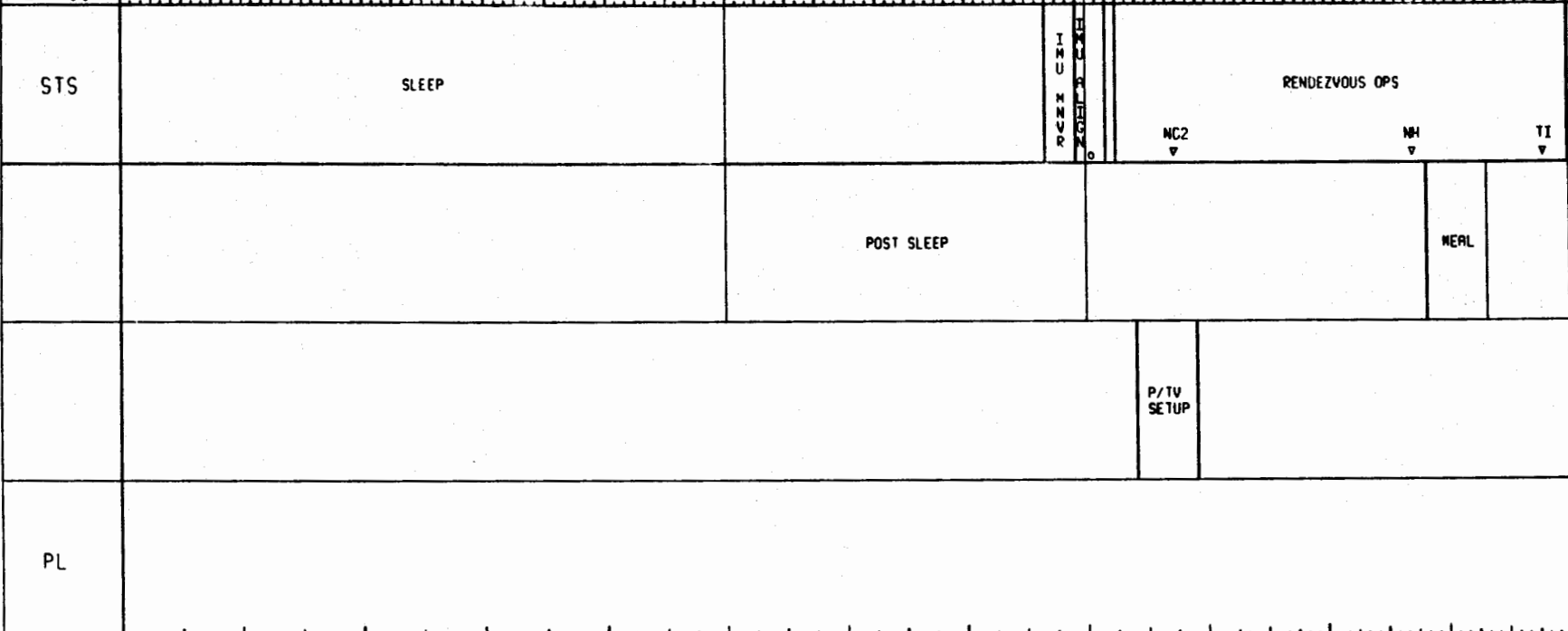
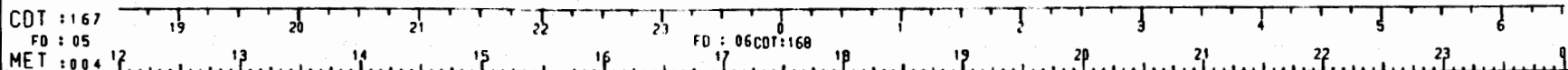
DTO 0325 WASTE AND SUPPLY WATER DUMPS

■ -ZLV, +YVV

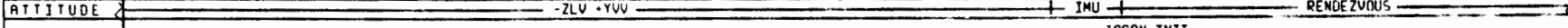
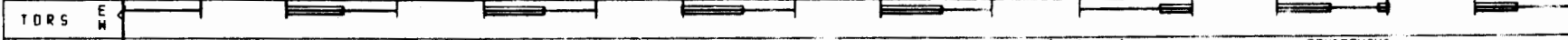
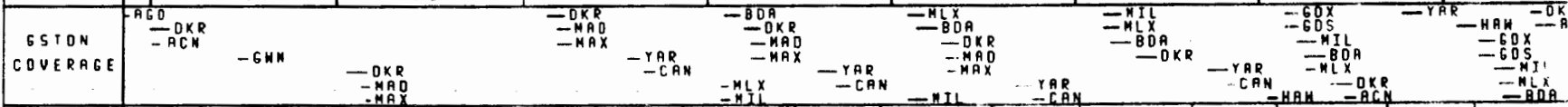
■ -ZLV, +YVV

EFF. ACTIVITIES (PS)	MEI
SETUP	04/04:40 - 04/04:50
REST TEST	04/04:50 - 04/06:05
EXERCISE TEST	04/06:05 - 04/06:35
STOM	04/06:35 - 04/06:40

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
167:23:31 / 168:11:31	004:12:00 / 005:00:00	167:18:31 / 168:06:31	05 / 167 CDT	35.6		JUNE 16, 1985	STS 51-G	FINAL	05/01/85



ORBIT	72	73	74	75	76	77	78	79
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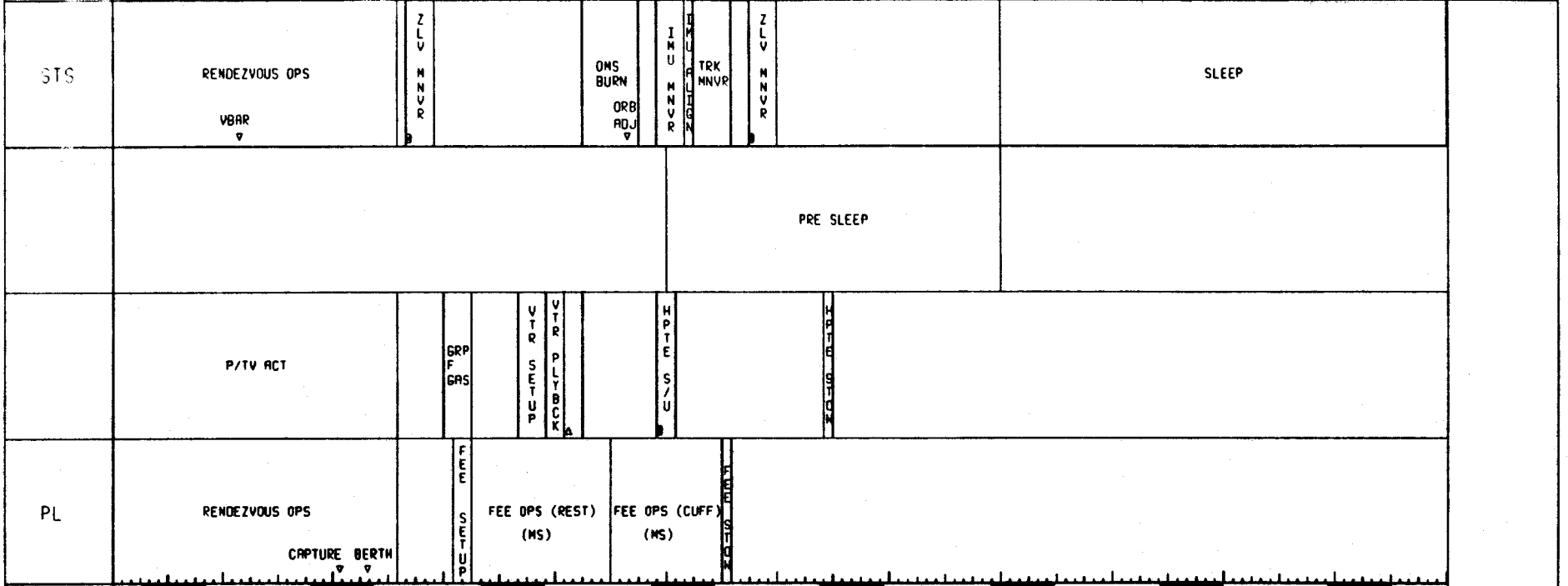
NOTES:

TACAN INIT
OTO 0700 ON-ORBIT TACAN NAVIGATION

FEE ACTIVITIES (PS)	MET
SETUP	04/20:35 - 04/20:45
REST TEST	04/20:45 - 04/22:00
EXERCISE TEST	04/22:00 - 04/22:30
STON	04/22:30 - 04/22:35

GMI (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
168:11:31/ 68:23:31	005:00:00/ 005:12:00	168:06:31/ 168:18:31	06/ 168 CDT	37.5		JUNE 17, 1985	STS 51-G	FINAL	05/01/85

CDT : 000
 FD : 06
 MET : 005



DAY/NIGHT
 ORBIT 79 80 81 82 83 84 85 86 87

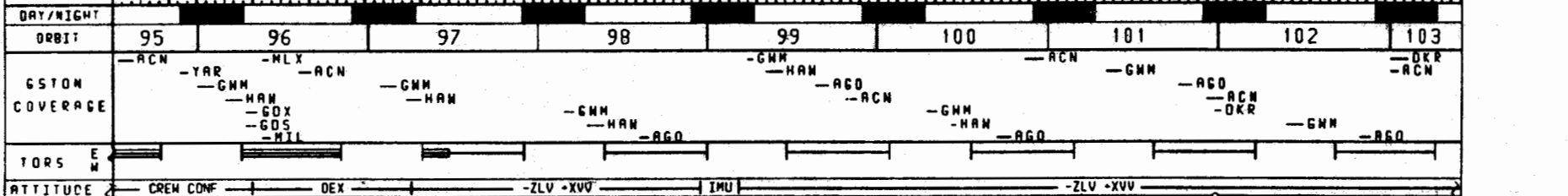
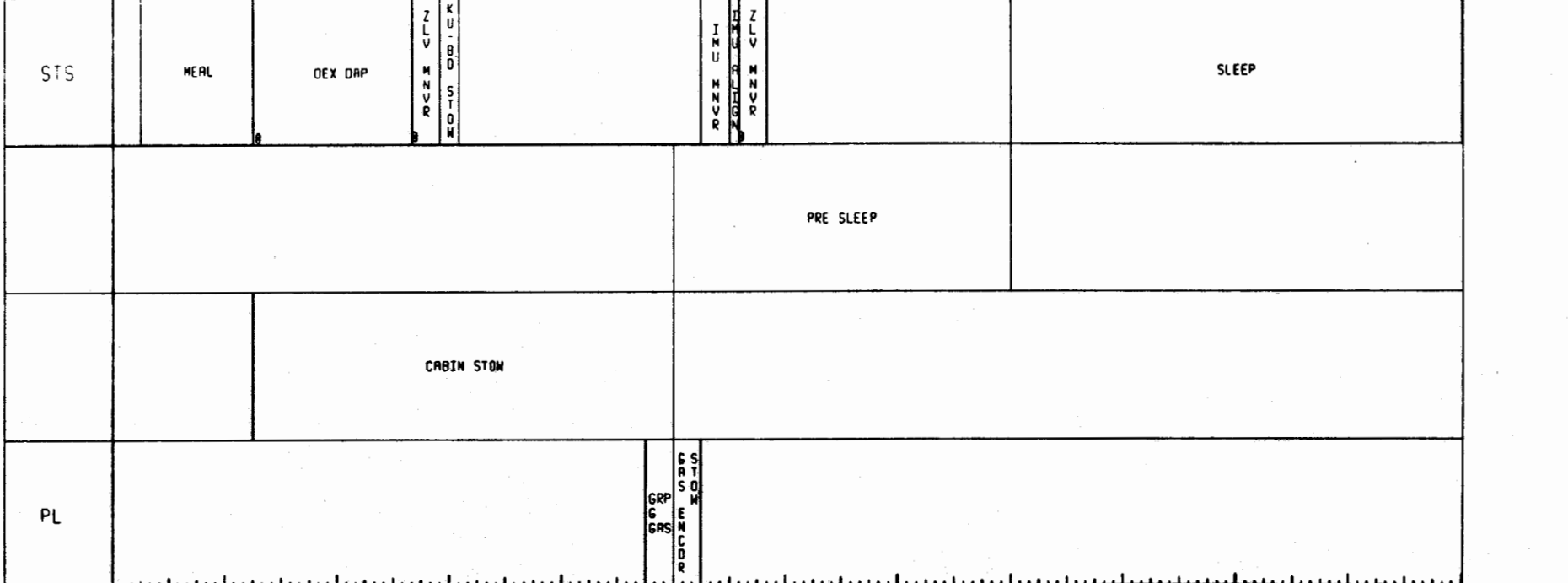
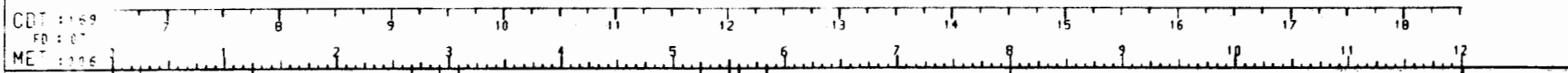


TORS E W
 ATTITUDE RENDEZVOUS -ZLV -XV OMS IMU HPTE -ZLV -XV

NOTES:
 ● -ZLV, -XV ▲ TV/VTR DEACT ● -ZLV, +XV
 ● BACKUP OPPTY

GMT (D:H:M)	MET (D:H:M)	CDI (D:H:M)	FD/ DOY	BE1A	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE					
168:23:31 / 169:11:31	005:12:00 / 006:00:00	168:18:31 / 169:06:31	06 / 168 CDI	.19.3	●	JUNE 17, 1985	STS 51-G	FINAL	05/01/85					
CDT : 168 FD : 06 MET : 005														
STS	SLEEP			IMU MNV R	ZLV MNV R		RMS PWR UP	H2O DUMP SURVEY	FCS C/D	RCS HDT	ZLV MNV R	RCS HDT	AUTO MNV R	CREW CONF
							RMS PWR ON	SUPPLY H2O DUMP				P/TV SETUP	P/TV ACT	
								POST SLEEP						
PL														
DAY/NIGHT														
ORBIT	87	88	89	90	91	92	93	94	95					
GSTON COVERAGE	-AGD -DKR		-DKR -MAD -MAX	-DKR -MAD -MAX	-YAR -CAN	-BDA -DKR -MAD -MAX	-MIL -MLX -DKR	-YAR -CAN	-GDS -MIL -MLX -BDA -DKR	-YAR	-GDS -MIL -MLX -BDA -DKR	-YAR	-GDS -MIL -MLX -BDA -DKR	-GWA -HAN -GDS -GDX -MLX -BDA
YORS E M														
ATTITUDE														
NOTES:	<ul style="list-style-type: none"> ■ -ZLV, +XUV ■ DTO 0325 WASTE AND SUPPLY WATER DUMPS ▲ APU HTR ACT ○ TACAN TERM ○ DTO 0780 ON-ORBIT TACAN NAVIGATION ■ -ZLV, +XUV ● TVYTR DEACT 													

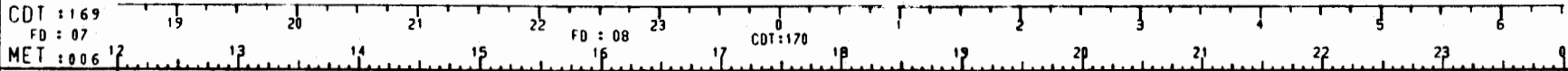
GMT (Z:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/DOY	BLTA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
169:11:31	169:23:31	006:00:00/ 006:12:00	169:06:31/ 169:18:31	07/ 169 CDT	41.1	JUNE 18, 1985	STS 51-G	FINAL	05/01/85



NOTES:

- QTO 909 OEX ADVANCED AUTOPILOT PERFORMANCE
- -ZLV, +XVV

GMT (D:H:M)	MET (D:H:M)	CDT (D:H:M)	FD/ DOY	BETA	MOON	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
169:23:31/ 170:11:31	006:12:00/ 007:00:00	169:18:31/ 170:06:31	07/ 169 CDT	42.8	●	JUNE 18, 1985	STS 51-G	FINAL	05/01/85




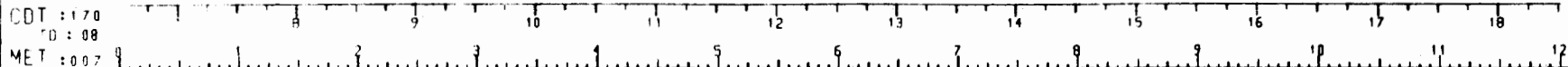
STS	SLEEP		I M U R V C N N H U U I X S I M N V R		DEORBIT PREP	
	POST SLEEP				PLBO OPS	DEORBIT BURN
PL					D P S W S H L O	

DAY/NIGHT	■		□		■		□		■		□			
ORBIT	103	104	105	106	107	108	109	110	111					
GSTDN COVERAGE	-GMM	-DKR -MAD	-CAN	-MLX -MIL -BDA	-YAR -CAN	-MIL -NLX -BDA	-YAR -CAN	-MLX -MIL -BDA	-DKR -ACN	-CAN	-HAW -GDX -GDS	-YAR	-MLX -BDA -DKR -ACN	-GDS -GDX -GDS
TDRS E M	[]		[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	
ATTITUDE	-ZLV -XVV				IMU		-XSI		IMU		DEORBIT BURN		ENTRY	

NOTES:

○ SPARTAN DEORB CONF
● MORELOS/ARABSAT/TELSTAR

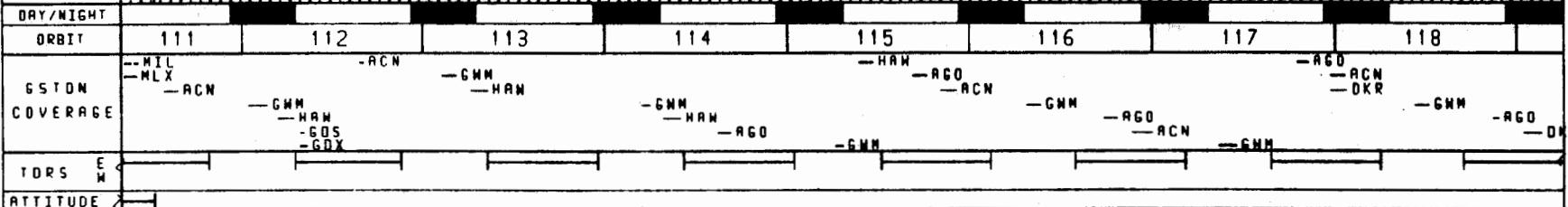
GMT (0:H:M)	MET (0:H:M)	CUT (0:H:M)	FD/DOY	BETA	MOON 	HOUSTON DATE	FLIGHT	EDITION	PUB. DATE
170:11:31/	00:23:31	007:00:00/ 007:12:00	170:06:31/ 170:18:31	08/ 170 CDT	44.4	JUNE 19, 1985	STS 51-G	FINAL	05/01/85



STS

KSC LANDING (7:00:16)

PL



NOTES:

DETAILED TIMELINE

DETAILED
TIMELINE

STS 51-G (FD 01)

PL

MCC

MET AT
DA: 000
00:00

STS

Activities scheduled prior to 07:02:30 MET are in the ASCENT and POST INSERTION CHECKLISTS

Orbiter attitude when entering the CAP is Biased -ZLV, +XVV

EZ CAP ACTIVITIES FOR TODAY:

Do at earliest convenience:

- PCS 1 (2) CONFIG (ORB OPS, ECLS)
Config Sys 1 (5 Min/2 Cmn)
- LAMP & FIRE SUPPR TEST (ORB OPS, EPS) (10 Min)
- MEAL PREP (Cue Card) (30 Min)
- EEE SETUP/ACTIVATION (PS)
(PL OPS, EEE ACT) (10 Min)
- EEE REST TEST OPS (PS)
(PL OPS, EEE OPS) (1 Hr 15 Min)
Perform in A.M. (Non-interference)
- EEE STORAGE (PS)
(PL OPS, EEE STOW) (5 Min)
- EPE OPS (PS)
(PL OPS, EPE) (90 Min)
Perform A.M. and P.M. (non-interference)

IMU ALIGN LOG
REDD ID:

-Y ____ -Z ____ ANG ERR ____

1 2 3

ANG:

ΔX () () ()

ΔY () () ()

ΔZ () () ()

EXECUTION TIME:

___ / ___ : ___ :

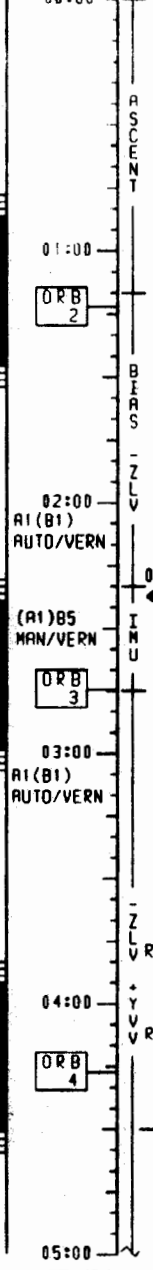
COAS CALIBRATION LOG

STAR ID: -Z 20 , ARCTURUS

STAR AVAIL UNTIL: 0 2 : 5 9

-Z Δ BIAS ____ , ____

UPDATE TIME: ___ / ___ : ___ :



019 ✓ COAS PWR-OFF Mount COAS-AFT
 MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at SS
 IMU ALIGN - S TRK (ORB OPS)
 COAS CALIBRATION (ORB OPS)
 MNVR (TRK) -ZLV, +YVV
 TG=2 BV=3 OM=270
 A/AUTO/VERN Init TRK
 Change DAP B to B1
 RET CONTROLLER C/O
 (ORB OPS, GNC)

UNSTOW CABIN EQUIP (A11)

RMS POWERUP (PORS OPS, RMS PWRUP)
 RMS CHECKOUT (PORS OPS, RMS C/O) (2 Cmn)

P/TV CAMERA ASSEMBLY (PHOTO/TV, P/TV DATA)

RMS POWERDOWN (PORS OPS, RMS PWRDN)
 Note: Do not slow MPMe

GAS ENCLOS UNSTOW/SETUP (PL OPS, GAS)

SPARTAN, Steps 1 & 2 (PL OPS, SPARTAN)

APU STEAM VENT HTR DEACT
 BLR CNTLR (three) - OFF

ON MCC CUE
 APU FUEL PUMP/VLV COOL B-OFF
 CNTLR PWR(three) -OFF

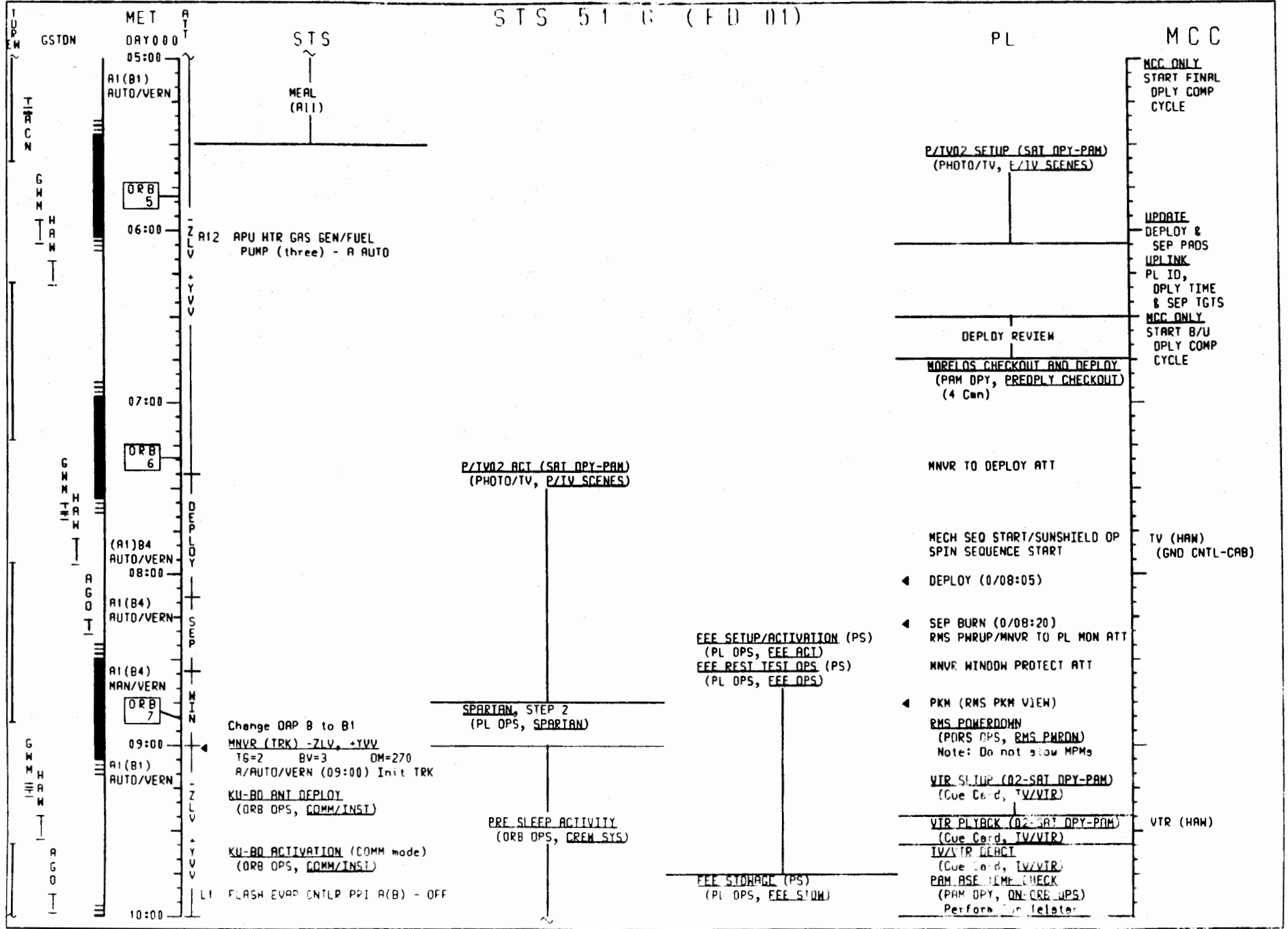
MEAL (A11)

UPLINK REFSMNT NORMALIZAT'N

MCC ONLY START PRELIM DPLY COMP CYCLE

MCC ONLY PRELIM DPLY COMP RESLTS TO PCCC INFORM CREW GO FOR APU COOL OFF

TV (HAW) (GND CNTL-PLB)
 MCC ONLY DPLY UPDATES DUE FROM PCCC



STS

MET

10:00

MNVR IMU ALIGN ATT
 STAR PAIP (R1)
 A/AUTO/VERN Init MNVR at SS
IMU ALIGN - S TRK (ORB OPS)
 MNVR (TRK) -ZLV, +YVV
 TG=2 BV=3 OM=270
 A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

Note: Do not perform
 SUPPLY H2O DUMP

11:00

ORB 9

12:00

13:00

ORB 10

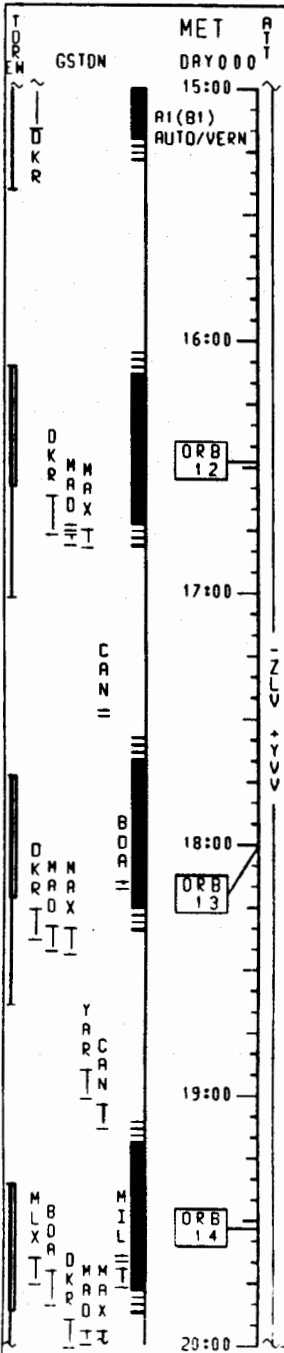
SLEEP

14:00

ORB 11

15:00

IMU ALIGN LOG
 REQD ID: _____
 -Y____, -Z____ ANG ERR ____
 1 2 3
 ANG:
 ΔX () ____ () ____ () ____
 ΔY () ____ () ____ () ____
 ΔZ () ____ () ____ () ____
 EXECUTION TIME:
 ____ / ____ : ____ : ____



STS

PL

MCC

MET DAY 0000 20:00
 A1(A1) AUTO/VERN
 21:00
 22:00
 23:00
 001 00:00
 01:00

Z LV
 Y VV
 IMU
 Z LV
 Y VV

ORB 15

ORB 16

ORB 17

POST SLEEP ACTIVITY
 (ORB OPS, CREN SYS)

Note: Do not perform
 SUPPLY H2O DUMP

EZ CAP ACTIVITIES FOR TODAY:

- EXERCISE (1 Hr/ALL)
- MEAL PREP (Cue Card) (30 Min)
- CHARACTERIZATION OF SMS (DSO 455)
 (MED, MED DSOs) (30 Min/3 Dwn)
- EPE OPS (PS)
 (PL OPS, EPE) (90 Min)
 Perform A.M. and P.M. (non-interference)
 MS assist P.M. only

MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at SS
IMU ALIGN - S TRK (ORB OPS)
MNVR (TRK) -ZLV, +YVV
 TG=2 BV=3 OM=270
 A/AUTO/VERN Init TRK

IMU ALIGN LOG
 RECD ID:
 -Y __, -Z __ ANG ERR __. __
 1 2 3
 ANG:
 AX () . () . () .
 AY () . () . () .
 AZ () . () . () .
 EXECUTION TIME:
 - / : :

PAM ASE TEMP CHECK
 (PAM OPY, ON-ORB OPS)
 Perform for Arabsat

MCC ONLY
 START PRELIM
 DPLY COMP
 CYCLE

SPARTAN, STEP 2
 (PL OPS, SPARTAN)

MCC ONLY
 PRELIM DPLY
 COMP RESLTS
 TO POCC

GAS ACTIVITIES GROUP A
 (PL OPS, GAS)

MCC ONLY
 DPLY UPDATES
 DUE FROM
 POCC
 START FINAL
 DPLY COMP
 CYCLE

EEE SETUP/ACTIVATION (PS)
 (PL OPS, EEE ACT)
EEE REST TEST OPS (PS)
 (PL OPS, EEE OPS)

P/TVO2 SETUP (SAT OPY-PAM)
 (PHOTO/TV, P/TV SCENES)

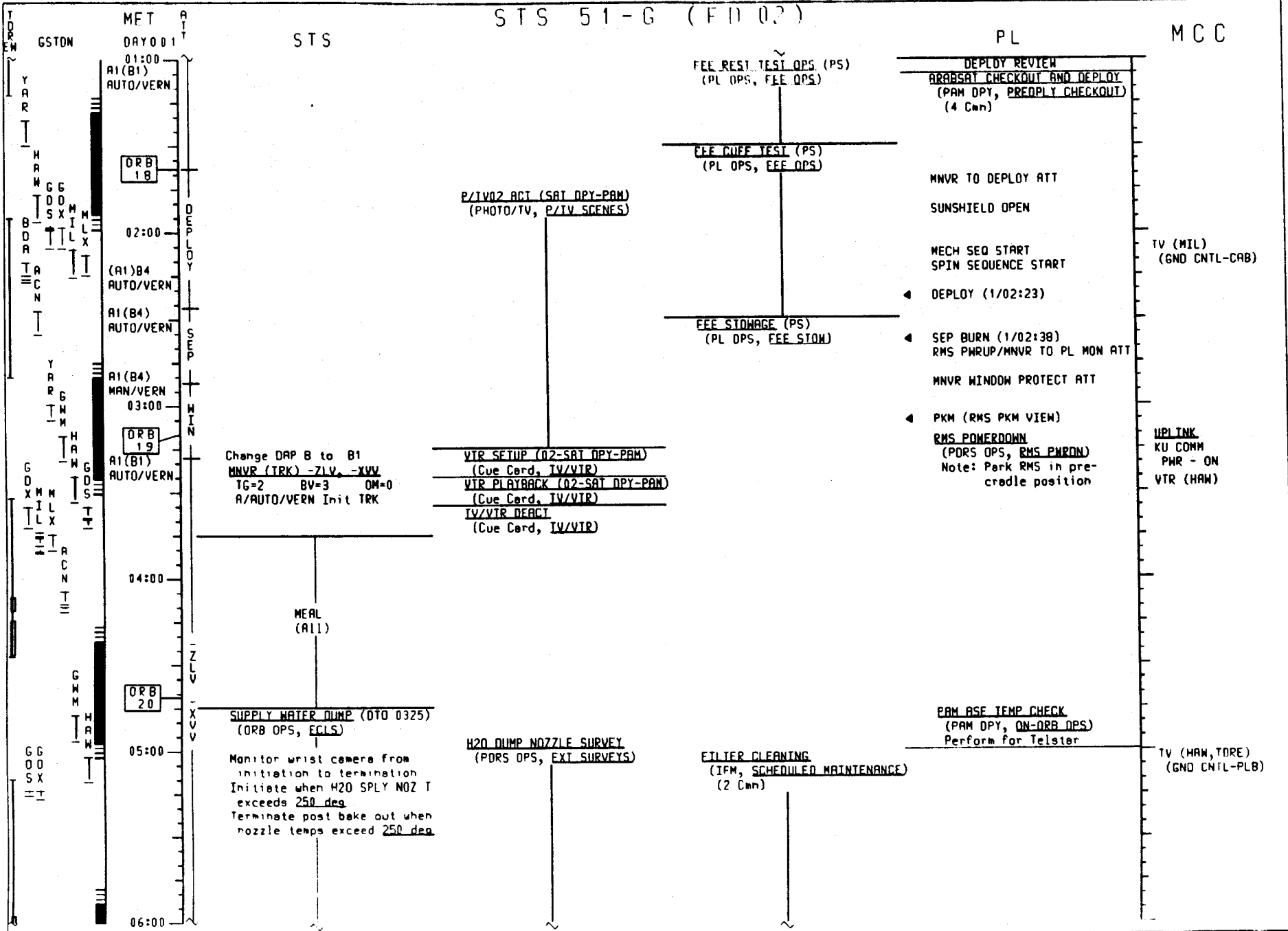
UPDATE
 DEPLOY &
 SEP PADS
UPLINK
 PL ID,
 DPLY TIME
 & SEP TGTS

DEPLOY REVIEW

STS

PL

MCC



MET DAY 001
 01:00
 A1(B1)
 AUTO/VERN
 02:00
 (A1)B4
 AUTO/VERN
 A1(B4)
 AUTO/VERN
 03:00
 A1(B4)
 MAN/VERN
 04:00
 A1(B1)
 AUTO/VERN
 05:00
 06:00

Change DAP B to B1
 MNVR (TRK) -ZLV, -XVV
 TG=2 BV=3 OM=0
 A/AUTO/VERN Init TRK

P/TV02 ACT (SAT OPY-PAM)
 (PHOTO/TV, P/TV SCENES)

VTR SETUP (02-SAT OPY-PAM)
 (Cue Card, IV/VTR)
 VTR PLAYBACK (02-SAT OPY-PAM)
 (Cue Card, IV/VTR)
 TV/VTR DEACT
 (Cue Card, IV/VTR)

SUPPLY WATER DUMP (OTO 0325)
 (ORB OPS, ECLS)

Monitor wrist camera from
 initiation to termination
 Initiate when H2O SPLY NOZ T
 exceeds 250 deg
 Terminate post bake out when
 nozzle temps exceed 250 deg

H2O DUMP NOZZLE SURVEY
 (PORS OPS, EXT SURVEYS)

FILTER CLEANING
 (IFM, SCHEDULED MAINTENANCE)
 (2 Cmn)

FEE REST TEST OPS (PS)
 (PL OPS, FEE OPS)

FEE CUFF TEST (PS)
 (PL OPS, FEE OPS)

FEE STORAGE (PS)
 (PL OPS, FEE STOW)

DEPLOY REVIEW
 ARABSAT CHECKOUT AND DEPLOY
 (PAM OPY, PREPLY CHECKOUT)
 (4 Cmn)

MNVN TO DEPLOY ATT
 SUNSHIELD OPEN

MECH SEQ START
 SPIN SEQUENCE START

◀ DEPLOY (1/02:23)

◀ SEP BURN (1/02:38)
 RMS PWRUP/MNVN TO PL MON ATT

MNVN WINDOW PROTECT ATT

◀ PKM (RMS PKM VIEW)

RMS POWERDOWN
 (PORS OPS, RMS PWRDN)
 Note: Park RMS in pre-
 cradle position

PAM ASE TEMP CHECK
 (PAM OPY, ON-ORB OPS)
 Perform for Telstar

TV (MIL)
 (GND CNTL-CAB)

UPLINK
 KU COMM
 PWR - ON
 VTR (HAW)

TV (HAW, TORE)
 (GND CNTL-PLB)

STS 51-G (FD 02)

PL

MCC

GSTON

MET DAY 001
 06:00
 07:00
 08:00
 09:00
 10:00
 11:00

STS
 SUPPLY WATER DUMP (OTO 0325)
 (ORB OPS, ECLS)

H2O DUMP NOZZLE SURVEY
 (PDRS OPS, EXT SURVEYS)

FILTER CLEANING
 (IFM, SCHEDULED MAINTENANCE)
 (2 Cmn)

RMS POWERDOWN
 (PDRS OPS, RMS PHRDN)
 Note: Do not slow MPMS

EEE SETUP/ACTIVATION (MS)
 (PL OPS, EEE ACT)
 EEE REST TEST OPS (MS)
 (PL OPS, EEE OPS)

P/TV02 SETUP (SAT DPY-PAM)
 (PHOTO/TV, P/TV SCENES)

EEE EXERCISE TEST OPS (MS)
 (PL OPS, EEE OPS)

MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERM Init MNVR at SS
 IMU ALIGN - S TRK (ORB OPS)
 MNVR (TRK) -ZLV, -YVV
 TG-2 BV-3 OM-270
 A/AUTO/VERM Init TRK

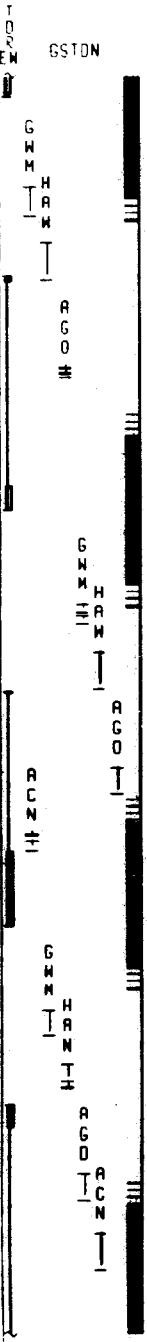
PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

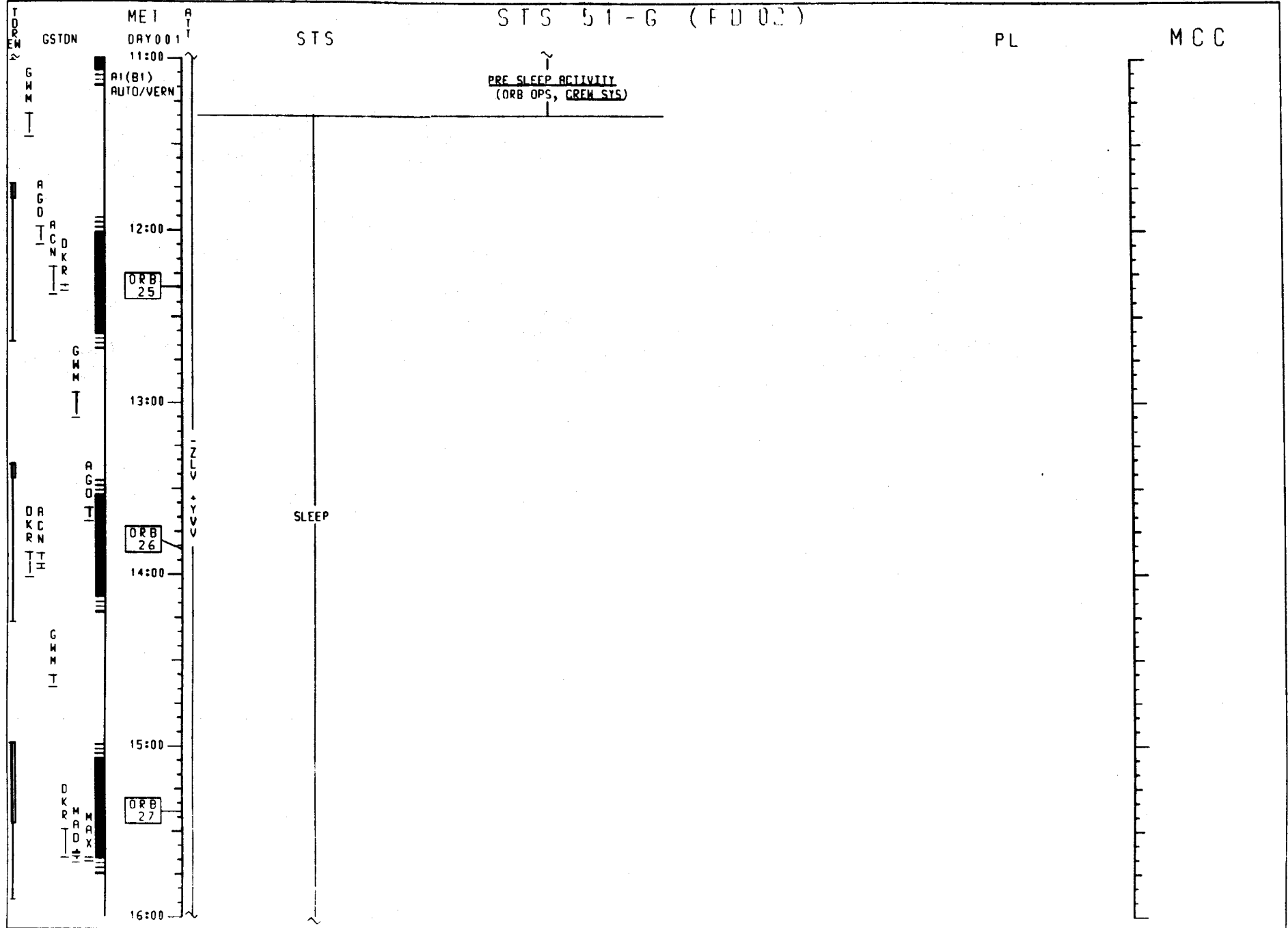
EEE STORAGE (MS)
 (PL OPS, EEE STOW)
 SPARTAN, STEP 2
 (PL OPS, SPARTAN)

Note: Do not perform
 SUPPLY H2O DUMP

BOSE, Step 1
 (PL OPS, BOSE)

IMU ALIGN LOG
 RECD ID:
 -Y ____, -Z ____, ANG ERR __.
 1 2 3
 ANG:
 ΔX () () ()
 ΔY () () ()
 ΔZ () () ()
 EXECUTION TIME:
 / : :





MET DAY 001
 16:00
 AT (B1)
 AUTO/VERN
 17:00
 18:00
 19:00
 20:00
 21:00

STS

SLEEP

POST SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

Note: Do not perform
 SUPPLY H2O DUMP

TMU ALIGN LOG
 RECD ID:
 -Y___, -Z___ ANG ERR ___
 1 2 3
 ANG:
 ΔX () ___ () ___ () ___
 ΔY () ___ () ___ () ___
 ΔZ () ___ () ___ () ___
 EXECUTION TIME:
 ___ / ___ : ___ : ___

EZ CAP ACTIVITIES FOR TODAY:
 EXERCISE (1 Hr/ALL)
 MEAL PREP (Cue Card) (30 Min)
 CHARACTERIZATION OF SMS (DSO 455)
 (MED, MED DSOs) (30 Min/3 Cwn)
 EPE OPS (PS)
 (PL OPS, EPE) (90 Min)
 Perform A.M. and P.M. (non-interference)
 MS assist P.M. only

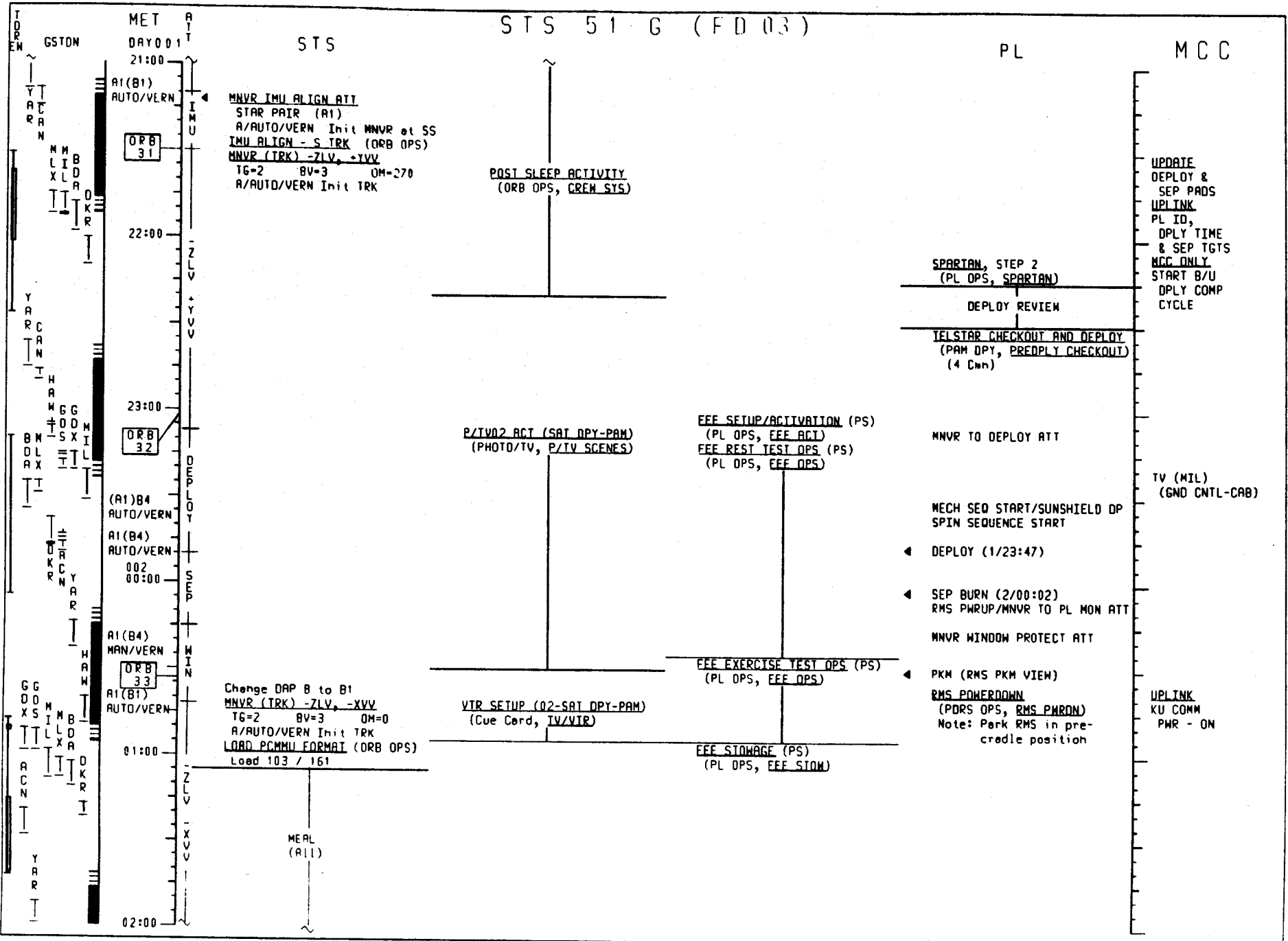
PAM ASE TEMP CHECK
 (PAM OPT, ON-ORB OPS)
 Perform for Telstar

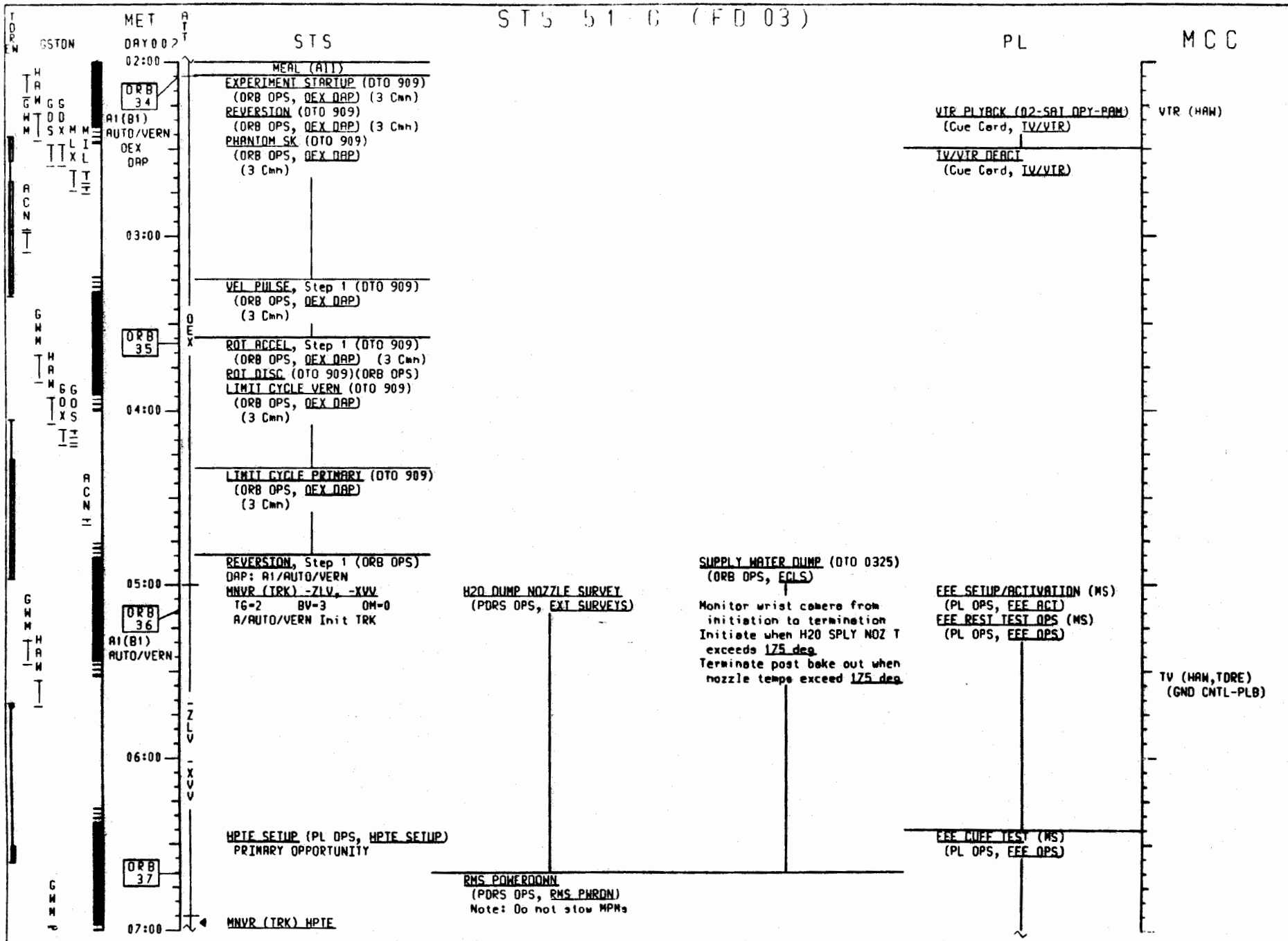
MCC ONLY
 START PRELIM
 DPLY COMP
 CYCLE

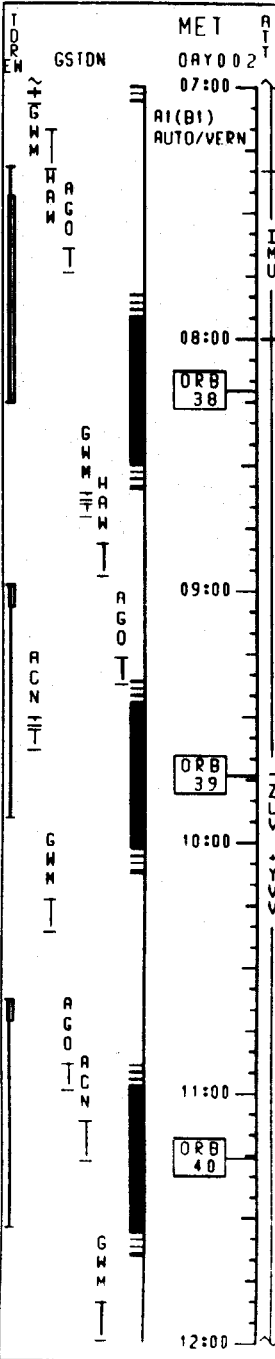
MCC ONLY
 PRELIM DPLY
 COMP RESLTS
 TO PCCC

MCC ONLY
 DPLY UPDATES
 DUE FROM
 PCCC
 START FINAL
 DPLY COMP
 CYCLE

TD
 EM
 GETDN
 D
 K
 R
 R
 A
 A
 R
 D
 X
 T
 T
 T
 Y
 R
 C
 A
 N
 T
 M
 B
 L
 A
 M
 M
 K
 R
 R
 A
 A
 R
 D
 X
 T
 T
 T
 C
 A
 N
 T
 Y
 R
 R
 T
 M
 I
 L
 D
 A
 M
 M
 A
 X
 Y
 R
 R







STS
 MNVR (TRK) HPTT
 TG=3 BV=5 OM=270.1
 LAT=20.71 LON=203.74
 ALT=9994 P=0 Y=277.75
 B1/AUTO/NORM (06:55) Init TRK
 MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at HAW TUS

IMU ALIGN - S TRK (ORB OPS)
 MNVR (TRK) -7LV, +YVV
 TG=2 BV=3 OM=270
 A/AUTO/VERN Init TRK

HPTT STOW
 (PL OPS, HPTT STOW)

PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

Note: Do not perform
 SUPPLY H2O DUMP

SLEEP

PL
 ~
 EEE CUFF TEST (MS)
 (PL OPS, EEE OPS)

EEE STORAGE (MS)
 (PL OPS, EEE STOW)
 SPARTAN, STEP 2
 (PL OPS, SPARTAN)

GAS ACTIVITIES GROUP B
 (PL OPS, GAS)

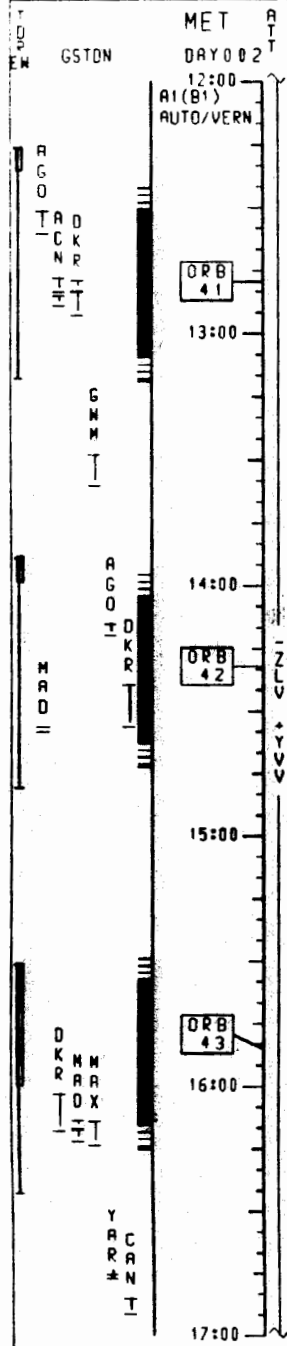
ROSE, Step 2
 (PL OPS, ROSE)

IMU ALIGN LOG
 RECD ID:
 -Y___, -Z___ ANG ERR ___
 1 2 3
 ANG:
 ΔX ()_ ()_ ()_ . . .
 ΔY ()_ ()_ ()_ . . .
 ΔZ ()_ ()_ ()_ . . .
 EXECUTION TIME:
 ___ / ___ : ___ : ___

STS 51-G (FD 03)

PL

MCC



STS

SLEEP



MET DAY 002
 17:00
 A1(B1)
 AUTO/VERN
 ORB 44
 18:00
 ORB 45
 19:00
 ORB 46
 20:00
 ORB 47
 21:00
 22:00

MB LAD
 TTRR
 MARR
 OX
 YARR
 CANT
 MILLY
 BBOARD
 TRK
 MAXT
 YARR
 CANT
 MILLY
 BBOARD
 TRK
 OKR
 YARR
 CANT

STS
 SLEEP

EZ CAP ACTIVITIES FOR TODAY:
 EXERCISE (1 Hr/ALL)
 MEAL PREP (Cue Card) (30 Min)
 EPE OPS (PS)
 (PL OPS, EPE) (90 Min)
 Perform A.M. and P.M. (non-interference)
 MS assist P.M. only

IMU ALIGN LOG
 RECD ID:
 -Y____, -Z____ ANG ERR ____
 1 2 3
 ANG:
 ΔX () . () . () .
 ΔY () . () . () .
 ΔZ () . () . () .
 EXECUTION TIME:
 ___ / ___ : ___ : ___

POST SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

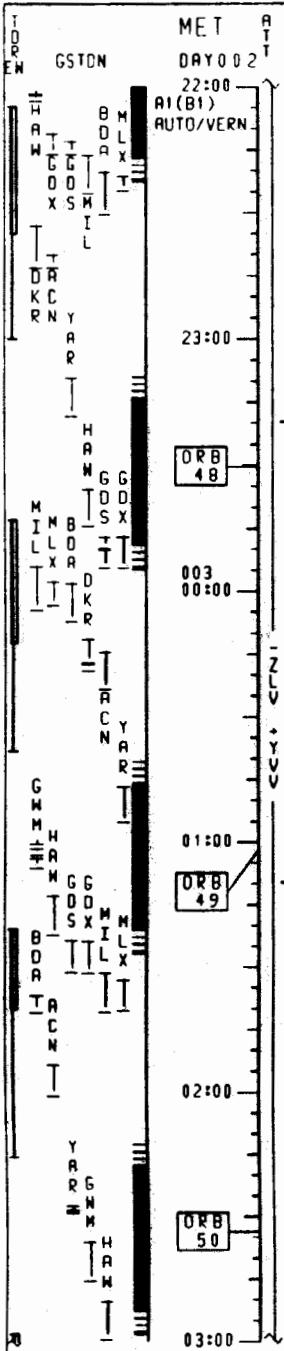
Note: Do not perform
 SUPPLY H2O DUMP

MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at SS
 IMU ALIGN - S TRK (ORB OPS)
 MNVR (TRK) -ZLV, +YVV
 TG=2 BV=3 OM=270
 A/AUTO/VERN Init TRK

RMS POWERUP
 (PDRS OPS, RMS PWRUP)
H2O DUMP NOZZLE SURVEY
 (PDRS OPS, EXT SURVEYS)

SUPPLY WATER DUMP (OTO 0325)
 (ORB OPS, ECLS)

SPARIAN, STEP 2
 (PL OPS, SPARIAN)



STP
 H2O DUMP NOZZLE SURVEY
 (PDRS OPS, EXT SURVEYS)

SUPPLY WATER DUMP (OTO 0325)
 (ORB OPS, ECLS)

Monitor wrist camera from initiation to termination
 Initiate when H2O SPLY NOZ T exceeds 100 deg
 Terminate post bake out when nozzle temps exceed 100 deg

H2O DUMP NOZZLE SURVEY
 (PDRS OPS, EXT SURVEYS)

WASTE WATER DUMP (OTO 0325)
 (ORB OPS, ECLS)

Monitor wrist camera from initiation to termination
 Initiate when H2O WASTE NOZ T exceeds 250 deg
 Terminate post bake out when nozzle temps exceed 250 deg

MEAL
 (All)

Restring for RNDZ OPS
 GPC X Strings 1 & 3
 GPC Y Strings 2 & 4

PL

MCC

(GND CNTL-PLB)
 TV (HAM,TDRE)

EEF SETUP/ACTIVATION (MS)
 (PL OPS, EEF ACT)
 EEF REST TEST OPS (MS)
 (PL OPS, EEF OPS)

TV (HAM,TDRE)
 (GND CNTL-PLB)

EEF EXERCISE TEST OPS (MS)
 (PL OPS, EEF OPS)

EEF STORAGE (MS)
 (PL OPS, EEF STOR)

SPARTAN DEPLOY
 (RNDZ, SPARTAN DEPLOY)

UPDATE
 INIT SEP TIME

UPLINK
 TGT SV and
 COV MATRIX

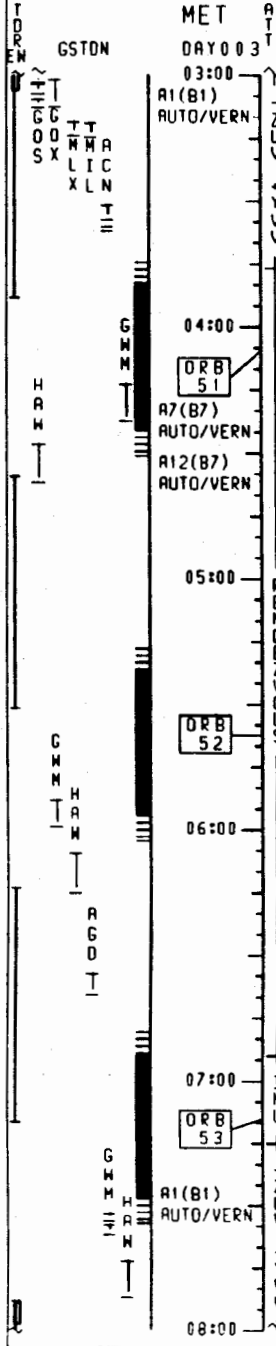
NOMINAL
 RNDZ PET 00:00
 EQUALS
 MET 3/04:34
 (INITIAL SEP TIG)

MET DAY 003

STS

PL

MCC



SPARTAN DEPLOY
(RNDZ, SPARTAN DEPLOY)
(3 Cmn)

P/TV03 SETUP (SPARTAN DEPLOY)
(PHOTO/TV, P/TV SCENES)

SPARTAN DEPLOY
(RNDZ, SPARTAN DEPLOY)

NOMINAL
RNDZ PET 00:00
EQUALS
MET 3/04:34
(INITIAL SEP TIG)

Initial SEP (3/04:34)
Final SEP (3/04:49)

P/TV03 ACT (SPARTAN DEPLOY)
(PHOTO/TV, P/TV SCENES)

SPARTAN DEPLOY (3/04:28)

TV (HAW)
(GND CNTL-CAB)

EEF SETUP/ACTIVATION (PS)
(PL OPS, EEF ACT)
EEF REST TEST OPS (PS)
(PL OPS, EEF OPS)

VTR SETUP (03-SPARTAN OPY)
(Cue Card, TV/VIR)

VTR (HAW)

VTR PLYBACK (03-SPARTAN OPY)
(Cue Card, TV/VTR)

TV/VTR DEACT
(Cue Card, TV/VIR)

GAS ACTIVITIES GROUP C
(PL OPS, GAS)

EEF GUESS TEST (PS)
(PL OPS, EEF OPS)

Change Dep A,B to A1,B1
MNVR IMIL ALIGN AT
STAR PAIR (A1)
A/AUTO/VERN Init MNVR at 55
IMIL ALIGN - S TRK (ORB OPS)
MNVR (TRK) -ZLV, +YVV
TG=2 BV=3 OM=270
A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY
(ORB OPS, CREW SYS)

Note: Do not perform
SUPPLY H2O DUMP

EEF STORAGE (PS)
(PL OPS, EEF STOW)

GSTON DAY 003

STS

ADSE, Step 3
(PL OPS, ADSE)

08:00

AI(BI)
AUTO/VERN

ORB
54

PRE SLEEP ACTIVITY
(ORB OPS, CREW SYS)

09:00

10:00

ORB
55

11:00

SLEEP

ORB
56

12:00

13:00

IMU ALIGN LOG
REQD ID:

-Y ____, -Z ____, ANG ERR ____,
 1 2 3

ANG:
ΔX () . () . () .
ΔY () . () . () .
ΔZ () . () . () .

EXECUTION TIME:
___ / ___ : ___ : ___

MET DAY 003
 13:00
 AI(B1)
 AUTO/VERN
 ORB 57
 14:00
 ORB 58
 15:00
 ORB 59
 16:00
 ORB 60
 17:00
 18:00

STS

SLEEP

POST SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

IMU ALIGN LOG

REOD ID:

-Y , -Z ANG ERR
 1 2 3

ANG:

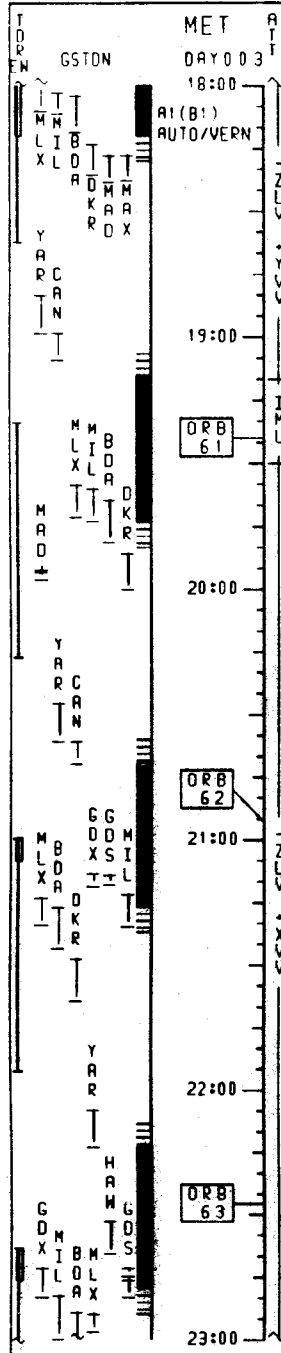
ΔX () . () . () .

ΔY () . () . () .

ΔZ () . () . () .

EXECUTION TIME:

 / : :



18:30 Saudi Arabia

MNVR IMU ALIGN ATT
 STAR PAIR (A1)
 A/AUTO/VERN Init MNVR at SS
IMU ALIGN - S TRK (ORB OPS)
MNVR (TRK) -ZLV, +XVV
 TG-2 BV-3 OM-180
 A/AUTO/VERN Init TRK

POST SLEEP ACTIVITY
 (ORB OPS, CREW SYS)
 Do EC PURGE - MANUAL (Cue Card)

Note: Do not perform
 SUPPLY H2O DUMP

EZ CAP ACTIVITIES FOR TODAY:

- EXERCISE (1 Hr/ALL)
- MEAL PREP (Cue Card) (30 Min)
- RCS REGULATOR RECONFIGURE
 07/08 He PRESS A(three)-CL(tb-CL)
 B(three)-GPC(tb-OP)
 Perform midflt/A.M.(10 Min)
- HEATER RECONFIG - A (ORB OPS, EPS)
 Perform midflt/A.M.(5 Min)
- ECLSS REDUNDANT COMPONENT C/O
 (ORB OPS, ECLS) (10 Min)
 Inform MCC when complete
- PCS 1 (2) CONFIG (ORB OPS, ECLS)
 Config Sys 2 (5 Min/2 Cnn)
 Perform midflight
- EPE OPS (PS)
 (PL OPS, EPE) (90 Min)
 Perform A.M. and P.M. (non-interference)
- CHARACTERIZATION OF SMS (DSO 455)
 (MED, MED DSOs) (30 Min/3 Cnn)

RMS POWERUP
 (PDRS OPS, RMS PHRUP)
H2O DUMP NOZZLE SURVEY
 (PDRS OPS, EXT SURVEYS)

WASTE WATER DUMP (OTO 0325)
 (ORB OPS, ECLS)

Monitor wrist camera from
 initiation to termination
 Initiate when H2O WASTE NOZ T
 exceeds 250 deg
 Terminate post bake out when
 nozzle temps exceed 250 deg

FILTER CLEANING
 (IFM, SCHEDULED MAINTENANCE)

ADSE, Step 4
 (PL OPS, ADSE)

GAS ACTIVITIES GROUP D
 (PL OPS, GAS)

EEF SETUP/ACTIVATION (NS)
 (PL OPS, EEF ACT)
EEF REST TEST OPS (NS)
 (PL OPS, EEF OPS)

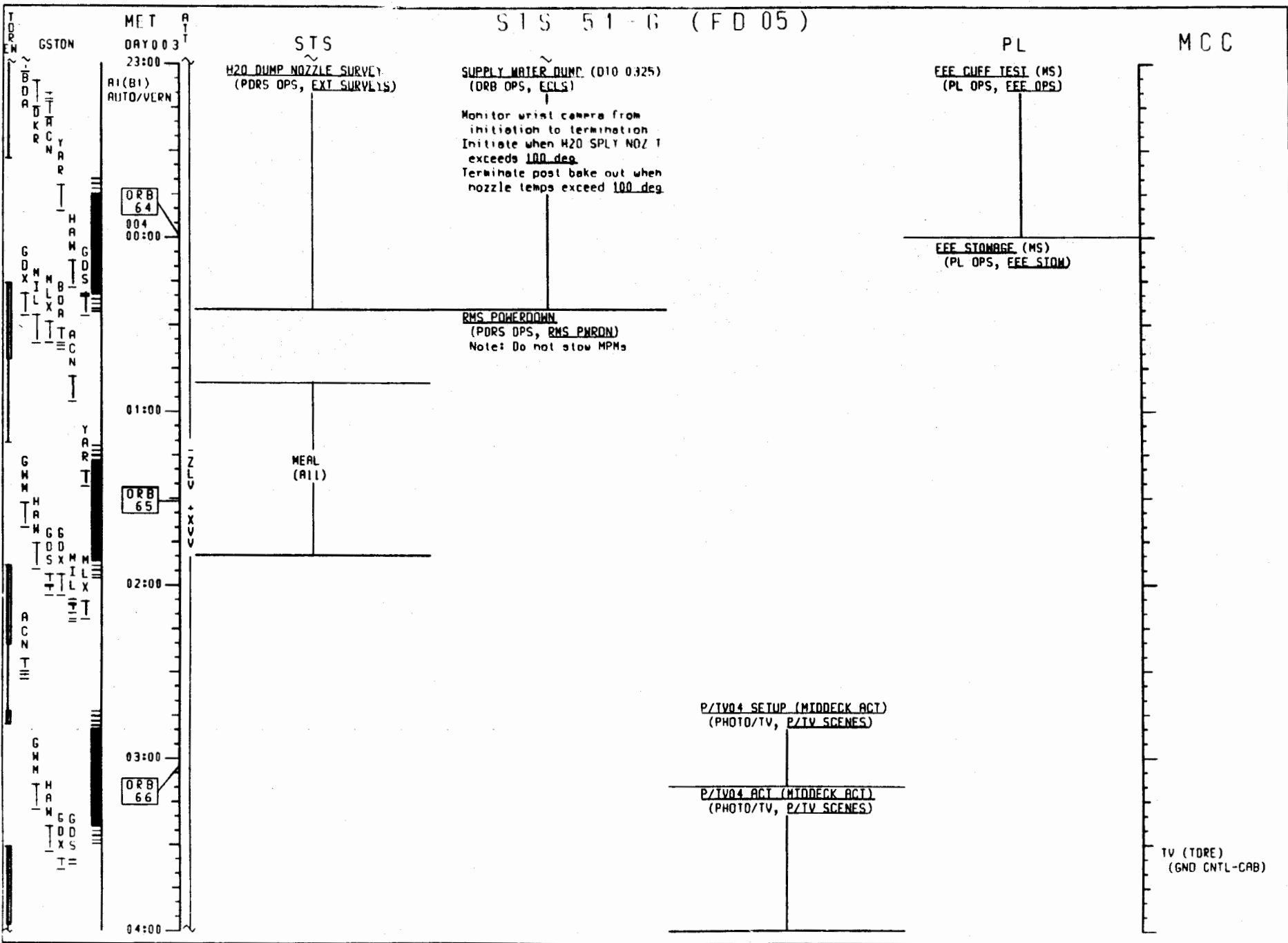
H2O DUMP NOZZLE SURVEY
 (PDRS OPS, EXT SURVEYS)

SUPPLY WATER DUMP (OTO 0325)
 (ORB OPS, ECLS)

TV (TORE)
 (GND CNTL-PLB)

TV (HAN,TORE)
 (GND CNTL-PLB)

STS 51-G (FD 05)



MET
DAY 003
23:00
A1 (B1)
AUTO/VERN
ORB 64
004
00:00
ORB 65
ORB 66
03:00
04:00

STS
H2O DUMP NOZZLE SURVEY
(PDRS OPS, EXT SURVEYS)

SUPPLY WATER DUMP (D10 0.325)
(ORB OPS, ECLS)

Monitor wrist camera from initiation to termination
Initiate when H2O SPLY NOZ T exceeds 100 deg
Terminate post bake out when nozzle temps exceed 100 deg

RMS POWERDOWN
(PDRS OPS, RMS PWRDN)
Note: Do not slow MPHs

MEAL
(ALL)

PL
EEE CUFF TEST (MS)
(PL OPS, EEE OPS)

EEE STORAGE (MS)
(PL OPS, EEE STOW)

MCC

P/TVO4 SETUP (MIDDECK ACT)
(PHOTO/TV, P/TV SCENES)

P/TVO4 ACT (MIDDECK ACT)
(PHOTO/TV, P/TV SCENES)

TV (TORE)
(GND CNTL-CAB)

TV DEACT (Cue Card, IV/VTR)

UPDATE
NCT BURN
PAD

STATION MET DAY 004
04:00
R1(B1)
AUTO/VERN
ORB 67
05:00
(R1)B1
MAN/NORM
R1(B1)
AUTO/VERN
ORB 68
06:00
ORB 69
07:00
08:00
09:00

STATION MET DAY 004
04:00
R1(B1)
AUTO/VERN
ORB 67
05:00
(R1)B1
MAN/NORM
R1(B1)
AUTO/VERN
ORB 68
06:00
ORB 69
07:00
08:00
09:00

STATION MET DAY 004
04:00
R1(B1)
AUTO/VERN
ORB 67
05:00
(R1)B1
MAN/NORM
R1(B1)
AUTO/VERN
ORB 68
06:00
ORB 69
07:00
08:00
09:00

STATION MET DAY 004
04:00
R1(B1)
AUTO/VERN
ORB 67
05:00
(R1)B1
MAN/NORM
R1(B1)
AUTO/VERN
ORB 68
06:00
ORB 69
07:00
08:00
09:00

ON-ORBIT RCS BURN
(ORB OPS, RCS)

NCT (4/05:21)

MNVR (TRK) -ZLV, +YVV
TG=2 BV=3 DM=270
A/AUTO/VERN Init TRK

GAS ACTIVITIES GROUP E
(PL OPS, GAS)

EEF SETUP/ACTIVATION (PS)
(PL OPS, EEF ACT)
EEF REST TEST OPS (PS)
(PL OPS, EEF OPS)

EEF EXERCISE TEST OPS (PS)
(PL OPS, EEF OPS)

EEF STORAGE (PS)
(PL OPS, EEF STOW)

PRE SLEEP ACTIVITY
(ORB OPS, CREW SYS)

Note: Do not perform
SUPPLY H2O DUMP

MNVR IMU ALIGN ATT
STAR PAIR (R1)
A/AUTO/VERN Init MNVR at SS
IMU ALIGN - S TRK (ORB OPS)
MNVR (TRK) -ZLV, +YVV
TG=2 BV=3 DM=270
A/AUTO/VERN Init TRK

IMU ALIGN LOG
REQD ID:

-Y _____ -Z _____ ANG ERR _____
1 2 3

ANG:
ΔX () _ _ _ () _ _ _ () _ _ _
ΔY () _ _ _ () _ _ _ () _ _ _
ΔZ () _ _ _ () _ _ _ () _ _ _
EXECUTION TIME:
_ / _ : _ : _

STS 51-G (FD05)

PL

MCC

MET
DAY 004
09:00
09:00
10:00
11:00
12:00
13:00
14:00

STS

SLEEP

ORB 70

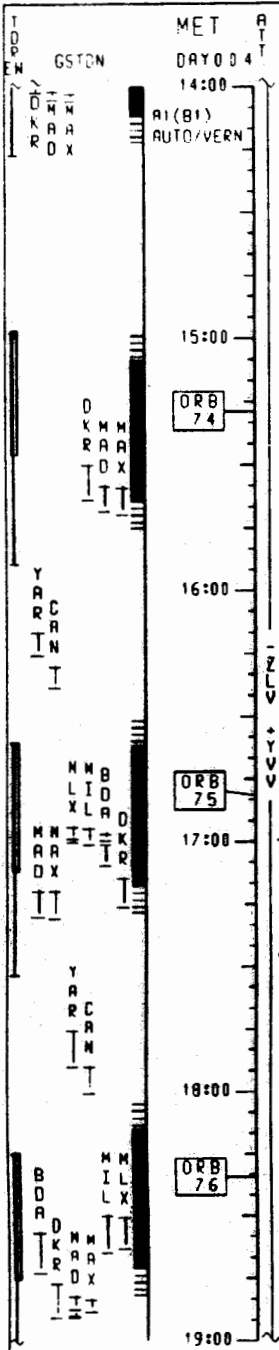
AI(B1)
AUTO/VERN

ORB 71

ORB 72

ORB 73

TO
R
E
M
G
M
M
A
G
G
O
R
K
C
N
T
O
R
K
C
N
T
G
M
M
R
K
D
O
R
B

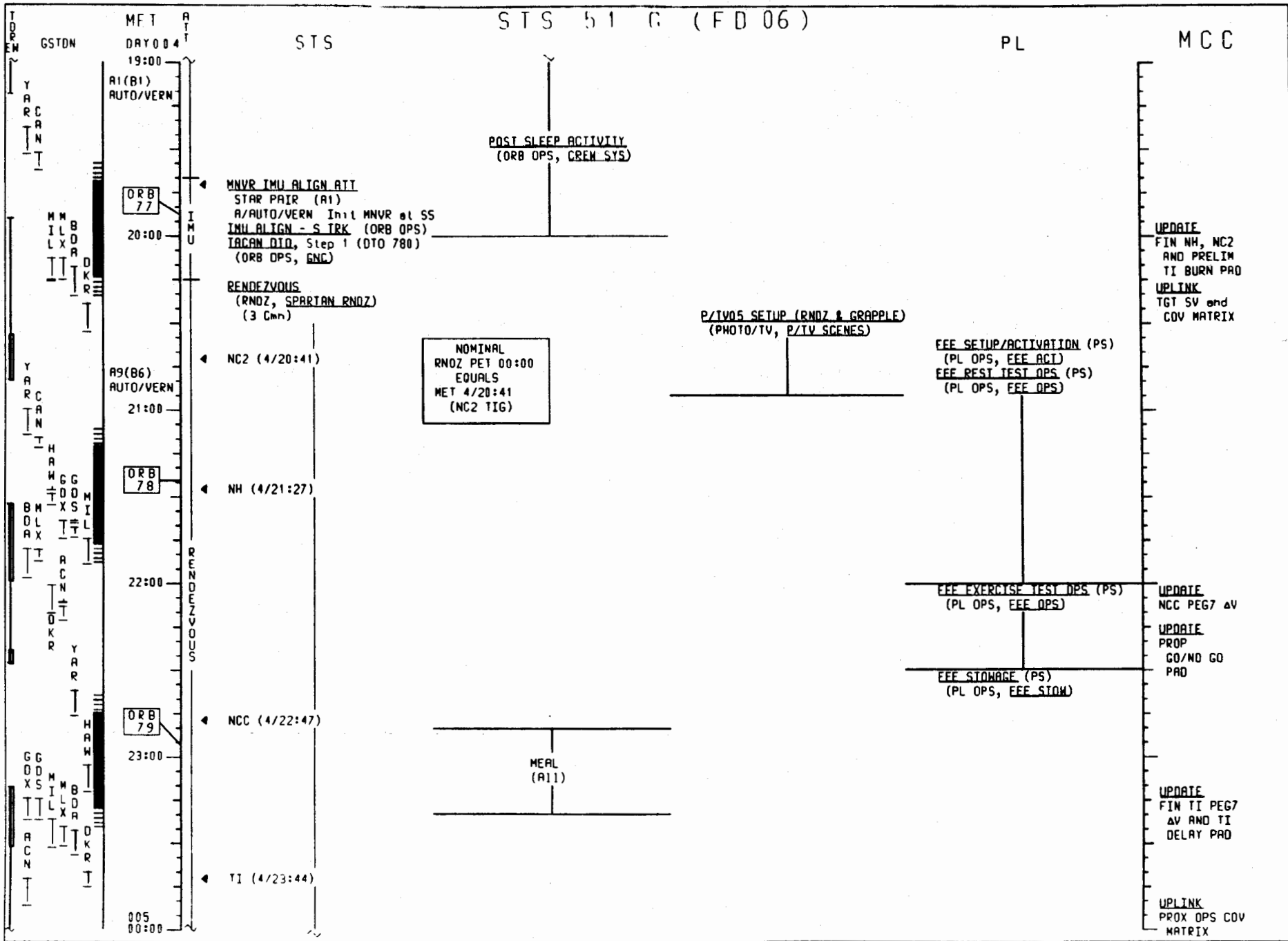


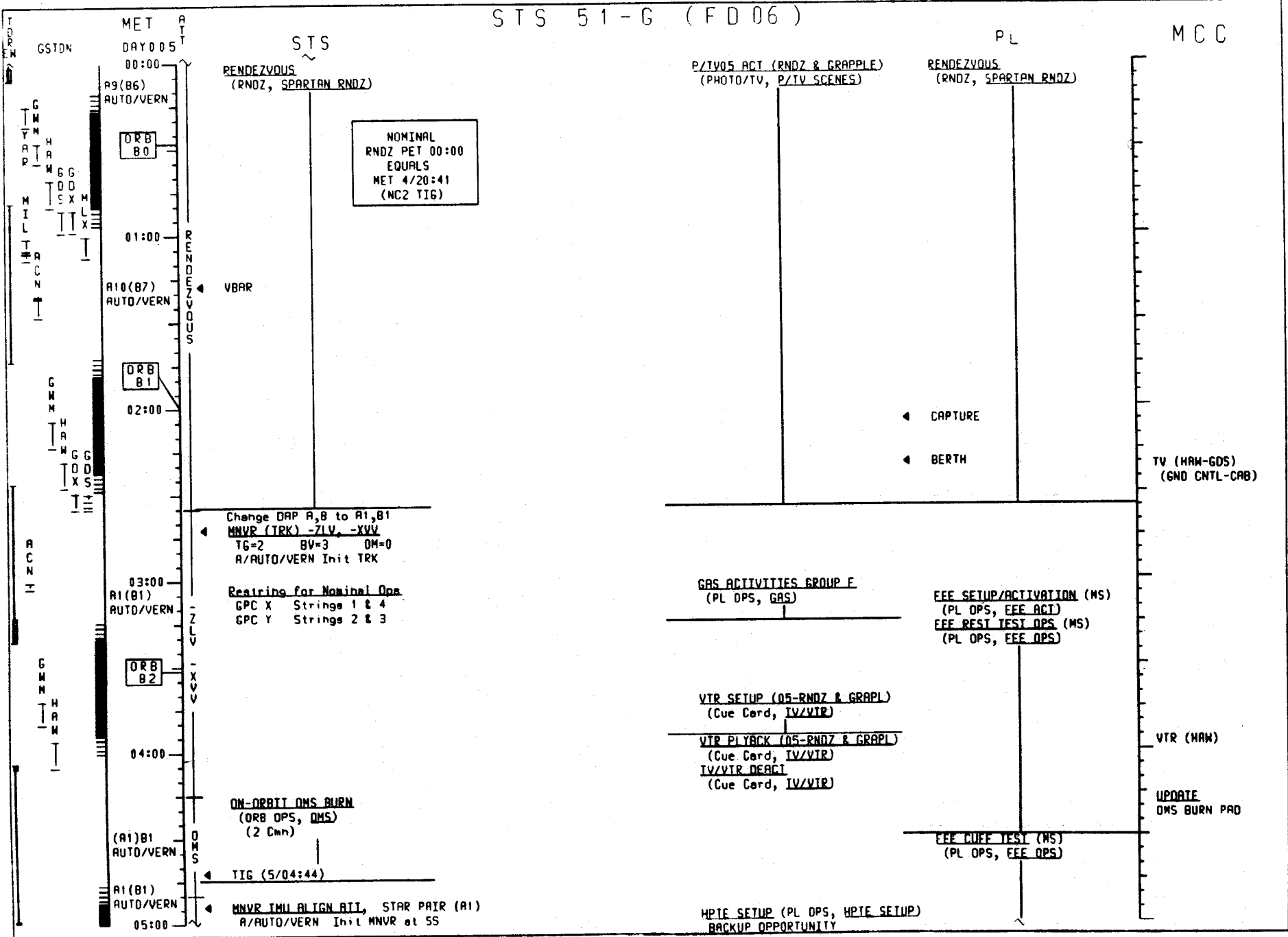
IMU ALIGN LOG
 RECD ID:
 -Y____, -Z____ ANG ERR ____
 1 2 3
 ANG:
 ΔX () . _ _ () . _ _ () . _ _
 ΔY () . _ _ () . _ _ () . _ _
 ΔZ () . _ _ () . _ _ () . _ _
 EXECUTION TIME:
 _ _ / _ _ : _ _ : _ _

EZ CAP ACTIVITIES FOR TODAY:
 MEAL PREP (Cue Card) (30 Min)
 EXERCISE (1 Hr/ALL)
 EPE OPS (PS)
 (PL OPS, EPE) (90 Min)
 Perform A.M. and P.M. (non-interference)

POST SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

Note: Do not perform
 SUPPLY H2O DUMP





MET DAY 005
 05:00
 06:00
 07:00
 08:00
 09:00
 10:00

ORB 83
 ORB 84
 ORB 85
 ORB 86

STS
MNVR IMU ALIGN ATT
 STAR PAIR (R1)
 A/AUTO/VERN Init MNVR at 55
IMU ALIGN - S TRK (ORB OPS)
MNVR (TRK) HPTE
 TG=3 BV=5 OM=270.1
 LAT=20.71 LON=203.74
 ALT=9994 P=0 Y=277.75
 B1/AUTO/NORM (05:17) Init TRK

MNVR (TRK) -ZLV, -XVV
 TG=2 BV=3 OM=180
 A/AUTO/VERN Init TRK at HAW LOS

PRE SLEEP ACTIVITY
 (ORB OPS, CREW SYS)

Note: Do not perform
 SUPPLY H2O DUMP

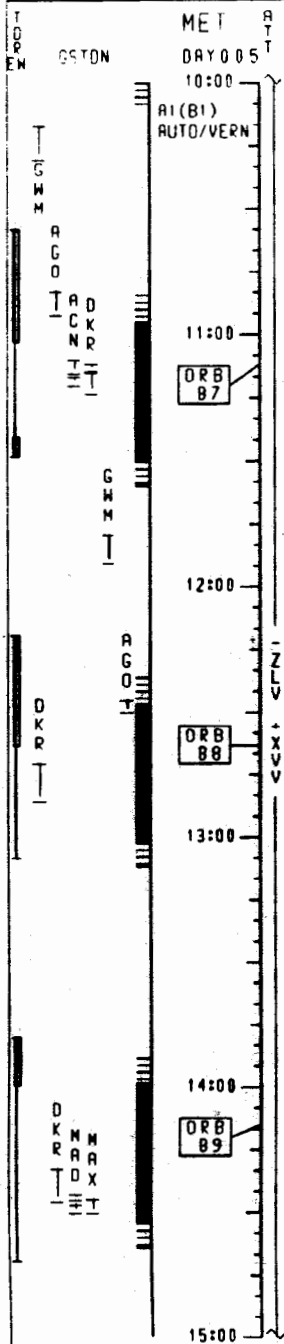
HPTE STOW
 (PL OPS, HPTE STOW)

IMU ALIGN LOG
 RECD ID:
 -Y __, -Z __ ANG ERR __.
 1 2 3
 ANG:
 ΔX () . () . () .
 ΔY () . () . () .
 ΔZ () . () . () .
 EXECUTION TIME:
 __ / __ : __ : __

PL
EEF CUFF TEST (MS)
 (PL OPS, EEF OPS)

EEF STORAGE (MS)
 (PL OPS, EEF STOW)

SLEEP



STS

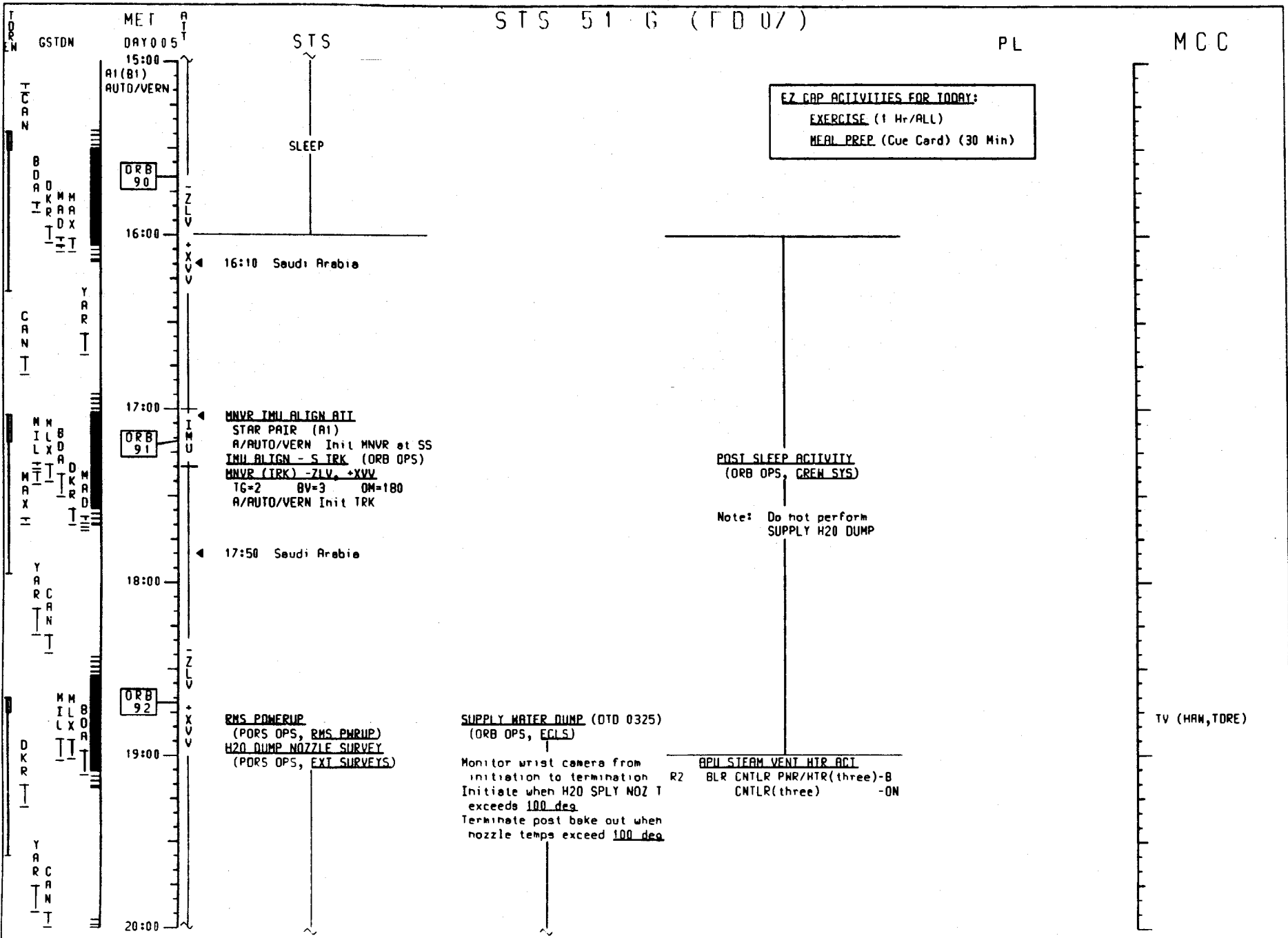
SLEEP

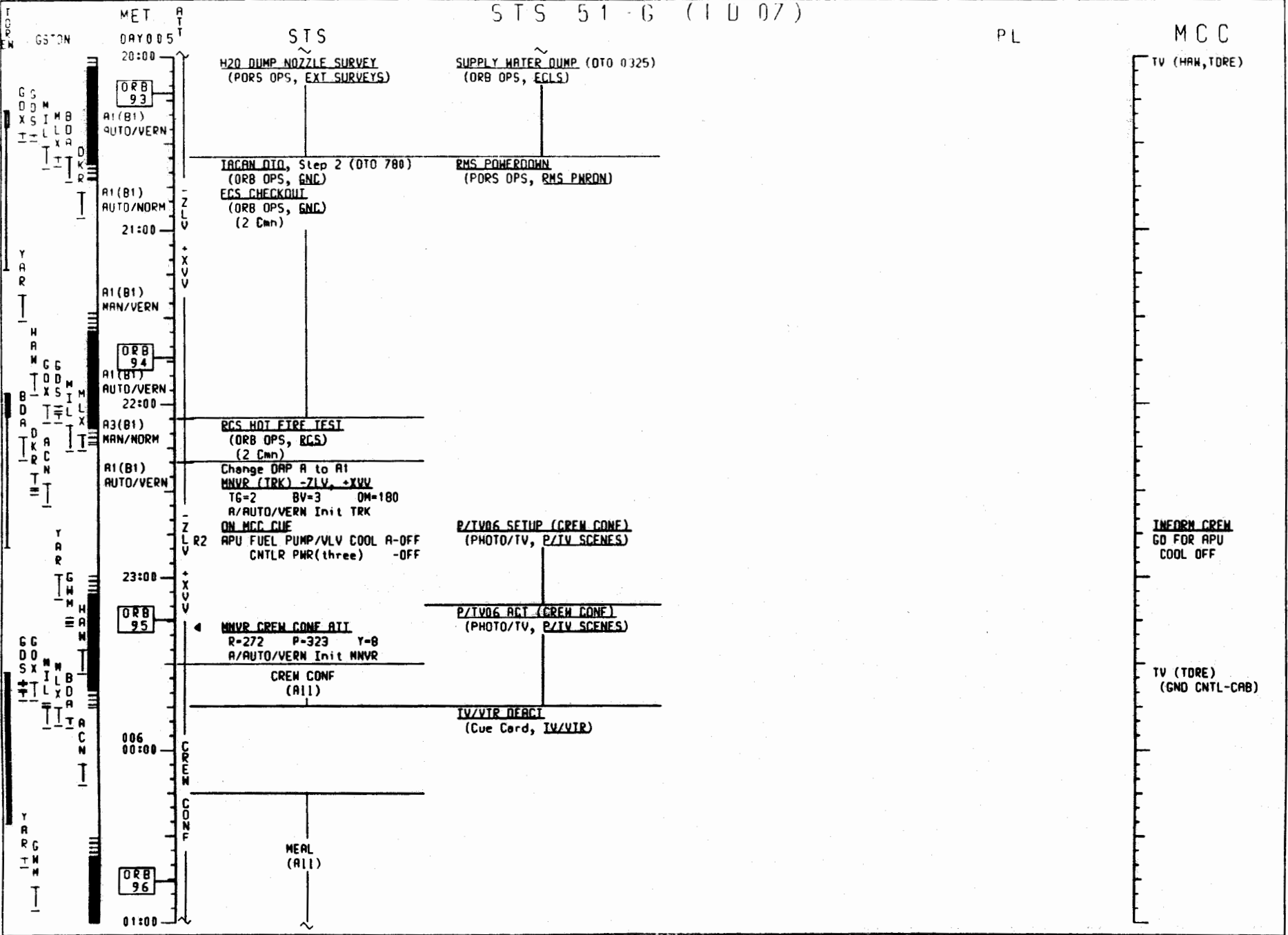
IMU ALIGN LOG
REQD ID:

-Y____, -Z____ ANG ERR ____
1 2 3

ANG:
ΔX () . () . () .
ΔY () . () . () .
ΔZ () . () . () .

EXECUTION TIME:
_ / _ : _ : _





INFORM CREW GO FOR APU COOL OFF

TV (TDRE) (GND CNTL-CAB)

MET

DAY 006

01:00

A1(B1)
AUTO/VERN

QEX
DAP

02:00

ORB
97

A1(B1)
AUTO/VERN

03:00

ORB
98

04:00

05:00

ORB
99

06:00

STS

MEAL
(A11)

EXPERIMENT STARTUP (DTO 909)
(ORB OPS, QEX DAP) (3 Cmn)
ROT ACCEL, Step 2 (DTO 909)
(ORB OPS, QEX DAP) (3 Cmn)
VFL PULSE, Step 2 (DTO 909)
(ORB OPS, QEX DAP) (3 Cmn)
VERNIER BACKUP (DTO 909)
(ORB OPS, QEX DAP)
(3 Cmn)
TIGHT DEADBAND (DTO 909)
(ORB OPS, QEX DAP)
(3 Cmn)

REVERSION, Step 1 (ORB OPS)
DAP: A1/AUTO/VERN
MNVR (TRK) -ZLV, +XVV
TG=2 BV=3 OM=180
A/AUTO/VERN Init TRK
KU-BD ANT STOW
(ORB OPS, COMM/INST)

MNVR IMU ALIGN ATT
STAR PAIR (A1)
A/AUTO/VERN Init MNVR at SS
IMU ALIGN - S TRK (ORB OPS)
MNVR (TRK) -ZLV, +XVV
TG=2 BV=3 OM=180
A/AUTO/VERN Init TRK

PRE SLEEP ACTIVITY
(ORB OPS, CREW SYS)

Note: Do not perform
SUPPLY H2O DUMP

CABIN CONFIG/STOW
(A11)

IMU ALIGN LOG
RECD ID:
-Y __, -Z __ ANG ERR __. __
 1 2 3
ANG:
ΔX () . () . () .
ΔY () . () . () .
ΔZ () . () . () .
EXECUTION TIME:
_ / _ : _ : _

GAS ACTIVITIES GROUP G
(PL OPS, GAS)

GAS ENCDR STOW
(PL OPS, GAS)

GSTON MET DAY 006

STS

PL

MCC

06:00
A1 (B1)
AUTO/VERN

ORB
100

07:00

PRE SLEEP ACTIVITY
(ORB OPS, CREW SYS)

08:00

ORB
101

09:00

SLEEP

ORB
102

10:00

11:00

AGG
TRC
NNN
HHH
HHH
GGG
ZCB
MMM
GGG
AGG
TRC
NNN
GGG

12:00
13:00

MET DAY 006

11:00

AI (B1)
AUTO/VERN

ORB 103

12:00

ORB 104

13:00

14:00

ORB 105

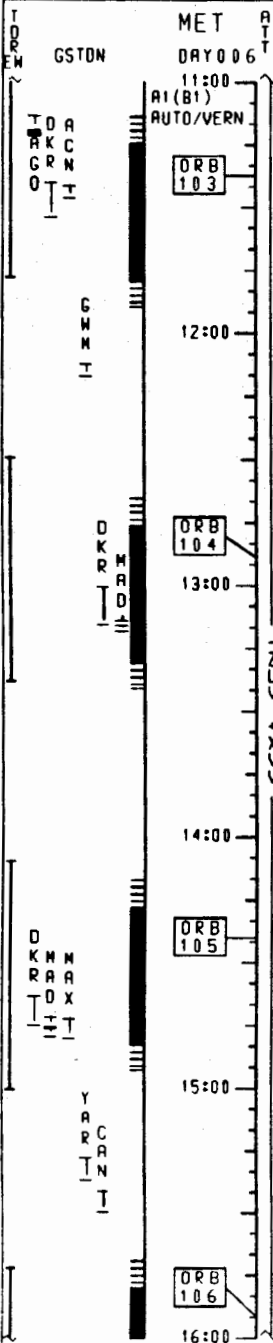
15:00

ORB 106

16:00

STS

SLEEP



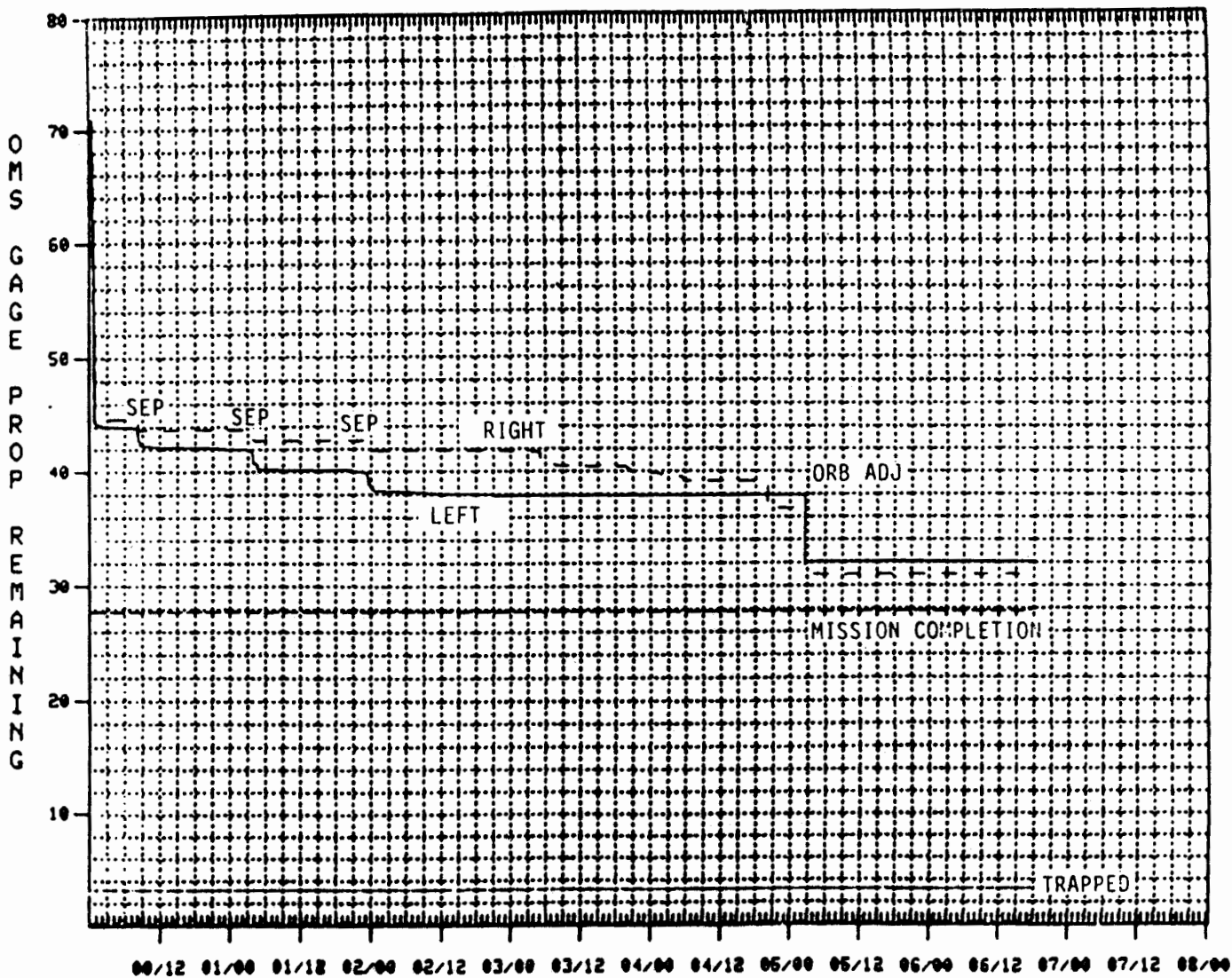
CONSUMABLES CURVES

CONSUMABLES
CURVES

CONSUMABLES
CURVES

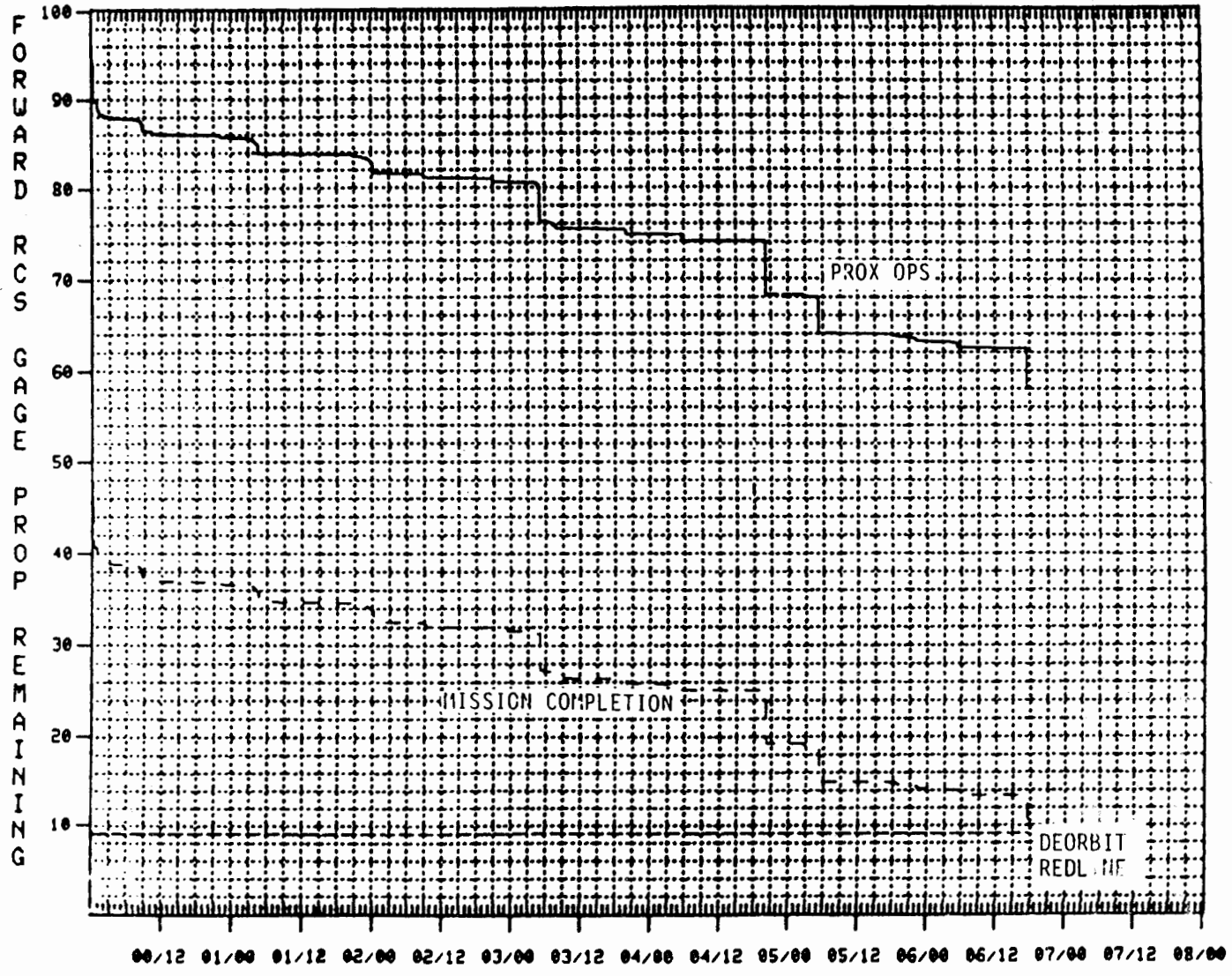
27 March 1985
SODS J-758 add 4
Prepared by: R.A. Glover/MDTSCG
Verified by: *R.J. Winkler*

51-G OMS PROP REMAINING(% GAGE)



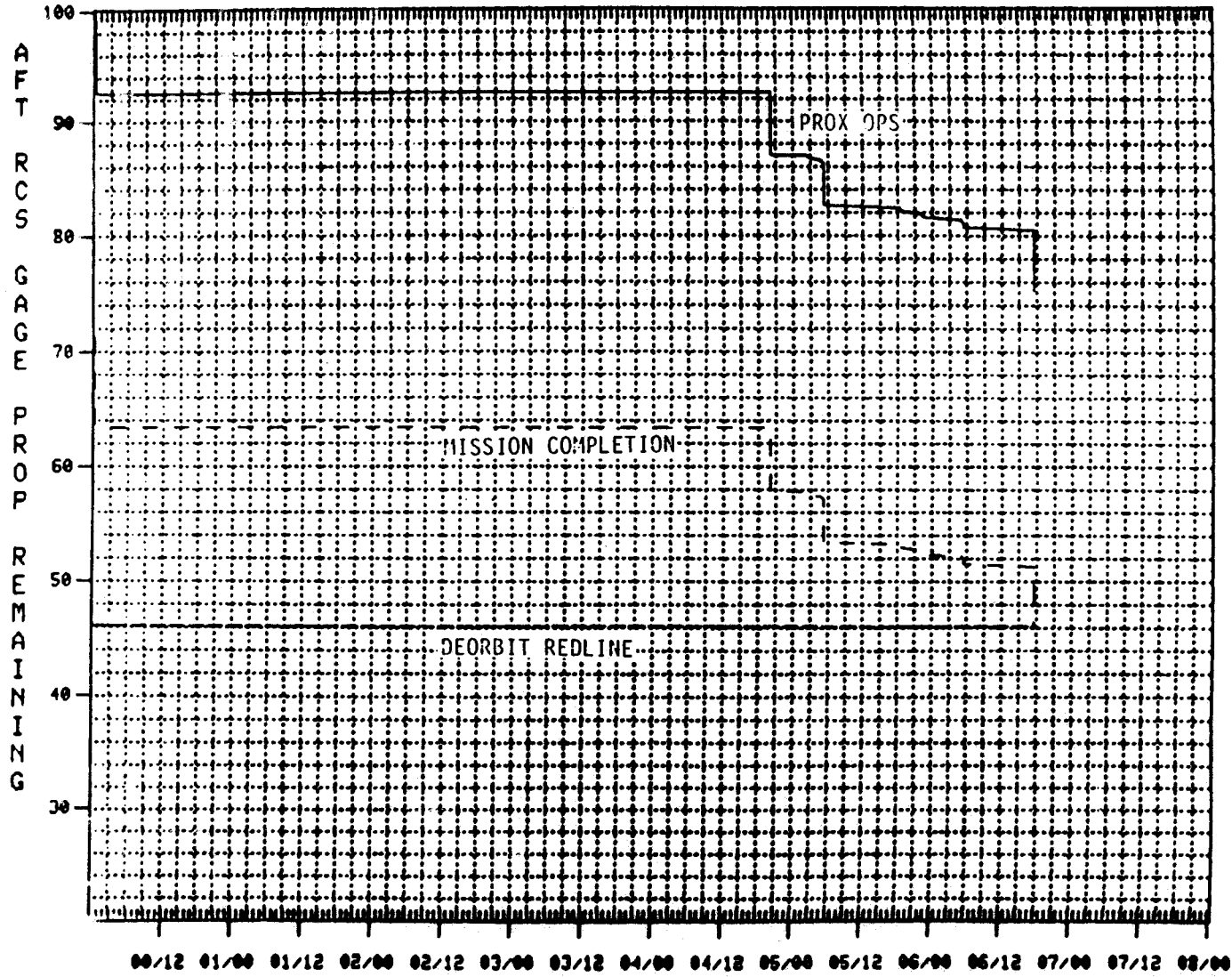
MISSION ELAPSED TIME IN DAYS/HOURS

51-G FORWARD RCS PROP REMAINING(% GAGE)



27 March 1985
SODS J-758 add 4
Prepared by: R.A.Glover/NOTSCO
Verified by: *R.J. Winkler*

51-G AFT RCS PROP REMAINING(% GAGE)



MISSION ELAPSED TIME IN DAYS/HOURS

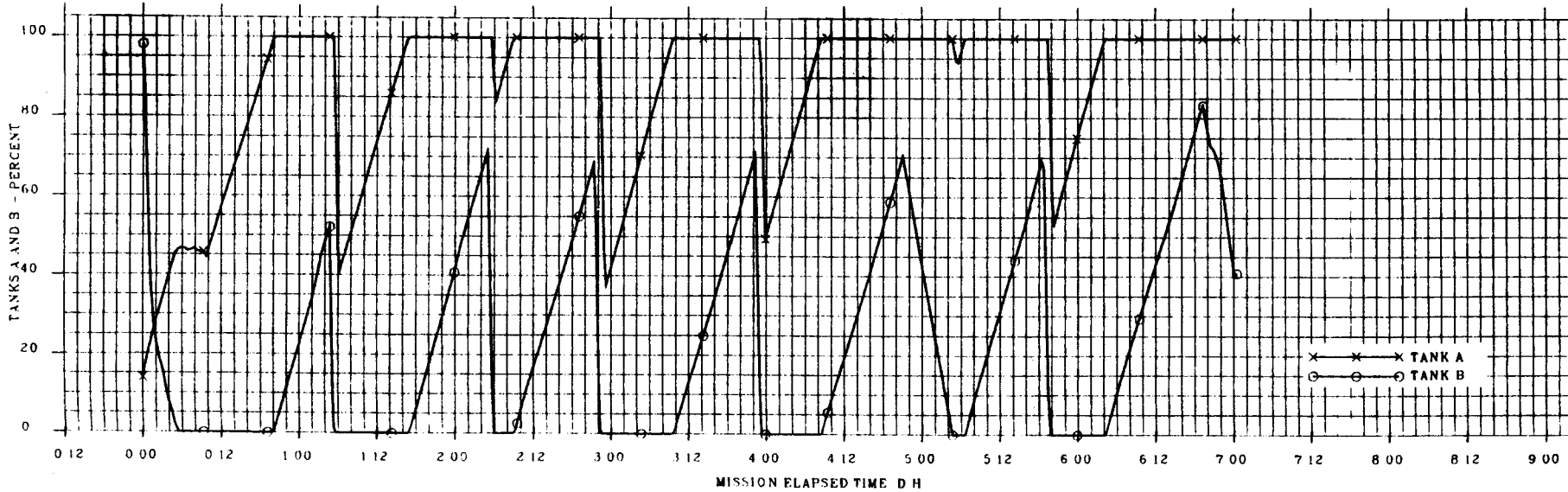
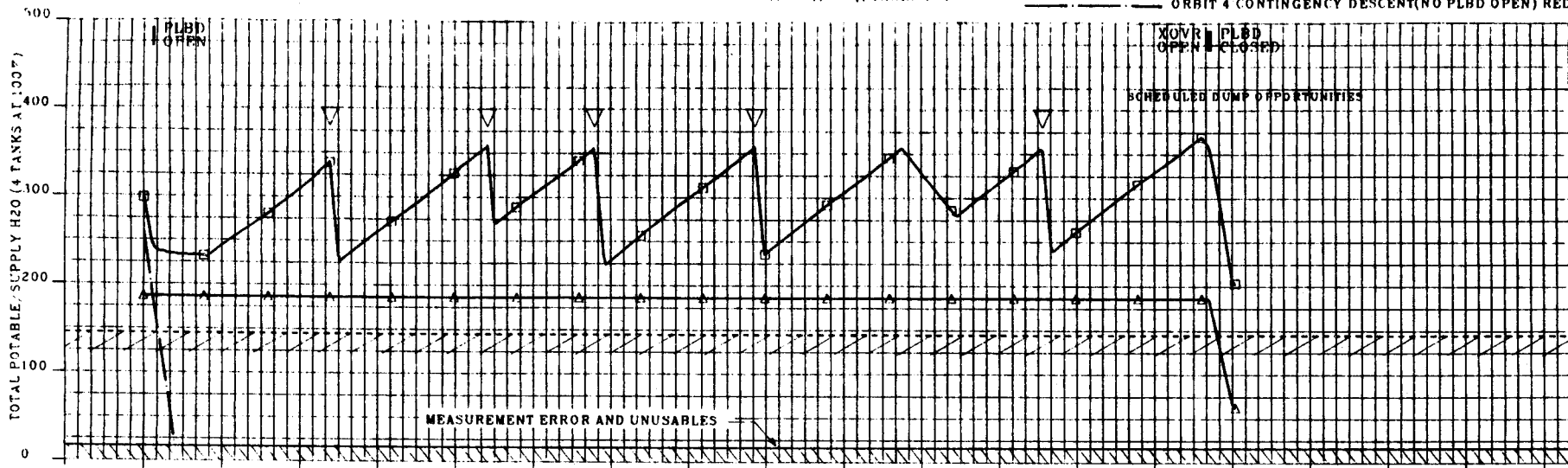
THOMAS C. LATHROP
JSC-20101 (CAP) FINAL
DATA CONFIRMED

Grid Check 5/1/85

TRAJECTORY OFF (CYCLE 3)
CAP FINAL
ANALYSIS DATE APRIL 26 1985

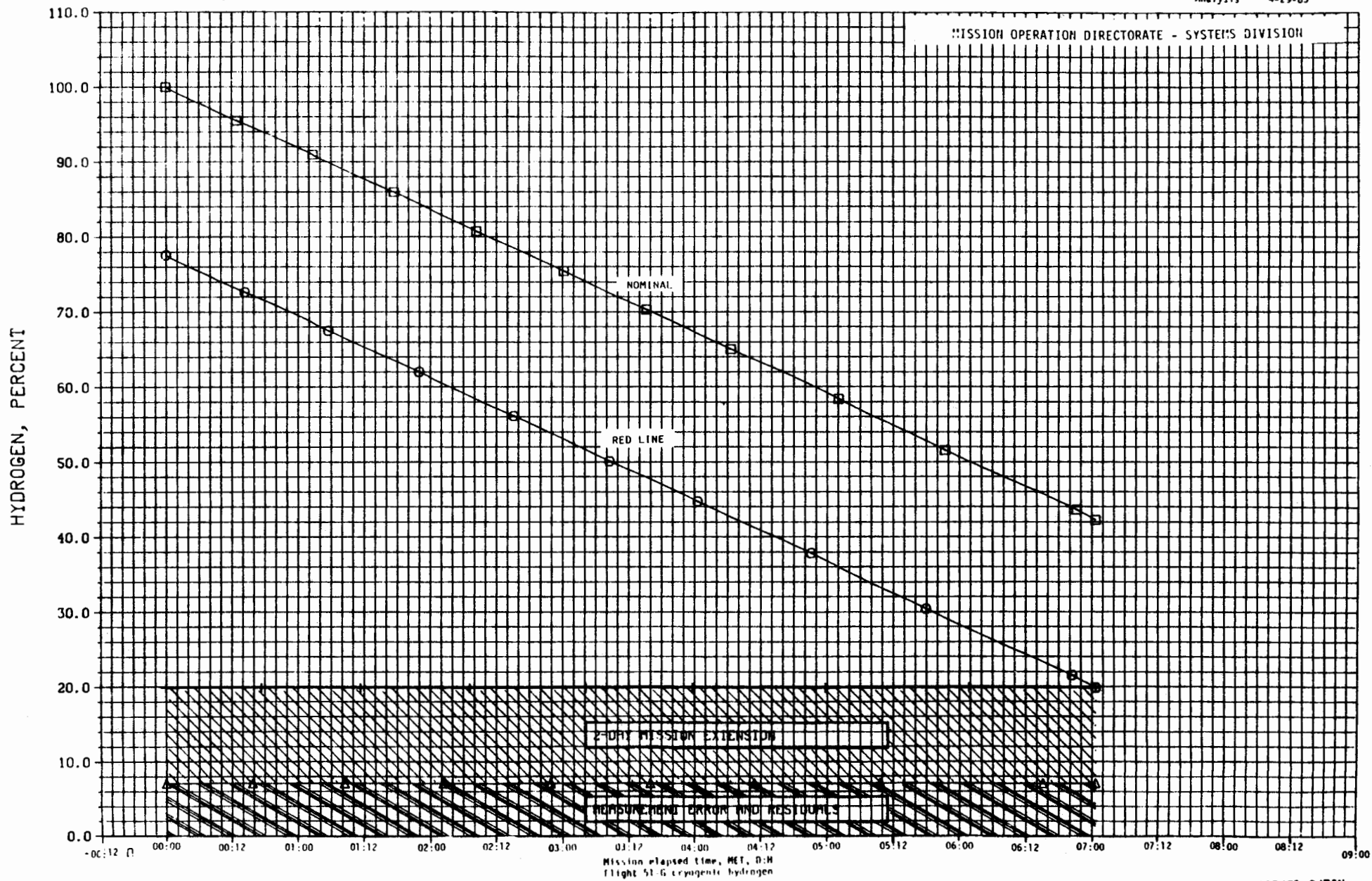
---x---x---x TANKS A & D
---o---o---o TANKS C & B

----- ANYTIME (CONTINGENCY DEORBIT (165) MIN REDLINE
----- ORBIT 4 (CONTINGENCY DESCENT (NO PLBD OPEN) REDLINE

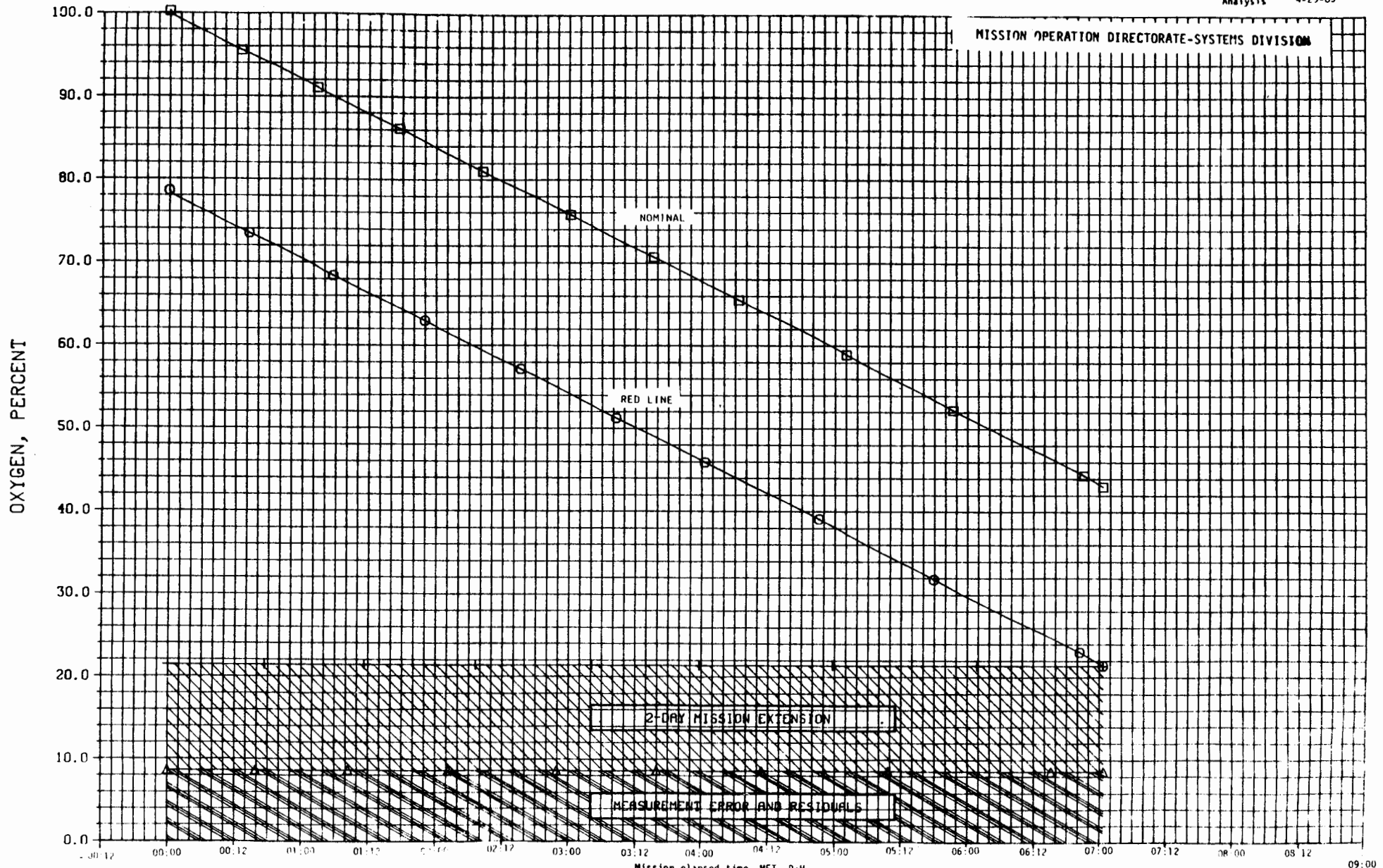


STS 51-G SUPPLY WATER

MISSION OPERATION DIRECTORATE - SYSTEMS DIVISION



MISSION OPERATION DIRECTORATE-SYSTEMS DIVISION



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The sections following this divider page will
not be included in flight copies.

STS 51-G DAP BOOK

DAP A CONFIGURATIONS..... 5-2
DAP B CONFIGURATIONS..... 5-3
STS 51-G DAP BOOK..... 5-4

DAP BOOK

DAP A CONFIGURATIONS

	A1*	A2	A3	A4	A5	A6	A7	A9	A10	A12
<u>TRANSLATION</u>										
PULSE ft/sec	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.10	0.05	0.10
<u>ROTATION</u>										
DSC RT NORM °/sec	0.200	0.400	0.200	0.200	0.200	0.200	0.100	0.200	0.200	0.500
VERN °/sec	0.200	0.400	0.200	0.008	0.200	0.200	0.008	0.200	0.200	0.200
PULSE NORM °/sec	0.10	0.10	0.30	0.10	0.10	0.10	0.10	0.10	0.10	0.10
VERN °/sec	0.010	0.010	0.010	0.010	0.050	0.010	0.010	0.010	0.010	0.010
COMP NORM °/sec	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
VERN °/sec	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
<u>DEADBAND</u>										
ATT NORM (deg)	5.00	1.00	5.00	1.00	5.00	5.00	1.00	2.00	2.00	2.00
VERN (deg)	1.000	1.000	1.000	0.070	1.000	1.000	0.500	1.000	1.000	1.000
RATE NORM °/sec	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
VERN °/sec	.020	.020	.020	.010	.020	.020	.010	.020	.020	0.020
<u>JET OPT</u>										
P	1	1	3	1	1	3	3	1	1	1
Y	1	1	3	3	1	3	3	1	1	1
CNTL ACCEL	0	0	0	0	0	0	2	0	0	0

*I-LOADED OPS-2 DAP Configuration

DAP B CONFIGURATIONS

	B1*	B2	B3	B4	B5	B6	B7
<u>TRANSLATION</u>							
PULSE ft/sec	0.02	0.02	0.02	0.02	0.02	0.05	0.01
<u>ROTATION</u>							
DSC RT NORM %/sec	0.500	0.200	0.200	0.200	0.200	0.500	0.200
VERN %/sec	0.200	0.200	0.200	0.008	0.016	0.200	0.200
PULSE NORM %/sec	0.04	0.04	0.04	0.04	0.04	0.04	0.04
VERN %/sec	0.002	0.002	0.002	0.002	0.002	0.002	0.002
COMP NORM %/sec	.00	.00	.00	.00	.00	.00	.00
VERN %/sec	.000	.000	.000	.000	.000	.000	.000
<u>DEADBAND</u>							
ATT NORM (deg)	3.00	3.00	3.00	0.30	3.00	2.00	2.00
VERN (deg)	1.000	1.000	1.000	0.100	0.033	1.000	1.000
RATE NORM %/sec	0.20	0.20	0.20	0.20	0.20	0.20	0.20
VERN %/sec	.020	.020	.020	.010	.020	.020	.020
<u>JET OPT</u>							
P	1	3	1	1	3	1	1
Y	1	3	1	3	3	1	1
<u>CNTL ACCEL</u>	0	0	0	0	0	0	0

***I-LOADED OPS-2 DAP Configuration**

DAP BOOK

HOOK
VELCRO

CAP/51-G/O/BAS

CAP/51-G/O/FIN

UNIV PTG	
TGT ID = 1	Orbiting Vehicle
= 2	Earth ctr
= 3	Earth tgt
	Input LAT (± 90)
	LON (± 180 , + = East)
	ALT (-3444.0 to 20000.0 nm)
= 4	Sun ctr
= 5	Celestial tgt
	Input RA (0-359.99)
	DEC (± 90)
= 11-110	Nav Stars
BODY VECT = 1	+X*
= 2	-X*
= 3	-Z*
= 4	PTC ($\sim 2^\circ$ below +X)*
= 5	Optional
	Input P (0-359.99)
	Y (270-359.99, 0-90)
* input OM \rightarrow	OM (0-359.99)
MON AXIS = 1	+X
2	-X

G20 DAP CONFIG			
CNTL ACCEL = 0	Orbiter alone	JET OPT = 1	Normal
= 1	SPARTAN at high hover	= 2	Nose only
= 2	SPARTAN at mid bay	= 3	Tail only
= 3	SPARTAN overhead		

TOP

DAP

PURPOSE

- A1 - NOMINAL
IMU ALIGN
LOSS OF VERN
- A2 - PTC
- A3 - RCS HOT FIRE
- A4 - GG
- A5 - IMU ALIGN (ROTATING)
- A6 - LOSS OF VERN
(TAIL ONLY)
- A7 - SPARTAN RELEASE
- A9 - RENDEZVOUS
- A10 - PROX OPS
- A11 - (Blank)
- A12 - PROX OPS

CAP/51-G/O/FIN

A1

TOP

DAPA1

A1

PURPOSE:

NOMINAL
IMU ALIGN
LOSS OF VERN
(NOSE & TAIL)

0.1 0	1	TRANSLATION PULSE
0.2 0 0	2	ROTATION DSC RT NORM
0.2 0 0	3	VERN
0.1 0	4	PULSE NORM
0.0 1 0	5	VERN
.0 0 0	6	COMP NORM
.0 0 0	7	VERN
5.0 0	8	DEADBAND ATT NORM
1.0 0 0	9	VERN
0.2 0	10	RATE NORM
.0 2 0	11	VERN
1	12	JET OPT P
1	13	Y
0	14	CNTL ACCEL

CAP/51-G/O/BAS

CAP/51-G/O/BAS

A2

TOP

TOP

A1

DAP A2

PURPOSE:

PTC

A2

0.1 0 1 TRANSLATION PULSE

0.4 0 0 2 DSC RT NORM
 0.4 0 0 3 VERN
 0.1 0 0 4 PULSE NORM
 0.0 1 0 5 VERN
 .0 0 0 6 COMP NORM
 .0 0 0 7 VERN

DEADBAND
 1.0 0 8 ATT NORM
 1.0 0 9 VERN

0.2 0 10 RATE NORM
 .0 2 0 11 VERN

1 12 JET OPT P
 1 13 Y

0 14 CNTL ACCEL

CAP/51-G/O/BAS

CAP/51-G/O/BAS

A3

TOP

TOP

A2

DAP A3

PURPOSE:

RCS HOT FIRE

A3

0.1 0 1 TRANSLATION PULSE

0.2 0 0 2 DSC RT NORM
 0.2 0 0 3 VERN
 0.3 0 4 PULSE NORM
 0.0 1 0 5 VERN
 .0 0 0 6 COMP NORM
 .0 0 0 7 VERN

DEADBAND
 5.0 0 8 ATT NORM
 1.0 0 9 VERN

0.2 0 10 RATE NORM
 .0 2 0 11 VERN

3 12 JET OPT P
 3 13 Y

0 14 CNTL ACCEL

CAP/51-G/O/BAS

CAP/51-G/O/BAS

A4

TOP

TOP

A3

DAP A4

PURPOSE:

GG

A4

TRANSLATION
PULSE

0.1 0 1

ROTATION

0.2 0 0 2 DSC RT NORM

0.0 0 8 3 VERN

0.1 0 4 PULSE NORM

0.0 1 0 5 VERN

.0 0 0 6 COMP NORM

.0 0 0 7 VERN

DEADBAND

1.0 0 8 ATT NORM

0.0 7 0 9 VERN

0.2 0 10 RATE NORM

0.0 1 0 11 VERN

1 12 JET OPT P

3 13 Y

0 14 CNTL ACCEL

CAP/51-G/O/BAS

CAP/51-G/O/BAS

A5

TOP

TOP

A4

DAP A5

PURPOSE:

IMU ALIGN (ROTATING)

A5

TRANSLATION
PULSE

0.1 0 1

ROTATION

0.2 0 0 2 DSC RT NORM

0.2 0 0 3 VERN

0.1 0 4 PULSE NORM

0.0 5 0 5 VERN

.0 0 0 6 COMP NORM

.0 0 0 7 VERN

DEADBAND

5.0 0 8 ATT NORM

1.0 0 0 9 VERN

0.2 0 10 RATE NORM

0.0 2 0 11 VERN

1 12 JET OPT P

1 13 Y

0 14 CNTL ACCEL

CAP/51-G/O/BAS

CAP/51-G/O/BAS

A6

TOP

TOP

A5

DAP A6

PURPOSE:

LOSS OF VERN
(TAIL ONLY)

0.1 0

1

TRANSLATION
PULSE

0.2 0 0

2

ROTATION
DSC RT NORM

0.2 0 0

3

VERN

0.1 0 0

4

PULSE NORM

0.0 1 0

5

VERN

.0 0 0

6

COMP NORM

.0 0 0

7

VERN

DEADBAND

5.0 0

8

ATT NORM

1.0 0 0

9

VERN

0.2 0

10

RATE NORM

0.2 0

11

VERN

3

12

JET OPT P

3

13

Y

0

14

CNTL ACCEL

CAP/51-G/O/BAS

CAP/51-G/O/BAS

A7

TOP

TOP

A6

DAP A7

PURPOSE:

SPARTAN RELEASE

0.0 5

1

TRANSLATION
PULSE

0.1 0 0

2

ROTATION
DSC RT NORM

0.0 0 8

3

VERN

0.1 0 0

4

PULSE NORM

0.0 1 0

5

VERN

.0 0 0

6

COMP NORM

.0 0 0

7

VERN

DEADBAND

1.0 0

8

ATT NORM

0.5 0 0

9

VERN

0.2 0

10

RATE NORM

0.1 0

11

VERN

3

12

JET OPT P

3

13

Y

2

14

CNTL ACCEL

CAP/51-G/O/BAS

CAP/51-G/O/BAS

A9

TOP



A7

DAP A9

PURPOSE:
RENDEZVOUS

CAP/51-G/O/BAS



TOP



DAPA10

PURPOSE:
PROX OPS

CAP/51-G/O/BAS



TOP



TOP

A9

- 0.1 0 1 TRANSLATION PULSE
- 0.2 0 0 2 DSC RT NORM
- 0.2 0 0 3 VERN
- 0.1 0 0 4 PULSE NORM
- 0.0 1 0 5 VERN
- .0 0 0 6 COMP NORM
- .0 0 0 7 VERN
- 2.0 0 8 DEADBAND ATT NORM
- 1.0 0 0 9 VERN
- 0.2 0 10 RATE NORM
- .0 2 0 11 VERN
- 1 12 JET OPT P
- 1 13 Y
- 0 14 CNTL ACCEL

CAP/51-G/O/BAS



A9



TOP



A10

- 0.0 5 1 TRANSLATION PULSE
- 0.2 0 0 2 DSC RT NORM
- 0.2 0 0 3 VERN
- 0.1 0 0 4 PULSE NORM
- 0.0 1 0 5 VERN
- .0 0 0 6 COMP NORM
- .0 0 0 7 VERN
- 2.0 0 8 DEADBAND ATT NORM
- 1.0 0 0 9 VERN
- 0.2 0 10 RATE NORM
- .0 2 0 11 VERN
- 1 12 JET OPT P
- 1 13 Y
- 0 14 CNTL ACCEL

CAP/51-G/O/BAS



A11



TOP

A10

DAP A11

PURPOSE: (Blank)

A11

1 TRANSLATION PULSE

ROTATION

2 DSC RT NORM

3 VERN

4 PULSE NORM

5 VERN

6 COMP NORM

7 VERN

DEADBAND

8 ATT NORM

9 VERN

10 RATE NORM

11 VERN

12 JET OPT P

13 Y

14 CNTL ACCEL

CAP/51-G/O/BAS

CAP/51-G/O/FIN

A12

TOP

TOP

A11

DAP A12

A12

PURPOSE:

PROX OPS

0.1 0 1

TRANSLATION PULSE

0.5 0 0 2

ROTATION DSC RT NORM

0.2 0 0 3

VERN

0.1 0 4

PULSE NORM

0.0 1 0 5

VERN

.0 0 6

COMP NORM

.0 0 7

VERN

DEADBAND

2.0 0 8

AFT NORM

1.0 0 9

VERN

0.2 0 10

RATE NORM

.0 2 0 11

VERN

1 12

JET OPT P

1 13

Y

0 14

CNTL ACCEL

CAP/51-G/O/FIN

CAP/51-G/O/FIN

TOP

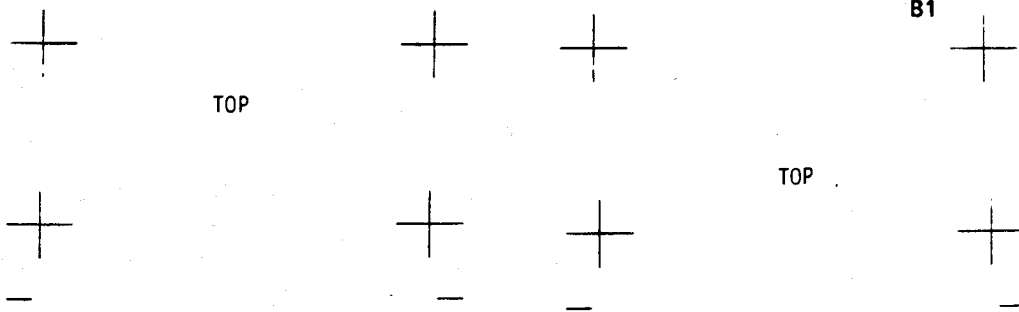


A12

- | <u>DAP</u> | <u>PURPOSE</u> |
|------------|--|
| B1 | - NOMINAL
PRCS IMU ALIGN
OMS & RCS BURNS |
| B2 | - LOSS OF VERN
(TAIL ONLY) |
| B3 | - LOSS OF VERN
GG MNVR |
| B4 | - PAM DEPLOY
FRISBEE DEPLOY |
| B5 | - COAS CAL |
| B6 | - RENDEZVOUS |
| B7 | - PROX OPS |
| B8 | - (Blank) |

CAP/51-G/O/FIN

CAP/51-G/O/FIN



DAP B1

B1

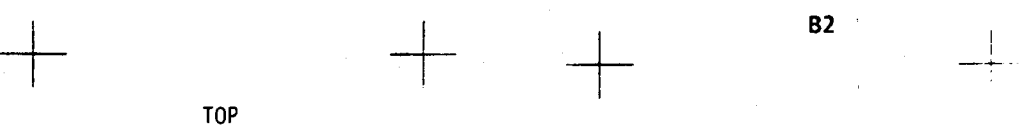
PURPOSE:

NOMINAL
PRCS IMU ALIGN
OMS & RCS BURNS

TRANSLATION			
PULSE	15	0.0	2
ROTATION			
DSC RT	NORM 16	0.5	0 0
	VERN 17	0.2	0 0
PULSE	NORM 18	0.0	4
	VERN 19	0.0	0 2
COMP	NORM 20	.0	0 0
	VERN 21	.0	0 0
DEADBAND			
ATT	NORM 22	3.0	0 0
	VERN 23	1.0	0 0
RATE			
	NORM 24	0.2	0
	VERN 25	0.2	0
JET OPT			
	P 26		1
	Y 27		1
CNTL ACCEL 28 0			

CAP/51-G/O/BAS

CAP/51-G/O/BAS



TOP

B2

TOP

B1

DAP B2

PURPOSE:

LOSS OF VERN
(TAIL ONLY)

CAP/51-G/O/BAS

B2

TRANSLATION			
PULSE	15	0.0	2

ROTATION			
DSC RT	NORM	16	0.2 0 0
	VERN	17	0.2 0 0
PULSE	NORM	18	0.0 0 4
	VERN	19	0.0 0 2
COMP	NORM	20	.0 0 0
	VERN	21	.0 0 0

DEADBAND			
ATT	NORM	22	3.0 0
	VERN	23	1.0 0 0

RATE	NORM	24	0.2 0
	VERN	25	.0 2 0

JET OPT	P	26	3
	Y	27	3

CNTL ACCEL	28	0
------------	----	---

CAP/51-G/O/BAS

B3

TOP

TOP

B2

DAP B3

PURPOSE:

LOSS OF VERN
(NOSE & TAIL)
GG MNVR

CAP/51-G/O/BAS

B3

TRANSLATION			
PULSE	15	0.0	2

ROTATION			
DSC RT	NORM	16	0.2 0 0
	VERN	17	0.2 0 0
PULSE	NORM	18	0.0 0 4
	VERN	19	0.0 0 2
COMP	NORM	20	.0 0 0
	VERN	21	.0 0 0

DEADBAND			
ATT	NORM	22	3.0 0
	VERN	23	1.0 0 0

RATE	NORM	24	0.2 0
	VERN	25	.0 2 0

JET OPT	P	26	1
	Y	27	1

CNTL ACCEL	28	0
------------	----	---

CAP/51-G/O/BAS

B4

TOP



B3

DAP B4

PURPOSE:
PAM DEPLOY
FRISBEE DEPLOY

CAP/51-G/O/BAS



TOP



DAP B5

PURPOSE:
COAS CAL

CAP/51-G/O/BAS



TOP



TOP

B4

TRANSLATION				
PULSE	15		0.0	2
ROTATION				
DSC RT	NORM 16		0.2	0 0
	VERN 17		0.0	0 8
PULSE	NORM 18		0.0	4
	VERN 19		0.0	0 2
COMP	NORM 20		.0	0 0
	VERN 21		.0	0 0
DEADBAND				
ATT	NORM 22		0.3	0
	VERN 23		0.1	0 0
RATE	NORM 24		0.2	0
	VERN 25		0.1	0
JET OPT	P 26			1
	Y 27			3
CNTL ACCEL	28			0

CAP/51-G/O/BAS



B4



B5

TOP

B5

TRANSLATION				
PULSE	15		0.0	2
ROTATION				
DSC RT	NORM 16		0.2	0 0
	VERN 17		0.0	1 6
PULSE	NORM 18		0.0	4
	VERN 19		0.0	0 2
COMP	NORM 20		.0	0 0
	VERN 21		.0	0 0
DEADBAND				
ATT	NORM 22		3.0	0
	VERN 23		0.0	3 3
RATE	NORM 24		0.2	0
	VERN 25		0.2	0
JET OPT	P 26			3
	Y 27			3
CNTL ACCEL	28			0

CAP/51-G/O/BAS



B6



TOP

B5

DAP B6

PURPOSE:
RENDEZVOUS

CAP/51-G/O/BAS

B6

TRANSLATION PULSE	15	0.0 5
ROTATION		
DSC RT NORM	16	0.5 0 0
VERN	17	0.2 0 0
PULSE NORM	18	0.0 4
VERN	19	0.0 0 2
COMP NORM	20	.0 0 0
VERN	21	.0 0 0
DEADBAND		
ATT NORM	22	2.0 0
VERN	23	1.0 0 0
RATE		
NORM	24	0.2 0
VERN	25	.0 2 0
JET OPT		
P	26	1
Y	27	1
CNTL ACCEL	28	0

CAP/51-G/O/BAS

B7

TOP

TOP

B6

DAP B7

PURPOSE:
PROX OPS

CAP/51-G/O/BAS

B7

TRANSLATION PULSE	15	0.0 1
ROTATION		
DSC RT NORM	16	0.2 0 0
VERN	17	0.2 0 0
PULSE NORM	18	0.0 4
VERN	19	0.0 0 2
COMP NORM	20	.0 0 0
VERN	21	.0 0 0
DEADBAND		
ATT NORM	22	2.0 0
VERN	23	1.0 0 0
RATE		
NORM	24	0.2 0
VERN	25	.0 2 0
JET OPT		
P	26	1
Y	27	1
CNTL ACCEL	28	0

CAP/51-G/O/FIN

B8

TOP

TOP

+

B7

+

+

+

DAP B8

B8

PURPOSE: (Blank)

TRANSLATION PULSE 15

ROTATION

DSC RT NORM 16

VERN 17

PULSE NORM 18

VERN 19

COMP NORM 20

VERN 21

DEADBAND

ATT NORM 22

VERN 23

RATE NORM 24

VERN 25

JET OPT P 26

Y 27

CNTL ACCEL 28

CAP/51-G/O/BAS

CAP/51-G/O/BAS

+

+

+

+

TOP

+

+

B8

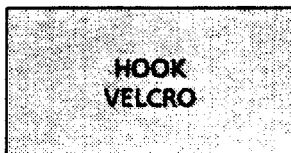
CAP/51-G/O/BAS

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TOP

TOP
BACK COVER 'DAP BOOK'



CAP/51-G/0/BAS



ATTITUDE TIMELINE

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 0/01:10:00	TRK TGT=2 BV=5(90.00, 35.00) OM=180.00	A1 AUTO NORM	DSC 0.200 DB AT 5.00 DB RT 0.20	EARTH 0 90 0 35	LVLH R+145 P+ 0 Y+ 0	PLBD OPENING BIASED -ZLV
2 0/02:25:00 37:16	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 67 0 121		IMU ALIGN COAS CAL PAIR A1
3 0/02:50:00 59:44	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
4 0/07:24:35 34:16	MNVR R+189.14 P+ 69.94 Y+ 19.28	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 0 277		MORELOS DEPLOY
5 0/08:07:35 16:54	MNVR R+276.00 P+156.00 Y+310.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 152 0 134		SEP BURN
6 0/08:22:35 23:36	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	PAYLOAD VIEWING
7 0/08:33:35 46:39	TRK TGT=2 BV=5(240.00, 29.00) OM= 16.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 116 0 148	LVLH R+ 17 P+ 30 Y+ 28	WINDOW PROTECT
8 0/08:49:35	CANCEL	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 118 0 172	INRTL R+306 P+ 5 Y+322	INRTL HOLD FOR PKM
9 0/09:00:00 08:55	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
10 0/10:05:00 19:39	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 67 0 121		IMU ALIGN PAIR A1
11 0/10:25:00 35:21	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
12 0/22:15:00 29:30	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 67 0 120		IMU ALIGN PAIR A1

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 0/22:35:00 46:08	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 φ 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
2 1/01:38:28 46:25	MNVR R+192.90 P+ 61.76 Y+ 17.20	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 φ 275		ARABSAT DEPLOY
3 1/02:26:28 36:02	MNVR R+278.80 P+158.60 Y+315.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 146 φ 136		SEP BURN
4 1/02:41:28 42:30	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 φ 0	LVLH R+180 P+ 0 Y+ 0	PAYLOAD VIEWING
5 1/02:52:28 03:06:58	TRK TGT=2 BV=5(253.00, 6.00) OM= 5.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 107 φ 173	LVLH R+ 5 P+ 17 Y+ 7	WINDOW PROTECT
6 1/03:08:28	CANCEL	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 106 φ 197	INRTL R+272 P+337 Y+326	INRTL HOLD FOR PKM
7 1/03:17:00 27:47	TRK TGT=2 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 φ 0	LVLH R+ 0 P+180 Y+ 0	-ZLV -XVV
8 1/08:57:16 09:09:25	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 66 φ 120		IMU ALIGN PAIR A1
9 1/09:17:00 28:16	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 φ 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
10 1/21:11:46 26:10	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 66 φ 120		IMU ALIGN PAIR A1
11 1/21:31:46 43:04	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 φ 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
12 1/23:07:10 17:00	MNVR R+200.62 P+ 67.06 Y+ 19.09	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 90 φ 265		TELSTAR DEPLOY

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 1/23:50:10 59:45	MNVR R+281.00 P+160.60 Y+321.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 139 0 137		SEP BURN
2 2/00:05:10 06:13	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	PAYLOAD VIEWING
3 2/00:16:10 29:00	TRK TGT=2 BV=5(243.00, 31.00) OM= 19.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 113 0 145	LVLH R+ 20 P+ 27 Y+ 31	WINDOW PROTECT
4 2/00:32:10	CANCEL	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 128 0 171	INRTL R+311 P+ 9 Y+314	INRTL HOLD FOR PKM
5 2/00:42:00 51:25	TRK TGT=2 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+ 0 P+180 Y+ 0	-ZLV -XVV
6 2/02:10:00	CANCEL		DEX	SUN 0 108 0 332	INRTL R+ 99 P+153 Y+359	EXPERIMENT STARTUP (DTC 909)
7 2/02:30:00 44:00	TRK TGT=2 BV=2(180.00, 0.00) OM= 0.00			EARTH 0 180 0 0	LVLH R+ 0 P+ 90 Y+ 0	PHANTOM STATION KEEPING
8 2/03:10:00	CANCEL			SUN 0 76 0 332	INRTL R+101 P+147 Y+ 33	END STATION KEEPING
9 2/03:15:00 30:00	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00			EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	VEL PULSE TEST
10 2/03:30:00	CANCEL			SUN 0 114 0 30	INRTL R+ 76 P+324 Y+316	END VEL PULSE TEST
11 2/03:50:00 04:05:00	TRK TGT=2 BV=5(225.00, 0.00) OM= 0.00			EARTH 0 135 0 180	LVLH R+ 0 P+ 45 Y+ 0	LIMIT CYCLE VERN
12 2/04:20:00	CANCEL			SUN 0 42 0 317	INRTL R+123 P+121 Y+ 72	END VERN LMT CYC TEST

Attitude Timeline

MET	MNVR OPTION		DAF	E/S	REMARKS	EVENT
1 2/05:05:00 08:29	TRK TGT=2 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+ 0 P+180 Y+ 0	-ZLV -XVV
2 2/06:54:00	TRK TGT=3 BV=5(0.00,277.75) OM=270.10	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20			HPTE
3 2/07:25:04	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 66 0 119		IMU ALIGN PAIR A1
4 2/08:15:04 26:25	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
5 2/20:10:32 24:50	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 65 0 119		IMU ALIGN PAIR A1
6 2/20:30:32 41:57	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
7 3/03:40:10 55:10	MNVR R+176.03 P+244.64 Y+ 12.95	B7 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 59 0 256		SPARTAN DEPLOY
8 3/04:39:10 42:48	MNVR R+284.20 P+148.90 Y+ 23.50	A12 AUTO NORM	DSC 0.500 DB AT 2.00 DB RT 0.20	SUN 0 84 0 149		SEP 2
9 3/04:54:10 57:12	TRK TGT=1 BV=3(90.00, 0.00) OM=180.00	A12 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02			SPARTAN TRK 1
10 3/06:29:10 32:55	TRK TGT=1 BV=5(87.70,358.00) OM=180.00	A12 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02			SPARTAN TRK 2
11 3/06:54:07 58:39	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 65 0 119		IMU ALIGN PAIR A1
12 3/07:14:07 25:36	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 3/19:09:49 24:04	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 65 0 118		IMU ALIGN PAIR A1
2 3/19:29:49 41:59	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV +XVV
3 4/05:05:00 19:58	MNVR R+250.00 P+324.00 Y+322.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 109 0 217		NC-1
4 4/05:25:00 33:30	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 360	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
5 4/07:25:29 39:42	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 64 0 118		IMU ALIGN PAIR A1
6 4/07:45:29 57:03	TRK TGT=2 BV=3(90.00, 0.00) OM=270.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 90	-ZLV +YVV
7 4/19:40:56 55:07	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 64 0 118		IMU ALIGN PAIR A1
8 4/20:25:00 39:19	MNVR R+248.00 P+324.00 Y+324.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 108 0 219		NC-2
9 4/20:43:00 45:22	TRK TGT=1 BV=3(90.00, 0.00) OM= 0.00	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	EARTH 0 0 0 0	LVLH R+ 0 P+270 Y+ 0	SPARTAN TRK
10 4/23:24:43 39:42	MNVR R+288.00 P+159.00 Y+358.00	A9 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 104 0 141		TI
11 4/23:47:00 5/00:01:58	TRK TGT=1 BV=3(90.00, 0.00) OM= 0.00	A9 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 0 0 0	LVLH R+ 0 P+270 Y+ 0	SPARTAN TRK
12 5/01:01:03 16:03	TRK TGT=2 BV=3(90.00, 0.00) OM= 0.00	A10 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 180 0 0	LVLH R+ 0 P+ 90 Y+ 0	VBAR

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 5/02:35:00 42:30	TRK TGT=2 BV=3(90.00, 0.00) OM= 0.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+ 0 P+180 Y+ 0	-ZLV -XVV
2 5/04:24:22 29:36	MNVR R+241.60 P+ 0.20 Y+ 47.40	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 44 0 243		ORBIT ADJUST
3 5/04:52:28 05:05:38	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 64 0 117		IMU ALIGN PAIR A1
4 5/05:17:00	TRK TGT=3 BV=5(0.00,277.75) OM=270.10	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20			HPTE
5 5/05:57:06	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV +XVV
6 5/17:01:21 13:14	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 63 0 117		IMU ALIGN PAIR A1
7 5/17:21:00 32:47	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV +XVV
8 5/22:05:00	FREE DRIFT	A3 MAN NORM	DSC 0.200 DB AT 5.00 DB RT 0.20			RCS HOT FIRE
9 5/22:20:00	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV +XVV
10 5/23:17:00 29:50	MNVR R+272.00 P+323.00 Y+ 8.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN 0 66 0 196		CREW CONFERENCE
11 6/01:15:00	CANCEL		OEX	SUN 0 66 0 196	INRTL R+272 P+323 Y+ 8	EXPERIMENT STARTUP (DTO 909)
12 6/02:40:00 53:59	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH 0 90 0 0	LVLH R+180 P+ 0 Y+ 0	-ZLV +XVV

6-7

CAP/51-G/FIN

ALL ATTITUDES IN MEAN OF 1950

Attitude Timeline

MET	MNVR OPTION		DAP	E/S	REMARKS	EVENT
1 6/05:10:17 22:19	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 63 φ 117		IMU ALIGN PAIR A1
2 6/05:30:17 41:47	TRK TGT=2 BV=3(90.00, 0.00) OM=180.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	EARTH θ 90 φ 0	LVLH R+180 P+ 0 Y+ 0	-ZLV +XVV
3 6/17:19:16 31:28	MNVR R+312.00 P+151.00 Y+ 43.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 63 φ 116		IMU ALIGN PAIR A1
4 6/17:39:16 48:57	TRK TGT=4 BV=5(184.00, 0.00) OM= 90.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 176 φ 180	INRTL R+296 P+ 91 Y+297	-XSI ATT
5 6/20:15:38 24:56	MNVR R+ 12.00 P+146.00 Y+ 30.00	A1 AUTO VERN	DSC 0.200 DB AT 1.00 DB RT 0.02	SUN θ 76 φ 59		IMU ALIGN
6 6/20:37:38 40:29	MNVR R+327.00 P+196.00 Y+332.00	B1 AUTO NORM	DSC 0.500 DB AT 3.00 DB RT 0.20	SUN θ 111 φ 98		IMU VERIF
7 6/21:00:38 05:59	MNVR R+215.80 P+ 33.60 Y+ 61.00	* AUTO *	DSC 0.500 DB AT 3.50 DB RT 0.30	SUN θ 45 φ 264		MNVR TO DEORBIT ATT

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