

SAO-HRC-LOG-97-277  
DR# SCM10  
Data Type: 3

VII

HRC-500

HIGH RESOLUTION CAMERA (HRC)

LOG BOOK

Prepared in accordance with DR# SCM10

Prepared for:

George C. Marshall Space Flight Center  
National Aeronautics and Space Administration  
Marshall Space Flight Center, AL 35812

Smithsonian Astrophysical Observatory  
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Cambridge, MA 02138

The Smithsonian Astrophysical Observatory  
is a member of the  
Harvard-Smithsonian Center for Astrophysics

## LIFE HISTORY

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				START	STOP	TOTAL TIME	CUM. TOTAL	STAMP OR INITIAL		
2123	pure config	190	SENT pure configuration ABBB BBB (PCFG8)	2047						
2124	PWR ON/OFF	190	To transition to cold temp.							
			PCFG8 INITIAL							
			SVOFF							
			PCFG9 INITIAL							
			SV OFF							
2125	PWR ON/OFF	191	Preparations STOP 2124							
2126	PWR ON/OFF	191	PCFG8, INITIATE SV OFF	0001	0007	0006				
2127	PWR ON/OFF	191	PCFG9, INITIATE SV OFF	0300	0304	0304				
2128	PWR ON/OFF	191	PCFG8, INITIATE SV OFF	0304	0307	0307				
2129	PWR ON/OFF	191	PCFG9, INITIATE SV OFF	0459	0502	0502				
2130	FUNC TST	191	Thermal vac function test	0503	0506	0506				
2131	SPOT	191	Doorloss end (in PCFG9)	0621	1020	1020				
			SYNchro or. cmd	1228						
			Total	1234						
			5 VOTS							
			PCFG3							
			Initals	1238						
			HVSUP	1237						
			File P0970710.u For Turn-on							
			all house spectra							
			HVSUP							
			11	1247						

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				START	STOP	TOTAL TIME	
2031	CONT'D	191	IMAGES SHOWS DURING HV PAIRUP THAT HRC-S IS A LITTLE IN IMAGING MODE. SENT COMMANDS TO SHIBO1 EMAIL CLEARED TO POSITION NORMAL MODE				
				1250			
				1253			
				1255			
				HRC-S CAL SOURCE IN IMAGING MODE, FILED			
				1255			
				PO970710.V	A SIDE		
				1312			
				ALL HV OFF, SV OFF			
				1313			
				FACTORY INITBS			
				1314			
				SCREWS			
				SHIBO1 (NORMAL MODE FOR HV TURNON)			
				1316			
				HV SP UP FINE PO970710.W (CAL STILL OPEN)			
				SHIBO0			
				1322			
				HRC-S CAL SOURCE IN IMAGING MODE SIDES B			
				1323			
				FILED PO970710.X			
				CAL CLOS			
				1330			
				HRC-S BREAKS IN IMAGING MODE SIDES B			
				1341			
				FILED PO970710.Y TWO FOR 2000 SUR			

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				STANNO NANO AND POST 070102 TO COVER DATA WHILE STUDYING OFFICES OF T/HOUR SOUNDING.	1415				
				ALL HOSES, DRAIN OPEN, DRAIN 17000 SLOSS, PC500, INITAI HVIM-JP FILT 00507071000A (W/CAL OPEN)	1500 1500	1507			
2032	191	RESULTS FROM IMG + SPZT BACKGROUND TEST			1539				
		FOR V AXIS LINES @ CP 9596							
		(USED EDGE BLANK, 24FF, 2500, 2660, 275F)							
		[MID SEC] SPZT		IMG					
		TRIG = 8 ~ 5 / SCREEN		8 = 0 / SCREEN					
		F ~ 2 "		4 = 0 "					
		4 ~ 11 "		F = 0 "					
		[ALL SEC]							
		8 = 0		F = 0					
		4 = 0		4 = 0 OCC BOTH AXES NOT FOUND					
		F = 0		8 = 0					
2033	SPZT 147 BLA S/D	191	All HV OFF, SV OFF, PCFG7, INITIIS OK		1539				
			CLOSE CM2 SRC → CALCLOS. CRU						

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2034		1/1/	CLOSE THRU OPEN DOOR, DOORCLAS.CMD, CANK-DOOR.CMD START NEW FILE P0970710.ab HV SP- UP. CMD SET UP EDGE BLANKING, #24FF, 2500, 2660, 275F, 4401 CG/OPEN. CMD	1547	1554			
2035		1/1/	WITH ALL 3 SEGMENTS OPERATING, VARY GRID GRD. (2B2E IS DEFAULT)					
			BAL V RATIO Y ERRORS/SCRATCHES OF 34					
			2B2E 25 : 24 0 M16=8 (DEFAULT)					
			40 29 : 23 ~0.4					
			50 41 : 29 ~0.2					
			60 40 : 25 ~0.2					
			80 51 : 26 0 →					
			F0 — → THE 8 → G					
			↓ 00 16 : 21 0 TRIG 8 (DEFAULT)					
2036	1/2/		REMENT FOR SPOTTER SET IN IMGS MODE CMD 1B00.					

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			<u>B41</u> Jammed 2B2E 32 : 32 ~4 2B00 18 : 23 ~5 2B80 35 : 19 ~4					
2037		191	ALL HW OFF, CALCULOS, <del>DOOR</del> OPEN, PVN OFF			1659		
2038	FUNC. TEST	191	PERFORM FUNCTIONAL TEST PER TR-HCC-333			1700		
			APP.A. @ HITTEM P ≠ 28VDC			2054		
2039	TRANSITION	191	SENT PC FG8.CMD			2055		
2040	POWER ON/OFF	191	PC FG8, INITIATED, SWING			2200		
			ACT FG8, INITIATED: SWING			2211		
						2214		
							CJA	
							RPK	
2041	PROBLEMS	192	PC FG8			0059		
			INITIATE					
			SV OFF				0102	
			PC FG9				0103	
			INIT BIE - POLLUTION DS DED NOT STOP					
			SV OFF					

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				START	STOP	TOTAL TIME	CUM. TOTAL	STAMP OR INITIAL		
2042	PURON/001/00	19/2	PCFG 8, INITIATE, SVOFF	0158'	0202'			RPK		
			PCFG 9, INITIATE, SVOFF	0203	0206					
2043	PURON/001/00#	19/2	PCFG 8, INITIATE, SVOFF	0257				RPK		
			PCFG 9, INITIATE, SVOFF	0305						
2044	PURON/00#	19/2	PCFG 8, INITIATE, SVOFF	0421				R PIC		
			PCFG 9, INITIATE, SVOFF	0422						
2045	PURON/00#	19/2	PCFG 8, INITIATE, SVOFF	0454				RPK		
			PCFG 9, INITIATE, SVOFF	0501						
2045	PURON/00#	19/2	PCFG 8, INITIATE, SVOFF	0557				RPK		
			PCFG 9, INITIATE, SVOFF	0604						
2046	PURON/00#	19/2	PCFG 8, INITIATE, SVOFF	0700				RPK		
			PCFG 9, INITIATE, SVOFF	0709						
2047	PURON/00#	19/2	PREPARING FOR FUNC. TEST	0723				DPK		
			PCFG 8							
			INITIATE							

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2048		192		THE TELEMETRY STOPPED IN MIDDLE OF FUNC.	0953			RPA	
				TEST. THE SV was on, could NOT READ					
				± 15V					
2049		192		28V POWER CYCLED	1009			RPK	
2050		192		SECOND INITIAT	1011			RPK	
				+15V	186				
				-15V	185				
				+5V	124				
				+24	157				
2051				Housekeeping has returned and appears normal. Appears to be losing sync Byte 109 and up are switching - clearly a loss in sync → All data wrong after this point. Bring up HV. Start ascent					
				10/9 0220711.e					

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2052			Sh/Von. and Sh/vil. and	10:00	@ step 0	10:23	RPK
			Sh/vil. and	15	4		
				27	8		
				45	12		
2053			hV im-up. cmd	10:35			
			Everything appears normal				
			test rate = VFL rate				
			~50 cts/s w/ col source open				
			Turn on port 0711. &				
2054		7/11	DURING RUN P0970711. + DATA FAILED AT ABOUT 9S0S	~1400			JG
			ALL HV OFF				
			CYCLE FIFO RESET sd450D, sd450, no effect				
			SV OFF, RESEND INIT BE CMD				
			THIS BLOUGHT ALL THE BACK.				
			( DURING PROBLEM, TRW THE SHOWER +SB ON,				
			BUT OTHER VOLTRONICS OFF. ..+15,+24 )				
			MAIN FRAMES 15015 IS JUST BEFORE CRASH				
2055	192		HVC POWER OFF, STUCK OF IC REQUESTS	17:17			

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START	STOP	TOTAL TIME	CUM. TOTAL			
2056	7/12	tried to close door - system would not power up. Facility had power up locked out. Facility lockout was corrected. Powered up instrument.		9:50		
		Pressure at 716 Torr being held. Send closeout.comd	10:09			
		Verified shatters at home and door closed.	10:10			
		Sent 5V off.comd	10:12			
		All age power off (28V facility supply off and kill switch off)	10:18		AUG/52	
2057		unit moved from chamber, removed from LASS2 placed onto F410 fixture plate MLE Removed. No Supply console fed operational			W.W.	
2058	7/14/97	UV light inspection performed w/ NASTI inspection \$100 recorded on SAD Shop order Traveler unit was lifted & placed into New style Smaller bag and put into shipping container. No Supply console feed proceeded HCC-340			W.W.	

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2058 (cont)	14 Jul 97		Truck is due on Tues July 15th for Shipment to Bell in Ct.			10:45 <sup>-</sup>	10	10 a.m.
2059	16 July 97		Truck arrived at 1:00 p.m. Unloaded OK Tool Boxes, Transport Cart, lift Fixture & Unit wiped down and moved into 100 K Room, Cover Removed Shock Mounts in the Temp Recorder removed & pasted into 340 Procedure book. Test equipment installed Setup started. Everything OK at this point			13:00		
2060	17 July 97	LEET	LEET STARTED 1:30 p.m. performed Spectro tests first, then when we switched to Range tests the W Axis values appeared smeared. Suspect w Axis cable defective, corrective action - Substitute Spectro cable, testing continued.			16:45		10 a.m.
2061	17 July 97	comment	TESTING FINISHED @ 8:00 pm July 17, 1997			20:00		WNY
2062	18 JUL 97	on LEEF	The spectrometry cable 6473-5515, -5511, -5521-3 was substituted for the W Axis cable 6473-5509, -5510, -5521-2 The LEEF was completed successfully with the <del>wire</del> <sup>wire</sup> of the spect cable for the range.					Lee

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2063	uncable	7-18-97	All cables (I/E) EGSE were disconnected from the HEC but left in the clear room or near the instrument cart. These will have to be reconnected for any further testing along with the banded ground straps.					Dec
2064	Pressure	F7/19/97	Pressure check GND pressure system Tank Press + ΔP to inter N2G MOT	Prog	10:50	P~940	ΔP = 0.45	1DLoc
"	"	"	"	"	0935	P~880	ΔP = .45	JDC
"	"	su 7/20/97	"	"	0715	P~800	ΔP = .45	JDL
"	"	N 7/21/97	"	(and Sine @ 1700)	0910	P~800	ΔP = .45	JDL
"	"	F 7/22/97	"	"	0715	P~800	ΔP = .45	JDC
"	"	F 7/23/97	"	"	0910	P~150	ΔP = .45	JDC
"	"	F 7/24/97	"	"	1300	P~700	ΔP = .45	JDL
"	"	F 7/25/97	"	"	0800	P~650	ΔP = .45	JDC
"	"	Su 7/27/97	"	"	0530	P~620	ΔP = .45	JHC
"	"	Mon 7/28/97	"	"	0530	P~620	ΔP = .45	JHC
"	"	Tue 7/29/97	"	"	05:30	P~575	ΔP = 0.45	JHC
"	"	wed 7/30/97	"	"	05100	P~550	ΔP = 0.45	JHC
"	"	THUR 7/30/97	"	"	05:30	P~525	"	JHC

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2065	CTUE	970731	CTUE software was modified by Gulfair (Goodrich) overnight w/out permission - Requested that the orig software configuration be reinstalled.				jhc				
			CTUE was run w/ old EGSE SW. OK Also 28V RCTU pwr supply removed by TRW to support ACIS (without permission)				jhc				
2066	Pressure ck	970801	GN <sub>2</sub> pressure ≈ 500 psi. Regulated at 7.5psi. Δ block ≈ 0.45psi	05:15			jhc				
		970802	GN <sub>2</sub> ≈ 775 psi; Regulator ≈ 7.5psi; A block ≈ 0.45psi	07:00			jhc				
		CTUE	CTUE network 'cfg' FILES MODIFIED: c:\windows ETHERNET.CFG ← ACTIVE MSEC.CFG, ← used @ msec	08:30			jhc				
			BALLEGESE.CFG → used @ ball w/ESE BALL NET.CFG → used @ ball w/netsis								
			COPY BALLEGESE.CFG → ETHERNET.CFG TO RUN w/ THE SUN EGSE								
2067	Pressure ck	8/3/97	Pressure = 400 ΔP = 0.42				jhc				
11	11	8/5/97	Pressure = 400 ΔP = 0.4				jhc				
		970806	Pressure ≈ 400 psi ΔP ~ 0.4	05:30			jhc				

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2068	CTUE	970806	Replaced 'ethernet.cfg' file on the ctue.				JHC		
			System is now configured to run w/ the Lab EGSE						
2069	EGSE	970806	Lab EGSE is now configured with the new decom s/w	10:55					
			All files are located in 'ball2' directory						
			All current and q.s files have been copied						
			into this directory.						
			flot - contains 'old' tm formats and current ones						
			ball1 - " new " (version 1)						
			ball2 " " (version 2) [+1 ramp]				JHC		
2070	CTUE	S/W	Loaded new ctue s/w 970806EM.TLM in our ctue						
			connected break out box and verified telemetry						
			using 'intest4', 8-6-97 : P 1.1, 1.2, 2.1						
2071	NIL MODE	970807	performed sets. 4.1, 4.2 OF INTTEST4.				JG, ET		
			NO PROBLEMS EXCEPT T						
			1) TEST INJ CABLES FUZZY - INTERNALS						
			2) TRIED NIL MODE, DATA APPENDS IN CORRECT POSITION, BUT 1SF <sup>2</sup> RATE READOUTS ARE HIGH						
			THRU THY SHOT OK, IN NORMAL MODE						

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2072	ctue	970808	Modified ctue (saos) ethernet.cfg file to include a new MCC port address to support SAOS MST data capture. Added new ethernd addr. and new port address for MCC log.	11:40 JHC
2073	TEST pulsar	970808	REMOVED BATTERY POWERED PULSER FROM HRC, SUBSTITUTED BNC PULSER, ALL CHECKS OUT OK. SW CHANGES TO EGSE ALSO WORK OK.	12:00 JG
2074				13:10 JG
2075	ctue, vs, paupum	970808	CTUE FORMAT IN PREP FOR IF TESTS. OLD FORMAT WAS 970707EM.T4 LOADED AND VERIFIED 970806 EM.T4	JHC
2076	ctue	970808	Reconfigured /etc/host table on ncc1701a to point to the new CTUE. In the host file. ctuepc (was: 162.18.65.12) (now: 162.18.65.15) Note: the new pc ctue (MSFC) is known as ctue.bell.com not ctue.pc.bell.com However Gragg's s/w looks for ctuepc not ctue	13:30 JHC
2076	INTERF TEST	970808	COMPLETED INTERF TEST THRU SEC 3.1	18:30 JG

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2677		970809	COMPLETED INT. VERIF. TEST	0700	1800		JG
			HAD TO CANCEL AXAF CMD. CFC TO INCLUDE				
			HPC HX CMDS 7A, 7C, AND 7D IN STEP				
			3. V.I. 10, AND ALSO 39, 38, 3D IN STEP				
			3. V.I. 4. RANMED OLD FILE AXAFCMD.CFO				
2678	GAS PURGE	970809	Refilled N <sub>2</sub> tank - 1300 PST	1800			JC/GA
		8-16-97	GAS PRESSURIZ (psig) (psid)	1100			P=1250 ΔP=0.4
		8-12-97	" "	1115			P=1200 ΔP=0.4
		8-13-97	" "	1400			JDC
		8-14-97	" "	0730			JDC
		8-16-97	" "	0810			JDC
		"	970819 TUE ~ 1100 psi Δ = 0.4	05:30			JC
		"	970822 FRID ~ 950 psi Δ = 0.4	05:45			JC
		8/24/97	TUES ~ 950psi Δ = 0.4 psig	1045AM			
11	8/29	FRI ~ 8000 psi Δ = 0.4 psig	get air				
11	9/3	WED P=700 psi ΔP=0.4 psig	10psi air				
2079	Fit light cable	Sept	Rec'd End light cable and installed into unit using the mounts & Dynabase	1600	1900		JH, JG

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2080	FID LIGHT	8 Sept 97	Fid light cable uses #2 screws into connector. Screws were torqued to 20 in/lb					
			Ed STAKED cable tested using Breakout Box					W.W.
2080			Each light light up ok.	1800	1900	100		
2081	CABLE AGAIN	9 Sept 97	Cable again tested & viewed by Rob Cameron & Eric Craven.	845	900	55		W.W.
2081	PIEZ-INTEG.	11 Sept 97	COMPUNDED HRC PRE-INTTEGRATION ACTIVITIES PUR ACTIVITIES					
			P-HRC-348 except for section 8, HRC to SIM					
			T/T FIT CLOCK					GVA
2082	FAILSAFE	11 Sept 97	RAIL FAILSAFE CIRCUIT TEST PUR TP-HRC-349	1702	1703	1		
			Circuit					
			Total				1821	GVA
2083	+2 BIPODS	12 Sept 97	RONOCERON +2 BIPOD TO DUSTTOR HOUSING					GVA
	HARDWARE		EXPANSION PINS (REF NMR)					
2084	RADIATOR	13 Sept 97	TRIMMED +4 1/4 PANOR RADIATOR AREA					GVA
			ALGR TRIM					
2085	FIT CLOCK	13 Sept 97	STATIONS FIT CLOCK OF HRC TO SIM T/T PUR					
			P-HRC-348. DISCOVERED CABINET INTERFACINGS					
			@ +2 BIPOD, +4, +2, +2 CORNER OF ELECT BOX					
			OF PUR PS @ REQU CABLING. REPLACED HRC					
			ON TRANSPORT CART WHILE BASS TONWORKS CABUSES					GVA

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2086	FIT Clock	14 Sep 97	CONTINUOUS FIT CLOCK. AT CONCLUSION OF FIT /INTERIOR/					
			CHUCK, CONTINUOUS INITIAL MECHANICAL INTERIOR INTERACTION FOR BASIS CERT LOG # 8699B					SKA
2087	GN SYSTEM	14 Sep 97	INSTALLED A NEW TANK WITH 2000 PSI					SKA
2088	SHOOT FOLLY	14 Sep 97	TRAN SEFT PNL TP-HRC-337 (OLB + A POSITION) OR TP-HRC-338, APPENDIX A (FOR SHOTTER TESTS)					SKA
2089	ASIS SYSTEM	14 Sep 97	GAS TANK WAS AT 900 PSI. FLOW RATE OK. REMOVED TANK, ADDED TEFLON TAPE TO FITTING, RE- ASSEMBLE MOUNTED FOR REST OF DAY. APPEARS OK. RE-FILL SPARE TANK TO 1100 PSI. LOWE TANK TO 1350 PSI.					w.m.
2090	ASIS Interface	21 Sep 97	ASIS DA MOUNTED TO SIM ON SUNDAY 20TH Support Structure Planned for mounting today, Added 3 layers of MILIT AT +Z side to protect the Close fit Area from TEARING will remove After Support Structure <del>Weld</del> Assembly, MILIT IS IN A DRAPE FORM & properly grounded.					
2091	N <sub>2</sub> SYSTEM	23 Sep 97	I SIM moved from OBA2 to OBA1.					
"		24 Sep 97	Gas bottle/hose disconnected from HBC for move	13:30	18:00	55 min		JC
"		24 Sep 97	checked gas bottle/pressure ~800 psi tank ~0.4 psi delivery	08:30				JC
"		24 Sep 97	" " "	~0.3 psi	"	15:00		JC

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2092	N, Purge	25 Sep 97	Checked N purge system ~750 psi tank ~0.3 psi - reset to 0.4 psi			08:30		JC
		26 Sep 97	" " " ~750 psi tank ~0.4 psi			06:00		JC
2093	Crossstack	26 Sep 97	Perform HEC portion of 15m ambient crossstack test per TH-HEC-350, A.			08:15 AM		
2094	Crossstack	7/19/97	PERFORATED SECTION 4.0, TEST PREPARATION # SECTIONS 7.1 THRU 7.7 & POWERED DOWN RETURNED AFTER LUNCH & CLASS MTG. PROCEEDED TO RUN 7.10 @ 35V. DURING H/R C POWER UP FOR 7.11 (511) NO SECONDARY SCIENCE DATA WAS OBTAINED ON SIDE A. POWERED DOWN AND RESTARTED SEVERAL TIMES SEARCHING FOR SIDE A TO SIDE B. WITH NO SUCCESS. POWERED DOWN FOR THE EVENING. AFTER DISCUSSION POSSIBILITIES FOR POSSIBLY IT WAS DISCOVERED THAT THE CONNECTOR FOR THE CUE OUTPUT WAS NOT PROPERLY MADE, CAUSING THE LEADER POSES TO BE MISSING. & CAUSING THE TA PROBLEMS.					
2095	Crossstack	7/21/97	Boiler restart 1 System Turn on CUE & Connect, Power up NRC - & Sim				7:30 AM	

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2096	Crash test	09/27	Begin SII Retest 970927.150505 (initial time)					SR
			Looks fine now.					
2097	Cross talk	27 Sep 97	Completed cross talk testing per TR-HEC-350 Rev A	20:00				JCL
2098	Can Press	10/1	8:00 pm P = 750 psia ΔP = 0.39 psid					8:00 pm
2099	Can Press	10/4	9:30 am P = 700 psia ΔP = 0.30 psid Note: BOTTLE WAS DISCONNECTED ~5 HRS AGO 15/3 FOR MASS PROPS MEAS. @ P IS 1514					JCL
"	"	10/7/97	07:00 P ~ 700 psi ΔP ~ 0.4 psi	07:00				JCL
2100		10/7/97	Installed trigger cables to vac. Installed new block valve stack & stacked.					JCL
2101		10/8/97	Disconnected gas system for brewer/test fit to both bypass container.	13:00				JCL
2102		10/8/97	Reconnected gas system	15:00				JCL
2103		10/9/97	Disconnected gas system @ 9:00 am for ISIM move to Staging Container. Reconnect 8:30 am	20:00				JCL
2104		10/10/97	Move ISIM to Brewers. Disconnect 6:05 AM 3:00 pm for 15 min. and reconnected. Gas move into chamber 7:00 pm Reconnected gas at 7:30 pm	12:00				JCL

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2105		971011	GAS tanks were cleaned to be empty. Ball closed main block valve. Gas Regulator system removed from Brutes @ ~ 13:30 to replace N <sub>2</sub> tank. Tank/regulator system replaced and connected to HRC by 14:00. Pressure set to 0.4 psi w/ Block valve open. System watched for 30 min. Pressure: 1200 PSI / 10 PSI / 0.4 PSI	~12:00	~14:00		
2106		971011	Pressure check 0.4 psi			15:00	
2107		971011	Pressure check: 1200 PSI / 10 PSI / 0.4 PSI			18:30	
2108		971012	Pressure check: 1200 PSI / 9 PSI / 0.4 PSI			07:35	97/3all
2109		971013	Pressure check: ~1200 PSI / 9 PSI / 0.5 PSI			07:43	97/3all
2110		971014	Ball reported that pressure was up to 1.2 psi during pressure. Readjusted to 0.4 psi and taped needle valve. Valve was moved during Assembly of cold shroud			16:00	97/3all
2111		971017	Pressure: 1150 PSI / 9 PSI / 0.42 PSI			0835	GKA
2112		971018	Pressure: 1125 PSI / 9 PSI / 0.6 PSI			0750	W.M.
2113		971019	Increased pressure to 1.2 PSI for a few minutes § DISCONTINUED RNL LIVING @ BLOCK VALUES ACTUAL crossing the block values			1005	
							GVA

CHANGED TIME BASED TO DAY/GMT  
For TB/HV TEST

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2114		2/9/2 1830	BRUTUS CHAMBER DOOR CLOSED	18:30				JC	21
2115		2/9/2	CONFIRMED HRC-PULLDOWN ACTIVITIES FOR THURSDAY						
			BALANCE TEST Full Baul Phase # 5402236 AND SDO Phase# SA0-HRC-17-97-199 AND INITIATED PULLDOWN						
				1908				GKA	
					1934			GKA	
						1942		GKA	
						1948		GKA	
						1950		GKA	
2116		2/9/2	CHANGED HRC DOOR @ 50 TORR	1957				GKA	
				25 TORR	2005			GKA	
						2305		JC	
						01:54		JC	
						06:22		AGRE	
							11:44	AGRE	
2117	BLIND	2/9/3	STARTED ISIM BASGUNIE FUNCTIONAL TEST. SEQUENCE OF TESTS IS SIM, HRC, ACIS & FILCA	4.5/4.8 x 10 <sup>-6</sup>			15:15	GKA	
								GKA	
								GKA	
2118	HRC in standby mode	2/9/4	Placed HRC in Standby mode with HRC door open as per section 5.3 phase 1.5 of thermal Balance Test	02:30	02:43			AGRM	

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21/19	CTUE GLITCH	234	CTUE showed overlaid success messages with "STL0" in the center. Ball TC was able to clear this condition without a full up restart.				6:08		ACR
21/20	LOW VOLTAGE BUSES	234 7-52	Started at 31.43V on Pri Bus V monitor. Initial Pri BusT was 149 counts (1.27A) Final Pri Bus V at Hec monitor is 26.00V Pri Bus T now 151 counts (1.5A)				9:25		ACR
21/21	HGT VOLTS	234	The Heater Bus Voltage was dropped to 23.39 Volts. No visible current drawn by the heaters on Heater buses meter.				10:06		ACR
21/22	36 hour soak	294	36 hour soak clock started as per section 7.2, stage 2-54				10:20		GRM
21/23	PROBLEMS	234					7.1 / 8.4 x 10 <sup>-7</sup>	13:29	GKA
21/24	SWITCHES	234 CHUCK	SWITCHED TO FORWARD & AND SENT FIVE obs. chnl TO CHUCK OUT CARDISI & MORE FUNCTIONAL CAPABILITY TO DUN DOWN SIDE. SCIDISI DISPLAYS FINALLY ABLE TO RECOLOR AFTER SWITCHING TO /ball 3 DISC GUY, STAKING PROCESSUS KILLING THING, GOING BACK TO /ball 4 AND POSTBACK THING PLEASE USE SWITCHES BACK TO FORWARD & SIGHT						

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2124	CONT'D	294	FIVE W.L.CMD			1650	
2125	PH20/26	295	LAND OR PH20, START OF PH20. START RUNNING SECTION 5.5 OF SN0-HRC-TP-97-290A			2333	
2126	CAL SOURCE	296	INSSECTION 5.5, STOP 019 CAL SOURCE DID NOT INDICATE CLOSING ALTHOUGH DATA RATE WENT BACK TO BACKGROUND PLATE. (RAJ) CALOPEN AGAIN & OBSERVED RATE GO UP AGAIN. RAN CALCLOS AGAIN & SWN RATE DIDN'T STAY NO INDICATION OF CLOSING IN BOTH THE SWN MOTORS OR MECHANISMS DISPLAY. REST NMIC 30903				
2127	C7TUE G7TUE	296	CTU7 changed to EAT 1 and telemtry got screened up. HR was turned off.			04:25	
2127	HRC JUN 29	296	SI HR turned on, Imager turned on ON ON			04:36	
2128	CAL SOURCE	296	3600 s calibration source measurement of HRC-I, as per section 5.5.2, step 011. is 1058 Amas			05:35	GRM
2129	HRC-I BVS/Bges	296	HRC-I Bus Current with Imager turn on is 1058 Amas			06:45	AER
2130	Phase 3 a	296	Phase 3 a - Transition to Cold Survival - Initial Cool Down. — ACTUALLY END OF PH20, NOT START OF PH30. SEE NEXT PAGE			11:50	AER
	Initial cool down						

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2131 16:45 11/18	296	16:16 Generator was present Rec: Downty To Day	Glitch	292	-	-	-	SKA
		caustious IT SOURCE				~16:00		SKA
		16:14 Generator switch off/on again				16:09		SKA
		Synchron up again				16:21		SKA
2132 0:3A	296	OFFICIAL BACK OF 0:3A				16:23		SKA
2133 16:16 11/18	296	Problem with timer shows this Fowning for	Glitch			16:33		SKA
		Timer drops out:						
		DUST # BAD TIME						
		BAD MAX FILS (INCOMPATIBLE)						
2134 0:34 Glitch	297	Telemetry is being screwed up by the		1	16:00:21 - 16:08:33	06:35	06:35	ACE
		CTRUE. ENT 1 is producing all d's as		2	16:21:07 - 16:22:45	26329: 26330		
		digital hissug. Occasionally it flipes back						
		to proper outputs for a moment( 1 sec ).						
		Command log file was deleted by the						
		Ball TC - System new up and running. 09:20						AOR
2135 Priorities	297	Pri Bus V Tlm Indicator lowered by				07:20		ACE
		Ball TC from 26.0V to 23.78V						

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2136	Pr. Bus	297	Pr. Bus current is now 1.670 (15% cts)	07:43			25
			on the SSD status Success				RHR
2137	TEST TIME - LINE CHANGES	297	Project determining that power ratings for going cold at this time were not in order				
			Due to demand that we were in left over 12 hrs into phase 5 cold operating case. This 36 hour cycle was standard				
			officially @ 13:44 AM BUT 36 hours beyond that point may not be valid				
2138	PHASE 5		start station 5.10 of SAO-HRC-TF-57-209				1673
2139	Phase 5	298	switch to FMT 1	01:50			RHR
2140	HRC-5 start down	298	lost connection to CUE. Sent command all hoff. cmd.				GRM/AGR
2141	EGS Emitter	298	Reconnected to CUE to bring up	07:40			GRM/GR
2142	HRC-5 turn on	298	HRC-5 high voltage				GRM/AGR
			sent command to pg 00. cmd	07:45			
			sent init bus cmd				
			sent magaga.cmd				
			sent sh. cmd, 52kV.m.cmd, schv04.cmd & hup-up.cmd. We see telemetry @ 1500 V/plat				

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2142	HRC-S Turn (CONT.)	298 HRC-S now at full operating high voltage.					GRM 4/6/8
		Saw on-set of hot spot in top right corner of segment -1 at HV-top = 1740 volt					
		HV-bottom = 1740 volt/s			08:26		
2143	END OF 45	END OF 45 TESTING FOR SECTION 5-10					
2144	START OF 46	HIC POWER OFF. START OF 46			15:54		GKA
2145	Cause	CTUS HIS-BOOTING. ROTATING HIS HIC PROBES				1558	GKA
2146	END OF 46	END OF 46, START OF 47				1816	GKA
2147	END OF 47						GKA
2148	END OF 47	END OF 47, START OF 48				1900	GKA
2149	HRC DOOR	AFTER 17:00 TIME READINGS HIC DOOR WAS CLOSED					
		CLOSED TO ~30° OPEN FROM FULLY CLOSED USING <del>the</del> ADR1700. and.					
2150		AFTER 21:00 TIME READINGS, HIC DOOR WAS FULLY CLOSED BY USING door closer and TO Fully close it and sealed door, and TO PUT IT IN THE SHACK DOOR POSITION			1704		GKA
2151	1-107012	PONDED UP IN PCFG008 ON A SIDE IS SICKED BLOCK MIRROR IN TURN USING sd7xx TO TOMPS				2110	GKA
2152						2235	

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2148	LANT'D	Records Motor temps		CRA
2149	END OF 03b	299 PHASE 35 ADJUSTMENTS FINISHED	2245	CRA
2150	045	300 TRANSITION FROM COVS SURVIVAL TO COVS OPERATING FOR 24 HR OF ACIS TESTING FLOWNDS BY CROSS-TAURUS TESTS	2300	
2151	Telemetry Loss	H/C ON IN STANDBY - SIDE A	0110	CRA
2152	Re-established	EGSE has lost telemetry from the CTUE.	0230	CRA
2153	TABLE MOVE	EGSE is now receiving telemetry from the CTUE.	0305	CRA
2154	Table move	Start of 100% Functional and Table move to launch position.	1135	PER
2155	CROSSTAURUS	Table moved to H/C - T, START ACIS TESTING SUSPENDED ACIS TESTING TO START CROSSTAURUS TESTS	1448	NIVZ
2156	XPLANE	PUR SIGHTING & 36. (A TESTS) H/C DOOR OPENED, H/C OFF END OF A SWISS TESTS. NRC REQUIREMENTS TO STANDBY ON SIDE A,	2126	
2156	XPLANE	END OF ACIS TESTING. REASON AND XPLANE TESTING TO 0336	2132	
		PUR SIGHTING 5.26 (H TESTS)	2017	CRA

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2156	CONT'D	30/1	STARTED WITH CTU8 RE5-P2007	20:14	20:16		
		30/2	END OF A TEST TEST			01:45	01:45
2157	BUS VOL	30/2	BUS VOLTAGE READINGS TO 32V			01:54	01:54
2158	SWINGBY	30/2	POUNCHED UP HIC-I IN STANDBY ON SIDES A - Door closing 7000 STOPS			02:01	02:01
2159	Door open	30/2	SWINGING SWING BACK MOTOR IN TURN TO MEASURE MS TURGE			16:34	16:34
			Door 2.78C (5.46 AFTER DOOR OPEN)				
			CAL 3.98C				
			TY 7.81C				
			-Y 5.76C				
			OPENED HIC DOOR TO IMPROVE DISTORTION WHILE OF MOTES.				
2160	FURTHER	30/2	SENT OBS CMD AND REQUESTED END &			16:48	16:48
2161	CLOCK	30/2	FOUND THAT CLOCK IN ENTREPRENEUR THAT IS USED SYNC.			17:30	17:30
			FOR COMMUTING LOG FILES WAS 00:26 (MM:SS) FASTER THAN GMT. THEREFORE ALL COMMUNICONS APPROVAL TO BE SENT 4 + MINUTES AFTER THOSE REALLY WERE.				
			ADMINISTRATE ENTREPRENEUR CLOCK TO GMT				
			@ 22:14:00				22:14

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2162	17/05	303	Molos II Front Lanyard went To HKG-7		
			OBA SIM TURB ~ 50°C S11+ FA TURNS AND 30°C. THIS MAY ACCORDANT HNC Ductwork VIBRATION		
2163	FIRE OFF / PULL OUT	303	PULLING DOWN ON A SIDE OF PULLDOWN UP ON B SIDE TO HORSENECK SPUG. BUT TIME (ARE IN PCT 400)	0003	GKA
			SWITCHES BACK TO A SIDE IN PCT 10 TO PULLDOWN ARE PS INPUTS	0103	GKA
2164	HPC DOOR	303	CLOSED HPC DOOR TO CLEAR EXIST POSITION DUE SECTION 5.13.3. NOTICED AFTER CAN CLOSE POSITION, NOTICED THAT CAN SOURCE INDICATION WAS OFF. SIGHT CAN OPEN <del>AT</del> IS SAW CAN SOURCE OPEN, THEN SIGHT CAN CLOSING AGAIN & SAW IT CLOSING	0220	GKA
			DOOR CLOSE	0235	
			DOOR CLOSE 303 RMN SECTION 5.14 Phase 9a - Warm Dwell / Reopen - CLOSE DOOR	13:26	JS
2165	Firece Setup	303	16/17 GAS SYSTEM CONNECTED & TANK PSE=1100 Regulator AT 10 Flow Rate .42	13:36	W.M.
				15:30	
				16:30	

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2166	Damage to Bay/le	304	14/21 GMT MDR unit test on 10-30-97 - Subject #10 #115 : -2 light baffle blocks loose during Thermal Balance testing: Cannot check gas system until after 8:30 am mast day	7:10				
2167	GAS System ck	304	17/00 GMT Gas System check - Tank # 1100 PST Regulation at 10 flow @ 3.5 - Interacted to • 40 stabilized ok	7:15				W.M.
2168	GAS check	304	22/55 GMT System ok Same as previous entry	8:00				W.M.
2169	GAS check	305	15/17 GMT System ok 1100 PST, 10 on Regulator +40 rate	8:00				W.M.
2170	Triggers	305	17/49 Trigger cables disconnected from unit, Disconnect cuts made outside panel. Some additional connectors (S.S. ones (3)) and bagged static bag used to enclose ends of cables these bag cuts Taped to panel w/ strain relief other end of cable bagged also.	10:45				W.M.
2171		305	Cold shroud removed, gas system checked ok Same readings as above CMT 24/52				11:00	
2172	GAS SYS	306	16/15 GMT GAS System: PSII @ 1000, leg = 9, flow = 52 J.P. went in and adjusted flow rate down to .40				9:15	W.M.

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2173	Gas System	30/6	23/56 GMT	Remove GAS SYSTEM Awaiting moving 51m to Shipping Container		23/50				WWS
2174	Gas System	30/6	02/46 GMT	GAS System connected to HRC then the shipping container		02/46				WWY
2175	Gas System	30/8	GAS System check <del>over</del> morning after TS 102 move to 100K + 1000 psi @ +45 psi. Time: 020 AM.			JP				
2176	Gas System	30/8	GAS System disconnected & RE connected AS SIM was removed from shipping container			320:				WWU
2177	Gas System	30/8	GAS SYSTEM disconnected then re-connected to Accommodate Removal of TURTLE, OK. (30 minutes)							WW
2178	Gas System	30/9	GAS SYSTEM check @ 11:30 hrs psi: 00 .45 psi			21/30				ZP
2179	Gas System	31/9	Disconnect Gas line to allow ISIM to be moved to OBA #4 prior to demating (17:10 MST)							GR
2180	Gas System	31/1	Re connect gas to G40 /SET 12 - 45 (990psi)							YY

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2181	GAS System	17/11/01	GAS System check with 15109 still mounted to OBD II port = 4 ps. 14 ps - 900 psi	17/45				
2182	GAS Discreet	3/12	GAS purge disconnected for crane move in 10K clean room	18:26				
	GAS System			19:45				
2183	Inspection	(971109)	Contaminant inspection - lay/TAPE lifts	20:30				
			TAPE ID ⊖ + X SIDE OF T/T					
			② +X FRONT SURFACE OF SNOUT SEAL					
			③ INSIDE SURFACE OF SNOUT SEAL					
			④ INSIDE OF SNOUT SURFACE					
			⑫ -X SURFACE OF SHUTTER BLADES					
			⑭ DOOR samples					
2184	GAS CHECK	(971111) TUE	900 PSI / 10 PSI / 3.8 PSI	21:00				
2185	H/C INSPECT	12 NOV 01	Pumped up H/C after separation of SIM					
			THIS FOCUSES STRUCTURE TO OPEN H/C FOR					
			INSPECTION OF UN/ION SHIELDS IN EVALUATION					
			OF CAN SOURCE OPERATION					
			SENT FOLLOWING COMMANDS TO TURN ON H/C					
			PC'S NO 8					

L MST

OKA

## LIFE HISTORY

EVENT		DATE	SUMMARY OF CHRONOLOGICAL EVENTS	RUNNING TIME/OTHER (HOURS AND MINUTES)			PAGE OF PAGES
NO.	SUBJECT		TEST DOCUMENT NUMBER/TEST DESCRIPTION/NATURE & DESCRIPTION OF MALFUNCTIONS/SERIAL NUMBER OF REMOVED OR REPLACED PARTS/MODIFICATIONS/ADJUSTMENTS/REFAIRS/MAINTENANCE SHIPPED/RECEIVED/ENVIRONMENT/ETC.	START	STOP	TOTAL TIME	CUM. TOTAL
2185 cont'd		12/10/07	515 LIPS, NRS1 & CUE & CUE'S TO CTUE' CLOCK WHICH IS NOT WORKING, BUT BASIN TO CHANGE OUT CLOCKS (NO 1216 AVAILABLE FOR CUE)				
				15:11			
			initial (current 1.37A)		15:13		
			NOTED THAT HERE SEE SHOWS PRIMINARY BUSS SOURCE N18V BUT LIPS IS SET @				
			78. TURNED OFF LINE WITH SWIFTS TO INVESTIGATE GROUNDING,				
			TIED LIPS RAN TO GROUND GROUND		15:16		
			initial (current 1.37A)		15:26		
			HAD NOW SHOWS BUSES VOLTAGE 27.9V		15:27		
			CAL OPEN/CLOSED		15:31		
			CAL SOURCE SHOWS OPEN IN BOTH BUS' SSD CAL CLOSE, AND		15:32		
			CAL SOURCE SHOWS CLOSING CYCLES AGAIN. CAL SOURCE SHOWS OPEN (CLOSING		15:35		
			CONNECTED SPARE NO TANK TO DEFLECTOR ~7 PSI - DIRECT TO REQUIREMENT. SPARE TANK ~900 PSI			16:00	
			STARTED DOOR OPEN SEQUENCE				gc

## LIFE HISTORY

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2185	cont'D	12/Nov/97	28V pur supply tripped out - current limited SV off and sent. Protective plastic cover placed over open aperture, gas purge on high TESTING complete - SV off		16:30				SC
			FOUND A GAS TIE ON CAL SOLVENT HARNESS THAT SHOULDN'T HAVE BEEN THERE OR CONTRACTING SWITCH ACTUATING ARM ALTHOUGH AT NO TIME DID THE ARM HANG UP. THIS COULD BE TIE ANOTHER ONE MADE BY WHILE ROTATING BY HAND TO MOVE THE TIE WRAP LOCKING FURNITURE WAS NO LONGER IN A POSITION TO CONTRACT THIS ARM.		17:13				
2186	N <sub>2</sub> Check	13/Nov/97	Restoring cal source closure HPC door is cal source again without incident Reconfigured gas pressurization system Set pressure @ 0.4 PSI, tank is @ 900 PSI						SKA
		14 Nov/97	Tank pressure 900/0.4 PSI		16:45				GKA
			" 850/10/0.4		11:10				GKA
									AFTER TAPPING GATES ON REGULATOR

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NO.	SUBJECT			START	STOP	TOTAL TIME	CUM. TOTAL
2/87	N <sub>2</sub> Check	12/15/97	CHECKED GAS SYSTEM REFERRED 1 MONTH DURATION TANK @ 450 psi, loose pressure gauge @ 14 psi, AND Regulator @ 10 psi				35
2/88	TM INTERFACES OR 88 SIGNAL VFC	12/7/97	PERFORMED # PROCEDURE SAG-HRC-TP-97-380 TO VERIFY THE SIGNAL QUALITY OF THE HRC/RCTU COMMAND INTERFACE COMMAND & TELEMETRY SIGNS. DURING THE INITIAL CHECKOUT OF THE HRC (SECT. 4.2) THE SECONDARY SEQUENCE RATES ON 5) DEP WERE LOSING SYNCHRONIZATION. A 40 SEC PERIOD OF DE-SYNCHRONIZATION WAS OBSERVED. CTUE WAS REPORTED AND PROBLEM WENT AWAY. ALSO DURING THE COURSE OF MEASURING THE SIGNALS, RCTU SIDE A COMMANDS COULD NOT BE USED. TEST WAS RUN USING B-SIDE OF RCTU.				JF
2/89	Loose hardware	12/16/97	WHEN REMOVING THE <del>SEA</del> COVER G. Austin noted LOOSE TEST CONNECTOR HARDWARE (SCREEN CLOCK RECEPT.) ON A/D HSKPG PLUG IN CEA J5 SLOT. INSPECTED WITH FLASHLIGHT & MICROR TO TRY TO FIND MISSING REARING & NOT WITHOUT SUCCESS. WROTE NMR 30905 # BALK MDR CO908 TO INVESTIGATE AFTER T/V TEST				JF

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NO.	SUBJECT			START	STOP	TOTAL TIME	CUM. TOTAL
2190	HHC ALIGN.	18 Dec 91	Sun Pur config To ABABAB - Bus @ 28V Start Initiation and current ~ 1.4 A	1552			
	clock		Sun door open, and	1558			GMA
			Sun door close, and	1601			GMA
			Sun success, and	1627			GMA
2191	HRC MLI	17, 18 Dec	The +/-4 E-box's had the MLI trimmed PER D. BOYDS NEW & IMPROVED MODELS MLI was attached via TBLW PROVIDED ALUMINUM CONDUCTIVE TAPE. MLI was ALSO USED OVER THE BLOCK VALVE AND PURGE PIPE. MLI was wrapped AROUND THE CABLE HARNESS CONNECTED TO THE INSTRUMENT. All New MLI was also treated with CONDUCTIVE EPOXY AS A BACK UP (TRA-CON SA-2902)	JTP			
2192	GAS Sys.	18 Dec	GAS SYSTEM: changed Bottles Old Bottle @ 375 psi New @ 900 psi Set Pressure @ 10 psi / 0.45 psi 6:00 pm	JP			

LIFE HISTORY

LIFE HISTORY				PAGE OF PAGES		
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NO.	SUBJECT	START	STOP	TOTAL TIME	CUM. TOTAL	STAMP OR INITIAL
2193	18 Dec.	Performed Alignment Test with Housing pressurized and normalized.	3:00 pm			jj
		C Ambient Atmos to SARM $\Theta_y = 49^\circ$ , $\Theta_z = 96^\circ$				
		C Fuel gas Pressure from TAEM to SARM $\Delta y = -33.9^\circ$				
		$\Theta_2$ 2.3 ..				
		Alignment is OK : means no forces				
2194	19 Dec	Noticed that $6\text{N}_2$ bottle had 275psi. Evidence of a leak.	7:00 am			wap
2195	19 Dec	$6\text{N}_2$ to the hood < 150psi.	6:00 pm			MAP
		Disconnected gas line (Ball performed) to move fluid.				
		Replaced bottle with old $6\text{N}_2$ bottle, had 230psi (350)				
						7:00 pm
2196	20 Dec	Inspect $6\text{N}_2$ bottle pressuring. Still at 2350psi. So leak is stopped. Hard to tell exact pressure.	7:30 am			wap

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			START	STOP	TOTAL TIME	CUM. TOTAL			
2197	N2 Sys	27 Dec Gas System check	045/10/200 PST						28 JMC
2198	N2 Sys.	30 Dec Gas System was disconnected & Re-connected the morning from CBT to Shipping Container to be moved to Berth . 45/10/200 PST			6:15 - 6:30				
2199	1/2	31 Dec Gas System removed from unit @ Berth to remove unit from Shipping Container decision was to leave dis-connected for max of 1.5 hrs for more, however later decision was to make move after lunch. At this time 11:30 Gas was fitted to 600 PST and Re-connected until after lunch. Unit was then disconnected for lift into Berth then Re-connected within 1 hour currently connected in Berth and is @ 45/10/600 PST			10:00 - 10:15				CCW
2200	N2	1.Jan 00 Gas System ck @ 8:20 AM 45/10/600 PST			8:00	8:20			JMC
2201	N2	2.Jan 00 Gas System ck @ 9:30 AM 45/10/600 PST			9:30	9:30			JMC
2202	N2	3.Jan 00 Gas System ck @ 9:00 AM 45/10/600 PST			9:00	9:05			JMC
2203	N2	4.Jan 00 Gas System ck @ 8:30 AM 45/10/600 PST			8:30	8:35			JMC
2204	HRC FUNCT TEST	RAN HRC PROT/N FUNCTIONAL TEST PUR Procedures SAO-HRC-TP-97-301 RWA, SOUTIONS S.1.1, S.1.2 S.1.3 S.1.4 S.1.5 & S.1.6, TESTS			15:51	18:34			5KA

\* Changes to GMN for duration of ISIM HV Test

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NO.	SUBJECT			START	STOP	TOTAL TIME	CUM. TOTAL
2205	N.E.	1/7/98	GAS System check 04/08/98/430 PST (Note Unit 0830 1533 0735 5 min)	0830	0830	00:00	W.W.
2206	HRC GAS Line	7 Jan 98	Relocated, re-tight, disconnection) ok CLOSING HRC BLOCK VALVE & REMOVED GAS LINE AT OUTBOARD FLANGE OF GATE VALVE. INSTALLED ACROSS RANDLE ON TURBINE SHROUDED INLET CAVITY WITH MILI.	2350			
2207	Hydrod	008	STARTED PUMP TO DRAIN OF THE CHAINBUHL @ 640 tonz 0211 600 Tonz 0212 550 0213 500 0214 450 0215 400 0217 350 0219 300 0222				
				250	0225		
				200	0230		
				150	0235		
				100	0239		
				50 (52)	0246		
			CRACKED HRC DOOR FOR TIP SECTION S-1.7	0301			
			POSITIONS CHAINBUHL PUMPING				

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2208	Pump down	008	Pressure 5.0 Kilo <sup>-6</sup> ; RETA POWER ON	1738				
2209	Ball problems w/SEA - changing to RETR B SIDE	008		2137				JC
2210	start of phase 1	009	start flooding shroud with LN <sub>2</sub> to deg temp. 0948					JC
2211	CLOCK sync	009	RESET ALL EGSE CLOCKS @ 15:45	15:45				AGR
2212	Turn on	009	turns on HRC A side power switch on B-O-B.	1840				
Anomaly	TRESI		SENT COMMAND WIP32 TO TURN ON SW					
			ON A SIDE. NOTED JAVUS FOR THIS					
	AGVIS		AGVIS ANALOGS ON NETS1. TURNED OFF					
			SV. REPOSITION AGAIN TO GUT DIGITAL					
	VALUSS FLATI card disp		VALUSS FLATI card disp					
			NETS1 card disp					
	+15V		+15V	2.73V	35			
			-15V	-0.63V	8			
	+5V		+5V	4.84V	124			
			+24V	0V	0			
2213	EGSE	010	INTERROGATES NETS1 TO NSC LINK TO UPDATE	0118				
INTERROGATE	start of	010	REPORTS A SECOND TIME	0123				
			start of phase 2 functioned test by EGSE	0000				
2215	EGSE	011	BLOWNIGHT DOWN EGSE TO FLUSH COUNTING LOGS	0050				
	IN enterprise		IN enterprise BLOWNIGHT EGSE BACK UP AGAIN					
								BB

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2216	UN DUMP	011	DUMPED LN <sub>2</sub> IN BNTVS. SHROUD TO SHAK	0112			
			TRANSITION TO HOT OP				GMR
2217	VACUUMS	011	LOST JEWELL IN BNTVS. PRESSURE WENT UP TO 0190				
			~.2 Torr (?)				GKA
2218	VAC PRESSURE	011		1.2 x 10 <sup>-3</sup> Torr	0550		
				4.6 x 10 <sup>-6</sup> Torr	1556		ACR
	SHAKING		SHAKING SET 50°C	2.0 x 10 <sup>-6</sup> Torr	0603		
				1.5 x 10 <sup>-6</sup> Torr	0612		
2219	OPEN DOOR	011	Reentered TV TEST PREC 5.9 Phase 3 - Transition to Hot OP (PROCEDURE S.4.1)				
			sent patgoos.cmd, BUS A ON, 28.14V,				
			10.7Amp, 1.464 Amps, sent imager.cmd and shak.cmd, sent decrease.cmd				
			Current 2.0 Amps while in transition.				
			sent mil.cmd - HEC in standby mode				
			Imager of STA 1 on Bus A, vac door is open.				
			New in next in line mode.				
			(Note: Had to change the dc current meter on bus A - Battery on previous meter had caused erroneous readings - Readings above were taken using the meter that was monitoring the B Bus)				ACR

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2220	T_outDet1	0/1		This temp went from -8.4°C prior to the chamber loss of vacuum to -21.43°C at the present time. During the cold soak this temperature was cycling no lower than -10°C. Ball TC indicated that the survival heater was on at the present time.		0716				ACR
				(IT WAS NOT IN HV TURNED OFF @ 0545 FOR BURN LOG 3200.D)						GKA
2221	HLC-T	0/1		STARTED TOSING OF HLC-T ON A SIDE PUR HV TESTS		16:42				
				Proceeding sequence S.A-Z. THE FIRST 3600 SEC BURN RUN SHOWS WHAT MAY BE A MISSING TAPE. DATA TRANSFERS TO SAO FOR ANALYSIS HV TURNED OFF (ANALYSIS SHOWS NO MISSING TAPE)						GKA
2222	HLC-S	0/1		TESTS HLC-S ON-OFF -SEQUENCE WITH TP. TURNED HLC OFF (SUCC) & CAME UP ON B SIDE WITH initbs						
				STANDBY FILE POGB011C @ 19:36:45 FOR HV START-UP						1936
				SIM ON RATE @ 0.55. RATES @ 4.20						
				HLC-S HV on						2014
				3600 SEC BURN'S POGB011D @ 20:20:15						2020

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2223	41V off	011	All hvoff cmd
2224	HVC OFF	011	HVC OFF POR TP SECTION S4.3 @ START OF HOT SOAK (S4.1A OR CYCLE 2)
2225	Fn 5 <sup>+</sup> Col 1	012	Phase 5 Transition to cold Ball TC did not return HECTC of this time - 1st measurement of HVC Power & Tearps made at 12:04:00.
2226	Evt 2.2.21 (comment)	—	Problem most likely caused by Display U & V coordinates set at 7936 instead of 8192 — Causes display to be displaced upward and the top of screen events show up as lines on the bottom of the screen.
2227	RCTU OFF	012	Both RCTU switches accidentally turned off by Ball staff. Connection re-established. But problems with Lab View Software caused a loss of telemetry at 08:15.
2228	RCTU up	012	Connection to RCTU re-established. Proceeded with HVC Temperature Monitoring which otherwise should have taken place at 08:00 Ball TC also switched from cond side B to A
			ACR
			GRW
			GRW

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2229	CALCUTTA	013	HRC IN LAUNCH POSITION, HRC BUS @ 25V (22V @ SIM), TURNED ON ABORT HRC ZONE 6				
	HRC TEST		BONIS PRIMARY IS REBUNDANT	0309			GKA
			MONITOR HRC TURNS, R/B SIDE INCLUDING HORNES, BILGEY 1/2 HRC				
			HRC BUS VOLTAGE RAISED TO 32V (30V @ SIM)			0510	
			ABORT HRC SWIN ON				
			HRC MOVED TO VIGNING POSITION			0530	GKA
2230	Start of HRC up	013	Start of ramp up in temp.	0615			AER
2231	Standby	013	TURBO HRC ON in Standby Mode per TV Test Procedure Ft S. & B Phase 7	0626			AER
2232	CTUE	013	The CTUE crashed during turn on.	0631			AER
2233	CTUE Re-connected	013	Ball TC reconfigured CTUE				
2234	HRC to std by	013	CTUE successfully reconnected to the EGSE	0650			GKA
			HRC reconfigured into standby mode in Next-in-Line status. CTUE in FWT 1.	0702			AER
2235	TM follow	013	CHANGED FROM FORWARD 1 TO FORWARD 0				GKA
2236	Heets on	013	STARTED HEC-I TURN-ON DUE TO SIGHTON 5.8.2	1547		1550	GKA
			DURING POWER-UP + COLD DOWN BOARDS BURNED TO SOOT				
			THE 2ND TEST ROTATING GO TO 34304 OCCASIONALLY.				
			THE 2ND TEST IS SHOW MATTE WERE SINL ZONES				

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2236	CONT'D	013	TURNING OFF HV WITH SAFE CMD. REASSIGNAL RAM & DISCREPANCY OF PERSISTENT HV IN HV OFF.					
			STANDBY TURN ON OF HRC-1 AGAIN					GKA
			TURNING SWD 1 ON AGAIN					GKA
2237	HOT SOAK	013	START OF HOT SOAK					GKA
2238	TRIP XIN	014	START OF TRANSITION TO COLD SOAK					GKA
2239	COLD SOAK	014	START OF COLD SOAK					GKA
2240	AISOLATE HRC	014/015	TURNING ON PCL 1 PROG AFTER HADS ZONE 6 TEST					GKA
2241	PH '10 COLD SOAK	014/015	cake pan heater test - see Table 5.11 of TV Test	2100				ACR
2242	motor temps	015	Read motor temps every 30 min during cake pan heater test	0200				ACR/GM
2243	HRC ON BALANCE	015	HRC SELECT & SHLD 2 powered on side B. start of Thermal/Balance	0717				ACR
2244	STANBY HRC	015	STANDBY BLDG 1TON MORNING PWR TO SUGARON BLDG 2	1830				GKA
2245	CTUE CRASH#	015	CTUE CRASHED AT END OF RUN POF& OILSE. CAUSE UNKNOWN. LEFT HRC-S HV ON FOR 5 MIN DURING RETBOOT. POST BOOT RATES NORMAL	2345				JG
			CTUE ERROR MSG WAS TMR THROUGHOUT ERROR.					

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2246	CTUE CR&S	01/6	HRC HVS SAFED w/ ONLY SHIELD 2 ON. BULL IS SWAPPING OUT <del>THE</del> SIM COMPUTER BACK UP @ 160030, SHIELD RATE NORMAL				JG
2247	SP-HVUP	01/6	BRINGING UP SP HV USUAL HOT SPOT & END OF SEC 3 WAS HOT ~100/200 PER SEC. FOR ABOUT 1 MINUTE AND THEN SETTLED OUT AT ABOUT 20-30/SEC.			0045	0055 JG
2248	SP REBOOT	01/6	SIM GSE COMPUTER REBOOT @ 160112 LEFT HVC SP HV ON, NO OBSERVED EFFECTS.			0112	JG
2249		01/6	ALL HV OFF - COMPUTER SP DET RUNS			0155	
2250		01/6	Unusually lost telemetry for ~2 minutes Problem w/ VERTST. We suspect it is because the SS Display was running too long (~1 hr). System is now running normally. We disconnected and reconnected all 3 computers from the telemetry.			0830	RPK

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2251	Wheels	016	lub oil			0840		
	Power down		Power down → swap to B side, S					
2252	Hull on S	016	swap to Selector on B	10:05				
			hull on	—				
2253	Turn loss	017	Voss Turnosity	1700	1708	GVA		
2254	Stator wash	017	start wash transition to SC	2053		GVA		
2255	HRC-S on	017	turns on HRC-S floor break/call test site	2235				
			To 5.12.1					
2256	Cal open	018	Cal open	02:50				
2252	Cal close 018		Cal close	03:56				
			Hi off	03:58				
2258	TRCL-T on	018	HRC-T turned on for Cal source run	04:06				
			Noted pressure went up to					
			$4 \times 10^{-6}$ then went back					
			down to $2.8 \times 10^{-6}$					
2259	Cal open	018	Cal source open	05:28				
2260	Cal close	018	Cal closed	06:30				
2261	Cal open	018	open to Cal source run	07:32				

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NO.	SUBJECT		START STOP TOTAL TIME CUM. TOTAL
2262	Coldos	018 closed cal source	08:36
2263	HV off	all hv off	08:37
2264	HVC LEAK	018 PUT HVC DOOR IN CRACKED POSITION ! Door open	13:54
		TURNING HVC PWR OFF ( ALL HV ON )	
		Absolute 25°C Now	
2265	Progress	018 STANDED REPOSE OF T/V CHAMBER 4.5 Torr	16:20
		7 torr	17:00
		22.5	17:10
		100 t	17:45
		140 Torr	18:03
		167 Torr	18:20
		285 torr	19:26
		375 Torr	20:07
		545 Torr	21:22
		(local Atmos)	
		BREAKS DOOR OPEN	
2266	HVC DOOR	018 PWR UP HVC & close door DUR TP / 5.15	21:52
		22:02	
2267	HVC GAS LINE	019 RECONNECTED HVC ONS LINE 500 PSI / 100PSI / 0.4 PSI	22:05
		22:13	
		0335	
		GKA	

\* \* \* \* \* Switch BACK TO M31 \*

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