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QUALIFICATION STATUS

J3 PROGRAM

AUGUST 22, 1967

[redacted]

[redacted]

J3 STRUCTURAL QUALIFICATION

UNIT	DRAWING NO.	SPEC. NO.	TEST REPT. NO.	QUALIFIED BY— -TEST	*-SIMILARITY	-CERTIFICATION
AIRING	T33-604	T3-6-104	—	—	✓(ALL)	—
ONIC (INCLUDES PETALS)	T33-605	T3-6-104	T9-7-012	✓(VIB) ✓(STAT. LOAD) ✓(BENDING) ✓(COLLAPSE)	✓(S/C & TUNA MTS. STAT. LOAD)	—
ARREL (INCLUDES PETALS)	T33-606	T3-6-104	T9-7-012	✓(VIB) ✓(STAT. LOAD) ✓(BURST PRESS) ✓(BENDING)	✓(DIAPHR. PRESS)	✓(PART OF VIB) ✓(PART OF PRESS.)

* QUALIFIED BY SIMILARITY TO J1 AND 1B1 DESIGNS
— SEPARATION SYSTEM QUALIFIED BY SIMILARITY TO J1 AND 1S1 DESIGNS

TESTS CONDUCTED	RESULTS AND CORRECTIVE ACTIONS
3 AXIS SINUSOIDAL VIBRATION (CONIC AND BARREL SEPARATELY)	FAIRING NOT TESTED SINCE SIMILAR TO J1. CONIC WITHSTOOD SPECIFIED VIBRATION WITHOUT DAMAGE. LOWEST NATURAL FREQUENCY 35-40 Hz. BARREL WITHSTOOD SPECIFIED VIBRATION WITHOUT DAMAGE EXCEPT TEST ANOMALY CAUSED VIBRATION AT AMPLITUDES LOWER... (CONT.)

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J3 STRUCTURAL QUAL (CONT.)

TESTS CONDUCTED	RESULTS AND CORRECTIVE ACTIONS
3 AXIS SINUS. VIB. (CONT.)	...THAN SPECIFIED IN 'POGO' RANGE. ANALYSIS OF DATA SHOWED LOWEST NATURAL FREQUENCY AT 65-70 Hz AND ACCELERATION REPRESENTING EXPECTED RESPONSE OF INSTRUMENT AND S/C MOUNTS IN POGO VIBRATION WOULD BE ¼ DESIGN ULTIMATE STATIC ACCELERATION APPLIED IN STATIC LOAD TESTS. THEREFORE, STATIC LOAD TESTS WERE MORE THAN ADEQUATE TO VERIFY INTEGRITY
STATIC LOADING MECO & GRD. HANDLING OR COMBINED MECO & GRD. HANDLING ACCELERATION LOADS (BARREL: INSTR. & S/C MTS. - CONIC: 2 R UNIT, DISIC AND PMU MTS.)	ALL TEST MOUNTS AND ADJACENT STRUCTURE WITHSTOOD SPECIFIED DESIGN ULTIMATE LOADS WITHOUT SIGNIFICANT PERMANENT DEFORMATION
BURST PRESSURE (H.O. PETAL AND FRAME, MAIN PETAL AND FRAME)	ALL PETALS AND FRAMES WITHSTOOD DESIGN ULTIMATE PRESSURE WITHOUT CATASTROPHIC FAILURE. MAIN PETAL DID NOT YIELD UNDER ULTIMATE PRESSURE. BARREL LONGERONS YIELDED AT MAIN PETAL ATTACH FITTING POINTS UNDER LIMIT LOAD. NO CORRECTIVE ACTION REQ'D. - PETAL OPERATION NOT IMPAIRED. (CONT.)

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J3 STRUCTURAL QUAL. (CONT.)

TESTS CONDUCTED	RESULTS AND CORRECTIVE ACTIONS
BURST PRESS. (CONT.)	MAIN PETAL SEALING ARRANGEMENT HAD UNACCEPTABLY HIGH LEAKAGE RATE. SEAL MATERIAL AND INSTALLATION CHANGED. PETAL INSTALLATION ACCESS COVERS SEALED. LEAKAGE LESS THAN 1/100 STD. CUBIC IN./SEC. AT DES. LIMIT PRESSURE ON RETEST
SPACE FRAME BENDING (SIMULTANEOUS APPLICATION OF 5 SHEAR & 3 AXIAL LOADS) (ASSEMBLED FAIRING, CONIC AND BARREL)	STRUCTURE WITHSTOOD DESIGN LIMIT AIR LOADS & DESIGN ULTIMATE FITTING AND AIRLOADS WITHOUT CATASTROPHIC FAILURE OR SIGNIFIGANT PERMANENT DEFORMATION.
CONIC COLLAPSE COMBINED COMPRESSIVE AXIAL LOAD & COLLAPSE PRESSURE	CONIC WITHSTOOD DES. ULTIMATE LOAD WITHOUT PERM. DEFORMATION ON DESTRUCT TEST. BUCKLING STARTED AT 212% DES. LIMIT LOAD
PETAL OPERATION	ALL PETAL EJECTIONS SUCCESSFUL AFTER EACH PERTINENT STRUCT. TEST BY EITHER MINIMUM PYRO CHG. (M11 & DUMMY) OR HIGH PRESS. NITROGEN. SUCCESSFULLY EJECTED BY O'LOAD PYRO CHG. (M11 & M96) WITHOUT DAMAGE TO ADJACENT STRUCT. - ATTACH LUGS OF MAIN PETAL ATTACH PULLERS DEFORMED DURING EJECTIONS DUE TO LOADS IMPOSED BY RIGID MOUNT. PETAL ACTION WAS NOT IMPAIRED.

[redacted]

J3 SUBSYSTEMS QUALIFICATION

POWER

UNIT	DRAWING #	SPEC. #	TEST REPT. #	QUALIFIED BY – -TEST	-SIMILARITY	-CERTIFICATION
AFT POWER BOX	T33-3133	T3-6-033	T9-7-002	✓		✓
FORWARD POWER BOX	T33-3126	T3-6-033	T9-7-002		✓	

TESTS CONDUCTED	RESULTS & CORRECTIVE ACTIONS
AFT POWER BOX (VIBRATION, SHOCK)	MET REQUIREMENTS. ACCELERATION & THERMAL ALT. TESTS NOT REQ'D. PER ENGRG. ANALYSIS – LACK OF SENSITIVITY IN THESE ENVIRONMENTS
FORWARD POWER BOX (NO ENVIRONM. TEST REQMTS.)	ENGRG. ANALYSIS ESTABLISHED SIMILARITY TO AFT PWR. BOX

COMMAND

UNIT	DRWG. #	SPEC. #	TEST REPT. #	QUAL. BY: - TEST	- SIMIL.	- CERTIF.
COMMAND BOX	T33-3234	T3-6-042	T9-6-042	✓ (ALL)		
TRANSFER BOX	T33-3277	T3-6-042	T9-6-042		✓	

TESTS CONDUCTED	RESULTS & CORR. ACTIONS
COMMAND BOX (VIBR., SHOCK, ACCEL., THERM. ALT.)	FAILURES IN THERM. ALT. OF UNIJUNCTION X-ISTER AND STEPPER SWITCH ATTRIBUTED TO FAULTY PRE-TEST PROCEDURES
TRANSFER BOX (NO ENVIRON. TEST REQMTS.)	ENGRG. ANALYSIS ESTABLISHED SIMILARITY TO PYRO BOX

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J3 SUBSYSTEMS QUALIFICATION

EXPOSURE CONTROL

UNIT	DRAWING #	SPEC #	TEST REPT. #	QUALIFIED BY: -TEST	-SIMILARITY	-CERTIFICATION
SW. PROGRAMMER BOX	T33-5122	T3-6-068	T9-7-018	✓ (ALL)		

TESTS CONDUCTED	RESULTS & CORRECTIVE ACTIONS
(SINUSOIDAL VIBR., RANDOM VIBR., SHOCK, ACCEL., THERM. ALT.)	TIMER FAIL-SINUS. VIBR.-DEFECTIVE UNIT REPLACED, FASTENER FAIL-RANDOM VIBR.-SPECIFIED LOCKTITE, TIMER FAIL-THERM. ALT.-POOR CONNECTION, ELECTR. NOISE-ADDED FILTER TO UNREG. INPUT

TELEMETER

UNIT	DRWG. #	SPEC #	TEST REPT. #	QUAL. BY -TEST	-SIMIL.	-CERTIF.
AFT T/M BOX	T33-3147	T3-6-029	T9-7-016	✓		
FORWARD T/M BOX	T33-3116	T3-6-029	T9-7-016		✓	

TESTS	RESULTS
AFT T/M BOX (VIBR., SHOCK, ACCEL., THERM. ALT.)	DC-DC CONV. FAIL-SINUS. VIBR.-STIFFEN STRUCT., INSTL. MORE RUGGED CONVERTER, ELECTR. COMMUT. FAIL-SINUS. VIBR.-STIFFEN STRUCT., DIFF. AMPLIF. FAIL-RAND. VIBR.-FAULTY FIXTURE, TRANSISTOR MODULE FAIL-THERM. ALT.-REDESIGN, PULSE STRETCH CIRC. FAIL-THERM. ALT-REDES. CIRCUIT
FORWARD T/M BOX (NO ENVIRON. TEST REQMTS.)	ENGRG. ANAL. ESTABLISHED SIMILARITY TO AFT POWER BOX

PMU

UNIT	DRWG. #	SPEC. #	TEST REPT. #	QUAL. BY: -TEST	-SIMIL.	-CERTIF.
PMU	T33-250	T3-6-066	(IN WORK)	✓ (ALL)		

TESTS	RESULTS
PMU (SINUS. VIBR., RANDOM VIBR., SHOCK, ACCEL., THERM. ALT.)	MET REQUIREMENTS

[redacted] [redacted]

J3 SUBSYSTEMS QUALIFICATION

IMC CONTROL

UNIT	DRWG. #	SPEC#	TEST REPT.#	QUALIFIED BY: - TEST	- SIMILARITY	-CERTIFICATION
SLOPE PROGRAMMER	T33-3300	T3-6-055	T9-7-017	✓		

TESTS CONDUCTED	RESULTS AND CORRECTIVE ACTIONS
SLOPE PROGRAMMER (SINUS. VIBR., RANDOM VIBR., SHOCK, ACCELER., THERM. ALT.)	ALL REQMTS. MET EXCEPT: SINS. VIBR. — WIRE BROKE IN MOTOR CIRCUIT, INCREASED BREAKOUT WIRE LENGTH FROM HARNESS & INCREASE WIRE BEND RADIUS. RANDOM VIBR.- BROKEN SWITCH WIRE (WORKMANSHIP). THERM. ALT.-START DELAY TIMED OUT EARLY, DIDN'T START POS. 11-20, REPEATED 1-10. UNABLE TO DUPLIC. MALFUNCTION IN POST-ENVIR. STEPPER MOTOR INOPERATIVE ON LOW UNREG. VOLTAGE. NON-QUAL. PART USED IN QUAL. UNIT. VENDOR QUAL PART USED IN FLT ASSYS. SHIFT IN FMC ERROR RECORDED. IBM DATA BEING ANALYSED TO DETERMINE CAUSE.

SLP

UNIT	DRWG.#	SPEC.#	TEST REPT.#	QUAL. BY- -TEST	- SIMIL.	-CERTIF.
DATA CONDITIONER BOX	T33-3361	T3-6-055	COMPL. (No.#)	✓		

TESTS CONDUCTED	RESULTS & CORR. ACTIONS
DATA COND. BOX (SINUS. VIBR, RANDOM VIBR., SHOCK, ACCELER., THERM. ALTITUDE)	MET REQUIREMENTS

[redacted] [redacted]

J3 SUBSYSTEMS QUALIFICATION

PYRO

UNIT	DRAWING NO.	SPEC. NO.	TEST REPT. NO	QUALIFIED BY – TEST	– SIMILARITY	– CERTIFICATION
PYRO BOX	T33-3102	T3-6-041	T9-7-001			✓
CURRENT SENSOR	T33-3424	1464726				✓

TESTS CONDUCTED	RESULTS AND CORRECTIVE ACTIONS
PYRO BOX — (VIBRATION, SHOCK, ACCELERATION, THERMAL ALTITUDE)	MET REQUIREMENTS
CURRENT SENSOR	LMSC QUALIFIED ITEM

TAPE RECORDER

UNIT	DRWG. #	SPEC.#	TEST REPT.#	QUAL. BY: – TEST	– SIMIL.	– CERTIF.
DIGITAL TAPE RECORDER	T33-5114	T3-6-051	70150	✓		
A/D MULTIPLEXER	T33-5115	T3-6-052		✓		
ELECTRONIC COMMUTATOR	T33-5116	T3-6-028		✓		
DIFFERENTIAL AMPLIFIER						✓

TESTS CONDUCTED	RESULTS AND CORRECTIVE ACTIONS
DIGITAL TAPE REC./ELECTRON. COMMUT./ A/D MULTIPLEXER (VIBRATION, SHOCK, ACCELERATION, THERMAL ALTITUDE)	MET REQMTS. AFTER POTTING OF VIBRATION-SENSITIVE CONNECTORS AND MODULES
DIFFERENTIAL AMPLIFIER (THERMAL, HUMIDITY, VIBR, SHOCK, ACCELERATION, ACOUSTIC NOISE)	QUALIFIED ON ANOTHER PROGRAM TO LEVELS IN EXCESS OF REQMTS

J3 SUBSYSTEMS QUALIFICATION

DISIC

UNIT	DRWG. #	SPEC.#	TEST REPT. #	QUALIFIED BY: -TEST	-SIMILARITY	-CERTIFICATION
CUT AND SPLICE	T33-243	T3-6-095	T9-7-007	✓		
COUNTER	C174404 (V.R.)	T3-6-034	NO FORMAL REPORT	✓		✓
PAYLOAD SEAL ASSEMBLY				✓	✓	✓

TESTS CONDUCTED	RESULTS AND CORRECTIVE ACTIONS
CUT AND SPLICE (VIBR., ACCELERATION, SHOCK, THERM. ALT.)	GATE LATCH OPENED DURING RANDOM VIBR. SPRING TENSION INCREASED & TEST REPEATED SATISFACTORILY. OTHER REQMTS. MET
COUNTER (VIBR., SHOCK, ACCELERATION, THERM. ALT.)	FAILURE IN THERM. ALT. AT 250,000 CYCLES DUE TO WEAR. MET REQUIREMENT
PAYLOAD SEAL ASSEMBLY (FELT DOOR) (SINUS. VIBR., SHOCK)	MET REQUIREMENTS. RELEASE MECHANISM IS SIMILAR TO J1

DRCG

UNIT	DRWG.#	SPEC.#	TEST REPT. #	QUALIF. BY: -TEST	-SIMIL.	-CERTIF.
DRCG	1189B1	T3-4-508	R1139-1	✓	✓	✓

TESTS COND.	RES. & CORR. ACTIONS
(SINUSOIDAL VIBR., SHOCK, ACCELERATION, THERMAL ALT.)	MET REQMTS. - NEGOTIATING FOR RANDOM VIBR. TEST

[redacted]

J3 SRV SUBSYSTEM COMPONENT QUAL

UNIT	DRAWING NO.	SPEC. NO.	TEST REPT NO.	QUALIFIED BY- -TEST	-SIMILARITY	-CERTIFICATION
DISIC WATERSEAL	T33-217	T3-6-107A	T9-7-008	✓		✓
MAIN WATER SEAL	T2-1553	T3-4-517	T9-7-008		✓	
BLOSSOM TRANSMITTER	1464603-5124	1416637	CUBIC CORP. T/R # 10029	✓	✓	✓
BLOSSOM OSCILLATOR TRAY	1379431	T3-7-005				✓
5C PARACHUTE	1374614A	1418935		✓	✓	✓
SWIVEL	1419640	S4030-40-0002		✓		
NOZZLE	T33-215-503 11389577				✓	
VALVE	T33-201-501 11789145	ER4810-02-0006			✓	
61P SPIN OFF DISC	R75019	R41756		✓		✓
SINK VALVE	6K667/T22-728-501				✓	

TESTS CONDUCTED	RESULTS AND CORRECTIVE ACTIONS
DISIC WATER SEAL (VIBRATION, SHOCK, THERMAL ALTITUDE)	MET REQUIREMENTS.
MAIN WATER SEAL (NO ENVIRONMENTAL TEST REQMTS.)	QUALIFIED WITH EXCEPTION OF RANDOM VIBRATION FOR J1 PROGRAM. FLT. QUALIFIED IN RANDOM VIBRATION.
BLOSSOM TRANSMITTER (VIBRATION, SHOCK, ACCELERATION, THERMAL ALTITUDE)	MET REQUIREMENTS

[redacted] (CONT.)

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J3 SRV SUBSYS. COMPON. QUAL (CONT.)

TESTS CONDUCTED	RESULTS AND CORRECTIVE ACTIONS
BLOSSOM OSCILLATOR TRAY (VIBRATION, SHOCK, ACCELERATION, THERMAL ALTITUDE)	TESTED IN SINUSOIDAL VIBRATION ON GE QUALIFICATION SYSTEM AND CERTIFIED BY ENGINEERING.
5C PARACHUTE (NO ENVIRONMENTAL TEST REQUIREMENTS)	QUALIFIED FOR J1 PROGRAM
SWIVEL (VIBR., SHOCK, ACCELERATION, STATIC LOAD, BENDING, AXIAL COMPRESSION)	MET ALL REQUIREMENTS - J1 SWIVEL TO BE USED ON CR-1
NOZZLE / VALVE	QUALIFIED FOR J1 PROGRAM
51 PIN SPIN OFF DISCONNECT (VIBRATION, SHOCK)	MET REQUIREMENTS. BASIC CONNECTOR FLIGHT TESTED. NEW DETENT NOT SENSITIVE TO ACCELERATION OR RANDOM VIBRATION THEREFORE THERMAL ALTITUDE, RANDOM VIBR., AND ACCELERATION ARE NOT REQUIRED.
SINK VALVE (NO ENVIRONMENTAL TEST REQUIREMENTS)	QUALIFIED ON J1 PROGRAM

[redacted]

SECRET [redacted]

J3 GHE & GSE CERTIFICATION

EQUIPMENT	SPECIFICATION	TEST	DATE OF CERTIFICATION
FOREBODY DOLLY	T3-6-009	DT-489	6-15-67
SLING ASSEMBLY	T3-6-014	T5-424	DT-490 7-29-67
BUCKET LIFTING BAR	T3-6-015	T5-4227	
SHIPPING CONTAINER LIFTING BAR	T3-6-016	T5-4228	
BARREL SLING	T3-6-017	T7-2101	
SHAKER SLING	T3-6-018	T5-163	
INSTRUMENT HANDLING SLING	T3-6-019	T5-4229	
UNIVERSAL HANDLING FIXTURE	T3-6-025	DT-531	7-25-67
FORWARD BARREL HANDLING RING	T3-6-100	DT-520	10-27-66
TILTER SLING	T3-6-101	DT-525	2-17-67
HANDLING SLING	T3-6-116	DT-524	1-17-67
MAT AND SHIPPING DOLLY	T3-7-001	DT-530	7-31-67
UPENDING SLING	T3-6-001	DT-485	7-7-66

SIMULATOR AND ALL CONSOLES CERTIFIED BY DEMONSTRATED CORRECT FUNCTION

CHECKOUT CONSOLE	T3-6-067
T/H CONSOLE	T3-6-096
PYRO RESIST	T3-6-098
PYRO LOAD	T3-6-103
AUTO PROGRAM CONSOLE	T3-6-008
PAYLOAD SIMULATOR	A852065

SECRET [redacted]

[redacted]

QR-2 SYSTEM QUAL VIBRATION

- DRAWING T33-600 SPECIFICATION T3-4-508
- SPEC INPUT LEVELS .18 INCHES 5 TO 15 CPS 3g's 15 TO 20 1.5g's 20 TO 400
- LIMITING IMPOSED ON PAN INSTRUMENTS 3g's 20 TO 400 CPS
  - PAN DRUMS
  - PAN SHUTTLE ASSEMBLY
  - LENS CELL ASSEMBLY
  - SUPPLY CASSETTE
- LIMITING IMPOSED ON DISIC 3g's 20 TO 400 CPS
  - CAMERA BASE
  - SUPPLY CASSETTE
  - EXIT HOUSING
  - 'A' TAKE-UP CASSETTE (5g LIMIT)
- LIMITING IMPOSED ON SRV's AT STRUCTURE INPUT 3g's 20 TO 400 CPS
- NO LIMITING IN 15 TO 20 CPS REGIME
- NO OPERATIONAL FAILURES OCCURRED
  - PAN DRUMS ROTATED - BOSTON REPORT INDICATES NORMAL CONDITION

[redacted]

[redacted] [redacted]

QR-2 ENVIRONMENTAL TESTING

HIVOS TEST #1

- TEST DURATION 7 DAYS - ABORTED BY DISIC FAILURE
- DISIC FAILED AFTER SUCCESSFUL CUT AND SPLICE
  - STELLAR FILM METERED BUT FAILED TO TAKE-UP ON INITIAL 'B' OPERATIONS
  - FILM WRAPPED ON METERING ROLLER CAUSING UNIT TO STALL
  - T/U S/N 7 REPLACED BY S/N 10 FOR HIVOS #2 TEST
  - ALL OPERATIONS IN 'A' SRV SATISFACTORY
- CORONA MARKING ON DISIC STELLAR
  - MILD TO SEVERE, AFFECTING 60% OF TEST
  - ANTISTAT APPLIED TO METERING ROLLER
  - RESET PLATEN SPRINGS FROM 4 LBS TO 1 LB.
  - CHECKED ALL ROLLER GROUNDING AND ROTATIONAL DRAG
  - REMOVED CHUTE BETWEEN PORT AND STARBOARD TRANSPORTS
- 2 Pi CORONA MARKING ON BOTH PAN INSTRUMENTS
  - REPLACED METERING ROLLERS TO PROVIDE BETTER EVALUATION OF SPLIT LOAD MATERIAL IN 2ND HIVOS TEST
- SLOPE PROGRAMMER PERIOD INACCURATE - PROTOTYPE CONTROLLER REPLACED

[redacted] [redacted]

[redacted]

QR-2 ENVIRONMENTAL TESTING

HIVOS TEST #2

- TEST DURATION - 9 DAYS
- SWITCH PROGRAMMER SEQUENCED INCORRECTLY
  - TEST CONDUCTED WITHOUT NOISE FILTER MODIFICATION. — MODIFIED
- PAN S/N 300 CORONA MARKING
  - 3404 - VERY LIGHT START UP THREE TIMES
  - SO·340 - EXTREME MARKING 5-120 MICRON DURING PRESSURE SWEEP
- PAN S/N 301 CORONA MARKING
  - 3404 - VERY MINOR START UP ONE TIME
  - SO·180 - VERY HEAVY FROM 8-90 MICRON DURING PRESSURE SWEEP
- CORONA MARKING ON DISIC - MODERATE ON TERRAIN, HEAVY ON STELLAR
- DISIC STELLAR TAKE-UP VERY SLOW AFTER CUT AND SPLICE
  - 1.2 SECONDS/CYCLE PRIOR TO C/S
  - 3.0 SECONDS/CYCLE AFTER C/S
  - 2.5 SECONDS/CYCLE AFTER 30 CYCLES
- SLOPE PROGRAMMER PERIOD INACCURATE - INSUFFICIENT RUNNING TIME ON CONTROLLER TO STABILIZE

[redacted]

[redacted]

CR-1 TESTING

SYSTEM FUNCTIONAL TEST

- PAN AND DISIC TRACKING VERIFIED
- HIGH EFFICIENCY AMPLIFIERS INSTALLED ON PAN INSTRUMENTS & OPERATIONS VERIFIED
- MULTIPLE TIME WORD READOUT ON PAN FILM - FILTERS INSTALLED IN DUAL DATA SIG. CONDITIONER
- SYSTEM OPERATIONAL COMPATIBILITY VERIFIED

SYSTEM VIBRATION TEST

- SYSTEM PASSED ACCEPTANCE VIBRATION
  - INPUT LEVEL ½ g 15 TO 400 Hz AND 1g 400 TO 2000 Hz
- PAN S/N 302 DRUM ROTATED FORWARD 45°
  - BOSTON ANALYSIS INDICATES CONDITION ACCEPTABLE AND A NORMAL OCCURENCE
- POST VIBRATION OPERATIONS VERIFIED SYSTEM INTEGRITY

HIVOS TEST #1 (6/9 TO 6/16)

- PAN S/N 302 FAILED TO SHUT DOWN WITH OFF COMMAND
  - UNIT STOPPED BY REMOVING POWER
  - SYSTEM PERFORMANCE NORMAL AFTER REAPPLICATION OF POWER
  - END OF SCAN SWITCH READJUSTED AFTER COMPLETION OF CHAMBER TEST
- CORONA/PRESSURE MARKING ON PAN S/N 303 - CORRECTED METERING ROLLER INTERFERENCE AND REDUCED ROLLER PRESSURE

(CONT.)

[redacted]

CR-1 TESTING (CONT.)

HIVOS TEST #1 (CONT.)

- ERRATIC TIMING MARK ON PAN S/N 303
  - UNABLE TO DUPLICATE ON SUBSYSTEM AND NO CORRECTIVE ACTION TAKEN
- SLOPE PROGRAMMER PRODUCED INTERMITTENT HIGH OUTPUT VOLTAGE
  - REPLACED OPERATIONAL AMPLIFIER AFTER REPRODUCING FAILURE IN LAB
- SWITCH PROGRAMMER SEQUENCED IMPROPERLY
  - REPLACED BY S/N 202 (NOISE FILTER MODIFICATION NOT AVAILABLE)
- MODERATE CORONA MARKING ON 40% OF DISIC TERRAIN FILM
  - CHECKED ALL ROLLER GROUNDING BRUSHES AND ROTATIONAL DRAG
- SEVERE CORONA MARKING ON MAJOR PORTION OF DISIC STELLAR FILM
  - REPLACED ALL FILM PATH ROLLERS
  - REMOVED CHUTE BETWEEN PORT AND STARBOARD TRANSPORTS
  - CHECK ALL ROLLER GROUNDING BRUSHES AND ROTATIONAL DRAG

THEO / RESO TEST #1

- PAN INSTRUMENTS EXHIBITED ACCEPTABLE DATA

AGENA / COMPATIBILITY TEST (7/13)

- INDUCTIVE MODIFIED POWER SUPPLIES INSTALLED ON PAN INSTRUMENTS
  - 3% 400 Hz DISTORTION
  - UNREG. CURRENT 34 A PEAK WITH 16 A AVERAGE

(CONT.)

CR-1 TESTING (CONT.)

HIVOS TEST #2 (7/13 TO 7/18)

- CORONA MARKING ON PAN S/N 302 - REDUCED ROLLER PRESSURES
- INCORRECT TIME WORDS ON PAN READOUT
  - DIODES ADDED TO SLP SIGNAL CONDITIONER TO PREVENT FEEDBACK LOOPS TO CLOCK
- SWITCH PROGRAMMER SEQUENCED IMPROPERLY - NOISE FILTERING ADDED
- CORONA MARKING ON DISIC
  - STELLAR FILM MISTHREADED
  - REWORKED SKEW ROLLERS
- DISIC TERRAIN MISMETERED 12 FRAMES - REPLACE MICROSWITCH ON INDEXING CAM

RESO TEST #2

- PAN S/N 303 INDICATED PLUS .002 SHIFT FROM BOSTON DATA
  - SCAN HEAD SHIMMED

HIVOS TEST #3 (8/2 TO 8/7)

PMU FLOW INCREASED FOR THIS TEST TO MAINTAIN 50 MICRON

MINOR CORONA MARKING ON PAN S/N 302 - ACCEPTABLE

ERRATIC TIMING MARKER ON PAN S/N 303
- RE-OCCURANCE OF HIVOS #1 TEST ANOMALY
-

(CONT.)

CR-1 TESTING (CONT.)

HIVOS TEST #3 (CONT.)

- DISIC TIME WORDS REVERSED
  - SLP DATA HEAD CONNECTORS REVERSED
- CORONA MARKING ON DISIC TERRAIN AND STELLAR
  - IMPROVED OVER PREVIOUS TESTS
  - DOES NOT MEET ACCEPTANCE CRITERIA

RESO TEST #3 (8/8)

- TEST RUN WITH .002 SHIMS AND GELATIN FILTERS
  - DATA IS ACCEPTABLE

[redacted]

SRV TAPE RECORDER SUBSYSTEM

- NO SUBSYSTEM QUALIFICATION PROBLEMS ENCOUNTERED
- THE TAPE RECORDER SUBSYSTEM HAS BEEN OPERATED IN 5 ENVIRONMENTAL CHAMBER TESTS
- SYSTEM OPERATIONAL PROBLEMS ENCOUNTERED ARE:
  1. RECORDER OPERATION WITHOUT RECORDING DATA OR ERASING OLD DATA
  2. MISSING DATA WITHOUT APPARENT RECORDER OPERATION
  3. EXCESSIVE NOISE ON THE VEHICLE CLOCK SERIAL TIME WORD
  4. CENTER-OF-FORMAT PULSE WIDTHS WERE NOT AS REQUIRED AND WERE UNSTABLE
- DATA RECORDED AND PROCESSED HAS BEEN CORRECT

[redacted]

[redacted]

SRV TAPE RECORDER SUBSYSTEM

MODIFICATIONS TO THE SYSTEM

1. INSTALL A DIFFERENTIAL AMPLIFIER TO ISOLATE CLOCK SERIAL TIME WORD FROM UNREGULATED VOLTAGE RETURN. EVALUATION IN PROGRESS.

2. PULSE STRETCHER CIRCUITRY REDESIGNED TO PROVIDE STABLE AND PROPER PULSE WIDTHS. EVALUATION IN PROGRESS

3. MISSING DATA AND RECORDER OPERATION WITHOUT RECORDING OR ERASING IS UNDER INVESTIGATION. SUSPECT IMPROPER A.G.E. CONDITIONING AND/OR IMPROPER COMMANDS TO TAPE RECORDER

[redacted]

[redacted]

ENVIRONMENTAL QUAL SUMMARY

- SWITCH PROGRAMMER NOISE SUSCEPTABILITY CORRECTED
- SLOPE PROGRAMMER CONTROLLER STABILITY ASSURED BY VENDOR 'BURN-IN' TIME
- DISIC TAKE-UP TIME UNDER INVESTIGATION
  - — COMPONENT TESTING
  - — COMPONENT ANALYSIS
  - — CR-1 WILL HAVE 100 FT. OF FILM WRAPPED ON 'A' AND 'B' STELLAR HUB PRIOR TO LAUNCH
- TAPE RECORDER SUBSYSTEM EVALUATION AND VERIFICATION IN PROGRESS
- — SYSTEM OPERATIONAL CAPABILITIES ASSOCIATED WITH CR-1 CONFIGURATION HAVE BEEN DEMONSTRATED SATISFACTORY FOR FLIGHT.

[redacted]

CR-1 FLIGHT READINESS

- RESO TEST
- LIVE LIGHT LEAK TEST
- STRAY VOLTAGE TEST
- TAPE RECORDER SUBSYSTEM VERIFICATION
- PAN S/N 303 TIMING MARK DISCREPANCY
- DISIC STELLAR PLATEN MARKING

[redacted]

[redacted] [redacted]

CR-1 SOFTWARE PREPARATIONS

	J1 C/O	J3 C/O	FLT. SIM. RUN
1. HEADQUARTERS SOFTWARE SUPPORT			
A- [redacted]	X		2
B- [redacted]	X	CPX	4
2. A/P FLIGHT PREPARATIONS			
A- SLOPE PROGRAMMER ACCEPTANCE EVALUATION PROGRAM	–	X	30
B- SYSTEM CYCLE RATE EVALUATION (HIVOS) PROGRAM	–	X	5
C- CYCLE RATE VS. VOLTAGE CALIBRATION PROGRAM	–	X	5
D- SLOPE PROGRAMMER LAUNCH SETTING EVALUATION PROGRAM	–	X	2
E- COMMAND GENERATION MODIFICATIONS (DISIC & J3 PADS)	X	X	2
3. A/P FLIGHT SUPPORT			
A- CAMERA PROGRAM UPDATE AND CONSUMPTION PROGRAM	X	X	5
• INCORPORATES J3 CALIBRATIONS AND CHARACTERISTICS			
B- PERFORMANCE ESTIMATE PROGRAM (AWAITING FINAL HQ APPROVAL)	X	X	2
• DISIC - PAN CORRELATION AND INTRA-OPERATION FILM-FILTER CHANGES			
C- SLOPE PROGRAMMER FLIGHT SETTING EVALUATION PROGRAM	–	X	2
D- HIGH ACCURACY CLOCK CORRELATION PROGRAM	X	–	2
4. SRV TAPE RECORDER / PCM DATA PROCESSOR			
A- CENTER FORMAT AND GAS VALVE FIRING SUMMARY	–	X	½
• C/F IDENTIFICATION LOGIC IN C/O AND A-D CLOCK SPEED ERROR CODING CORRECTION			
B- COMMAND SUMMARY PROGRAM - PRESENT COMMUTATOR CONFIGURATION	–	X	4
C- DIAGNOSTIC DUMP PROGRAM	–	X	4

[redacted] [redacted]

QR-2 TEST BED OPERATION

UTB APPLICATION (SO-380)

TEST CONFIGURATION

- THE SYSTEM SHALL BE MODIFIED TO CR-3 CONFIGURATION
- THE CR SUBSYSTEM SHALL BE MODIFIED TO ADAPT UTB FILM - ADDITION OF ROLLERS
- THE DISIC SUBSYSTEM SHALL BE IN-FLT. CONFIGURATION
- THE PAN FILM LOAD SHALL BE MADE UP OF SO-380 WITH 1600 FT. SO-340 ON ONE SPOOL AND SO-180 ON THE OTHER

TEST OPERATIONS

- PRE-CHAMBER
  - — TRACKING VERIFICATION FOR BOTH CR AND DISIC SUBSYSTEMS
    - (INCLUDING C/W AND C/S OPERATIONS)
  - — COMPATIBILITY VERIFICATION FOR NEW INSTALLATIONS
    - IMPROVED T/R SUBSYSTEM CIRCUITRIES (A/P)
    - N.E. POWER AMPLIFIERS (BOSTON)
    - MATERIAL DETECTOR ASSEMBLIES (BOSTON)
- CHAMBER TESTING
  - — 14 DAY THERMAL ALTITUDE TEST TO QUALIFY J3 SYSTEM OPERATIONAL COMPATIBILITY WITH UTB FILM